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ADDRESSING HEALTHCARE WORKFORCE ISSUES FOR THE FUTURE

HEARING

OF THE

COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS

UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

ON

EXAMINING THE WAYS TO ADDRESS HEALTHCARE WORKFORCE ISSUES FOR THE FUTURE, FOCUSING ON PRIMARY CARE PROFESSIONALS

FEBRUARY 12, 2008

Printed for the use of the Committee on Health, Education, Labor, and Pensions

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ADDRESSING HEALTHCARE WORKFORCE ISSUES FOR THE FUTURE

TUESDAY, FEBRUARY 12, 2008

U.S. SENATE,
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,
Washington, DC.

The committee met, pursuant to notice, at 2:34 p.m. in Room SD–106, Dirksen Senate Office Building, Hon. Bernard Sanders, presiding.

Present: Senator Sanders, Kennedy, Murray, Brown, Murkowski, and Allard.

OPENING STATEMENT OF SENATOR SANDERS

Senator SANDERS. Thank you all very much for coming for what is going to be a very important hearing. I want to very much thank Chairman Kennedy and Ranking Member Enzi for helping us put together this meeting on what I consider to be one of the most important issues facing the United States in terms of the healthcare crisis.

As everybody knows, what this hearing today will focus on is the future supply of essential primary care providers—physicians, nurse practitioners, physician assistants, and dentists. While the scope of this hearing is limited to these health professions, we are all aware that the problem goes beyond those particular professions. Therefore, we have invited additional health professions, groups, to submit written statements that will be made part of the record of this hearing.

[The information referred to can be found in additional material.]

Senator SANDERS. We have also received the testimony from the Administration, whose witness is unable to attend, but their testimony will also, of course, be part of the record.

[The information referred to can be found in additional material.]

Senator SANDERS. After the opening remarks from the Senators, what we will hear is 2 minutes from each of the panelists, and then we will be able to engage in an informal discussion as to what the root causes of the problem are and how we can resolve it.

Now my view—and few will disagree, regardless of their political persuasion—our country faces a major healthcare crisis. There are 47 million people who are uninsured. Even more are underinsured. Costs of healthcare keep going up, and we end up spending twice as much per person on healthcare as do the people of any other Nation.

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In addition, when we look at our healthcare crisis and all that we spend, it is important to understand that many of the important indices, like infant mortality or longevity, we fall behind dozens and dozens of other countries.

When people look at this crisis, they sometimes think that the only issue is universal healthcare. Well, I happen to be a strong advocate of a national healthcare program. In my view, if tomorrow, magically, we had healthcare for all of our people, we would still continue to have a major healthcare crisis in terms of accessibility of many people, from one end of this country to another, to doctors and dentists.

We have got to focus and what today's hearing is about is focusing on accessibility. Today, in America, over 56 million Americans do not have adequate access to primary healthcare services. My guess is that the number of people who lack access to dental care is even higher.

Fewer and fewer U.S. medical and dental students are choosing primary care as their area of specialty. One of the issues that we have got to look at—it is not just the number of doctors out there or the number of dentists—what kind of practices do they have? Are they all specialists? Are there rural areas like my State of Vermont, where we have a whole lot of specialists in Burlington, but in the rural areas, you can't find the number of physicians that you need.

When you are looking at dentists, we all know that dentists want to make us smile better and clean up our teeth and make them look all white and lovely. What about the people all over this country, working people who don't have front teeth and can't find a dentist to help them, or the kids who are suffering today because they can't find dentists to fill their cavities.

I can go on and on with anecdotes. I will just mention one. Several years ago, I had a hearing on dental care in the State capital, Montpelier, VT. A woman gets up who works in a school, a low-income school. She said a kid in my school has teeth rotting in his mouth. He is in pain. She got on the phone. Called up everybody from the governor's office on down. She could not find a dentist to take care of that child.

In the last few years in Vermont, we have had some success. We have built a number of clinics. The problem that remains in Vermont and all over this country is very severe.

Further, when we talk about this crisis, we have to ask ourselves an important question. That is that while there has been an increase in the overall number of primary care physicians, it is troubling to me that the number of Americans pursuing a career in primary care has declined. Why is that? We hope that you will help us get some answers to that problem.

As a nation, as the wealthiest Nation in the history of the world, for whatever reason, we are increasingly dependent on international medical school graduates to meet our needs. Why? Why can't the United States of America educate enough of our own physicians?

Now, one of the problems about being dependent upon the international community is that we are depleting their healthcare talent, whether it is doctors or nurses in poor countries, being trained

in those countries, and now coming to the United States of America. Is that fair to those countries?

Let me just conclude, before I introduce Senator Kennedy and then Senator Murkowski, with a few thoughts as to where we should be going. I would like others to be thinking about this. We need to reauthorize title VII, our major health professions training act, with improvement in funding levels for grants, scholarships, and loan repayment that support needed professional development and community-based initiatives.

We need to, in my view—and I know Senator Murkowski has legislation to do just this—double the funding and size of the National Health Service Corps. We need to, in my view, assure accessible care in underserved communities by significantly increasing the appropriations level each year for community health centers, a program that Senator Kennedy started a number of years ago, which has a huge impact all over this country in providing primary healthcare to tens of millions of Americans.

Further, we need to reform the way the $8 billion that Medicare spends in support of graduate medical education to reward training models that address public health needs and allow flexibility for training to occur outside of the traditional limited number of sites of care.

Last, we need to correct the disparity in Medicare and Medicaid reimbursement that favors specialty care over primary care. Those are some of my thoughts. We will discuss those ideas and many others in a few minutes. I will put my whole statement in the record.

[The prepared statement of Senator Sanders follows:]

PREPARED STATEMENT OF SENATOR SANDERS

I would like to call this hearing to order. I wish to thank Chairman Kennedy and Ranking Member Enzi for arranging a hearing on this critical topic. Today's hearing will explore a long neglected area of health care delivery. It will concentrate on the future supply of essential primary care providers: physicians, nurse practitioners, physician assistants, and dentists. While the scope of this hearing is limited to these health professions, I know full well that shortage issues affect many other health professions as well. Therefore, we have invited additional health professions groups to submit written statements that will be made part of the record of this hearing. We have also received testimony from the Administration whose witness is unable to attend. We will enter that testimony into the record as well. I thank and welcome the witnesses who are here today.

I look forward to a fruitful exchange with them that will highlight not just the problems, but that will also offer us potential solutions to what I see as a crisis that will worsen in the future if nothing is done.

The truth is that the American health care system is badly deteriorating for more and more Americans. The crisis in health care coverage is well-documented with over 47 million Americans now uninsured, and untold millions of others with increasingly inadequate coverage. It is unfathomable to me that, unlike every other

industrialized nation in the world, we do not provide health care to all, as a right of citizenship.

In addition, while we spend more as a society on health care per capita than any other nation, our outcomes in terms of many health status measures rank below even many developing countries. Over 30 nations have better infant mortality rates and longer life expectancy than the United States.

Many assume wrongly that, by providing health care coverage to all, we would solve the problem. While I am a strong advocate that health care should be a right of citizenship for all Americans, I also realize that this is just part of the solution to achieving access to care for all. Let me be perfectly clear, if universal health care coverage were miraculously achieved tomorrow, it alone would not solve the access problem.

Today, in America, over 56 million Americans do not have adequate access to primary health care services, (CHART) according to a study by the National Association of Community Health Centers. In terms of oral health, the number of Americans without access to dental care is even higher.

Even though many of these Americans have insurance coverage, they live in communities with too few primary care providers.

Fewer and fewer U.S. medical and dental students are choosing primary care as their area of specialty. There are simply not enough primary care providers now and the situation will become far worse in the future unless something is done. Clearly, we have a crisis when community health centers, generally recognized for their ability to provide comprehensive, cost-effective care, are unable to fill over 750 vacancies in their physician staffing.

To give a couple of examples of the difficulty that many face in accessing care: the small town of Island Pond, in the most isolated and rural part of northern Vermont, is fortunate to have a federally qualified health center that offers dental care to all regardless to ability to pay. It regularly receives calls from Vermonters from all over the State seeking dental care because either their towns do not have a dentist or because the few dentists they have are overbooked and not accepting patients.

Sadly, little has changed since the time the State Welfare Office in Brattleboro, VT called to ask if the Island Pond dental practice would see some of their clients if they bused them there. Brattleboro is 165 miles away from Island Pond!

For those who would deny this is a crisis, consider this: another community health center in Hardwick, VT got an urgent call from Walter Reed Hospital. A wounded returning veteran from Iraq was ready to be discharged to return home to Vermont, but, because of his need for ongoing medical treatment, he could not be discharged unless he had a local primary care provider. There were none available where he lived, so even though he was far from the Hardwick Health Center service area, the health center agreed to take him as a patient so that he could return home. Such situations should not exist in America and Congress should do all it can to correct this appalling situation.

While I understand that there has been an increase in the overall number of primary care physicians, it is troubling to me that the number of Americans pursuing a career in primary care has de-

clined. Therefore, the growth has been totally due to the number of international medical students training in America. We are increasingly dependent on international medical school graduates to meet our needs. Currently, one in four new physicians in the United States is an international medical graduate. (CHART)

And, in America's underserved communities, international medical graduates make up 3 out of 5 of all physicians, 60 percent! This is shameful. It is beyond my comprehension that the richest Nation in the history of the world is not able to graduate the kinds of health professionals we need. Instead, we are dependent on medical students trained abroad, whose education is often supported by their home countries.

We ought to be able to encourage and develop enough primary care providers and not have to import doctors from countries that have arguably greater needs and fewer resources to care for their populations. It is morally wrong that we are depleting the number of health care providers from the poorer countries of the world. It is extremely important that we understand why we are not educating the kinds of doctors and dentists we need, and I look for this panel to provide us with information to correct this.

We can debate forever whether the current supply of primary care doctors and dentists is sufficient. But I have no doubt that future demand will exceed supply. First year medical school enrollment per 100,000 people has declined since 1980. (CHART) At the same time, the number of elderly will double over the next 20 years. (CHART) With over one-third of active physicians over the age of 55 and likely to retire by 2020, we are looking at a major crisis.

So, today's hearing and what we do as a result of it, is of extreme and urgent importance. As I stated earlier, I am looking for the panel to provide ideas for solving this problem. This is quite timely since the HELP Committee will be reauthorizing Title VII of the Public Health Service Act, which supports the major health professions training programs funded by the government. There is also action pending in the Senate to reauthorize the National Health Service Corps.

I believe part of the solution lies in making medical, dental, and nursing education affordable for all Americans, not just for those with means. I applaud the efforts of Senators Kennedy and Enzi in the recently passed Higher Education bill, which will allow for loan forgiveness for those who work for 10 years in the public or non-profit sector. This represents a good start, but I am committed to doing more. I look forward to working with my colleagues to:

1. Reauthorize title VII, our major health professions training act, with improvement in funding levels for grants, scholarships, and loan repayment that support needed professional development and community-based initiatives. This vital program, funded at about $195 million, is targeted to be eliminated in the President's 2009 budget. This must not happen.

2. Double the funding and size of the National Health Service Corps, as called for in a bill introduced by Senator Murkowski that I am pleased to be an original co-sponsor of. Funding for this program is currently $125 million and incredibly has actually declined

in the past several years. And once again, the President would cut its funding in 2009 by $3 million.

3. Assure accessible care in underserved communities by significantly increasing the appropriation level each year for community health centers. This program, funded at just under $2 billion, has been judged by the Office of Management & Budget to be one of the most efficient in using taxpayer dollars. If adequately funded over the next several years, it could increase the number of people in underserved areas who receive comprehensive primary care services from 16 million to 30 million.

4. Reform the way the $8 billion that Medicare spends in support of Graduate Medical Education to reward training models that address public health needs and allow flexibility for training to occur outside of the traditional, limited numbers of sites of care.

5. Correct the disparity in Medicare and Medicaid reimbursement that favors specialty care over primary care, and rebase the Medicare FQHC reimbursement cap, as was promised when the program began in 1991, but which has never occurred.

In the face of this compelling health professions shortage crisis, I look forward to an exchange of your ideas as to how to correct this worsening situation.

Senator SANDERS. Now let me introduce the Chair of this committee, who, as everyone knows, has been a leader in the U.S. Congress in so many areas in fighting the fight for healthcare for all Americans.

Senator Kennedy.

OPENING STATEMENT OF SENATOR KENNEDY

The CHAIRMAN. Thank you. Thank you very much, Senator Sanders, for chairing this hearing. Thank you, Senator Murkowski, for being so constructive and helpful to this committee about the needs that we are facing in the health profession in underserved areas, and in the challenges that underserved areas have just generally. It is a pleasure as well to be with Patty Murray, who has been so involved in health and education issues as well.

Our Chairman Sanders has outlined, a central concern that we are facing as a country and as a Nation. There is a great debate that is taking place about this country trying to deal with the core challenge that we are facing, and that is to develop a comprehensive universal healthcare system.

Well, it starts right where we are today, with the type of personnel that we are going to have. They are going to be able to help develop such a system. If we don't have it right in terms of the medical personnel, the allied health, the health professions, family physicians, and all the attendant kind of health assistants, we are just not going to get there.

As we find individuals that are criss-crossing the country talking about healthcare and healthcare reform, this hearing is of the most importance because your ideas, your suggestions are absolutely indispensable not only for local communities, for what is happening in rural areas, and for what is happening in urban areas in the country, but also in terms of system reform, your comments are

enormously helpful. I hope you will give us some of your guidance on this.

I can remember having a similar hearing on this about 35 years ago, I date myself. We had the strong representation of the AAMC and wonderful panels, and I always remember what I was told at that time. It still may be true, although, hopefully, we are getting away from it. That was in terms of medical schools, freshmen, by and large, when they enter medical schools, they want to be primary care physicians, and then the system begins to work against them.

The indebtedness, primarily the indebtedness, works so that by the time they are graduating, they have a debt, what is piled on in terms of their college debt now $20,000, depending where you are, in what part of the country, and you add that to the medical school debt, and you are up to, what, $110,000, $120,000, perhaps even more. That drives their decisions in a very important way and skews and changes these issues.

Last year here, in the Senate, we passed legislation to put a limitation on what individuals have to repay each year and put a limitation that no more than 15 percent of their income, no matter how indebted they are, would be required, with the hope that this might have some impact in terms of health professions. It is not the answer. We are going to hear a lot of different suggestions today. But at least we are going to try to begin to answer. You have other ideas in terms of how this is skewed. I hope you are going to help us.

I hope you are going to help us understand why we always give short shrift to dental care and eye care. As someone who has been interested in education, when we were developing the SCHIP program, Senator Hatch and myself, trying to model it after what had happened up in Massachusetts. It was interesting. When we went to the floor of the U.S. Senate, we couldn't mandate eye care or dental care.

Even though if children don't have dental care, as Senator Sanders points out, they are going to get sick, and they are going to be unable to go to school. If they can't see the blackboard, they are not going to be able to learn. If they can't hear the teacher, they are not going to learn. We give short shrift to dental care and to eye care as well. We have to understand we are talking about what do we really need in personnel to have a healthy Nation, a healthy country, a healthy population? That is what we are really interested in.

I won't review because you know the facts about what is happening. What is happening in my State is we are trying to deal with a newer kind of healthcare system and how that is being skewed because of the lack of health personnel in the right areas. We need well-trained, well-led personnel, but we need them in the right areas professionally and in the right areas geographically. This is a constant issue and a constant question.

Quite frankly, I don't intend this to be a partisan comment. But when you have an administration that sends a budget up here that zeroes out title VII and slashes title VIII, and then talks about trying to do something about healthcare and the personnel, it just rings hollow.

This is going to take resources, and it is going to take also understanding the changes, which are taking place in the whole health delivery system. We need that kind of guidance that this panel can give. Let me just give you the assurance that we consider this to be an immensely important hearing today, and we will certainly share with our colleagues on this committee and with others as well.

I thank Senator Sanders so much. He has been relentless, relentless. That is saying something when you say that about Senator Sanders, that he is relentless in his commitment and dedication on this issue. I thank again Senator Murkowski for all of her constructive help in terms of rural areas and the communities, and Patty Murray, who always adds a special dimension on health issues and education.

I will put my whole statement in the record, and I thank you very much.

[The prepared statement of Senator Kennedy follows:]

PREPARED STATEMENT OF SENATOR KENNEDY

I want to thank Senator Sanders for his dedication to this topic and for working so hard on this hearing today. I also want to thank Senators Enzi and Murkowski for their work on this issue.

To create a healthy nation we must not only have health care professionals that are excellently trained—we need health care professionals that are excellently trained in the right fields and practicing in the communities that need them the most. Over the years, experts have predicted a physician shortage, only to change those projections years later. We've heard of shortages in one specialty or another, only to have that prediction change as well. But one thing that has remained constant is the need for a strong network of primary care providers.

The health of our Nation depends on a strong primary care system. And that system can not run without an adequate supply of primary care physicians, nurse practitioners, physician assistants and other providers. In implementing health reform in Massachusetts one thing has become very clear—comprehensive health reform can not take place without appropriate access to primary care providers. Unfortunately, we are facing a crisis in primary care. Family medicine residency positions have dropped by 50 percent since 1997 and the growth in the supply of primary care physicians for adult patients is now lagging behind the rate of growth of adults. Community health centers continue to report significant vacancies for primary care providers.

We must take the steps needed to ensure a strong primary care workforce. One of those steps is making sure that the title VII health professions training programs are adequately funded. Amazingly, President Bush dramatically cut these programs in his budget. It is incomprehensible to me that President Bush would cut funding for these important programs in the face of primary care physician and other provider shortages. He even eliminated the health professions diversity programs that help to create a culturally competent diverse workforce that will serve in communities that need care the most.

This hearing will inform our committee as we move forward on our work to reauthorize the title VII and title VIII programs. I want to thank all of our witnesses that have joined us today. They will provide us with a wealth of knowledge on the current state of affairs with the primary care workforce, including the challenges in rural and frontier areas and the importance of diversity in the health professions. There are also other primary care providers that we were not able to accommodate at this hearing, but we have asked for their official testimony to be included in the record so we can receive their important input.

I also want to acknowledge that while this hearing focuses on primary care providers, I am aware of the profound nursing shortage in our country and I will be working with Senator Mikulski and other members of the committee in the coming months to address that issue as well.

We know that primary care helps to reduce healthcare cost and results in a better quality of care of patients and I look forward to hearing more about what we can do to support our Nation's primary care providers.

Senator SANDERS. Thank you very much, Senator Kennedy.

Senator Murkowski has, in fact, been a leader in the Senate on rural healthcare. Senator Murkowski, thanks very much for being with us.

STATEMENT OF SENATOR MURKOWSKI

Senator MURKOWSKI. Well, thank you. I want to thank all that have assembled to join us here today on the panel and also in the audience. I don't know if you all noticed, but there was a group of about 20-some odd young people who came in, listened for about 5 minutes, and then they left. I wish that they had stayed because I need to recruit each and every one of them to come to the State of Alaska or to rural Vermont.

We have a crisis in access to healthcare in this country in our medically underserved areas, and I am very pleased, Mr. Chairman, that you and Senator Enzi have kept your commitment certainly to Senator Sanders and myself to hold this very important hearing on healthcare workforce issues.

With the panel that we have today, we are going to hear as they speak on the primary care shortages. That includes the physicians. It includes the dentists, the nurse practitioners, the physician assistants. We are going to hear from folks today who have come from all across the country. I have a constituent from Alaska that I am proud to welcome today.

We are going to hear their comments about how important it is to reauthorize the funding for title VII and title VIII programs not just for rural America, but also for the so many economically disadvantaged urban areas. We know that while many of these areas aren't rural, they are medically underserved. They are equally affected by some of the very persistent shortages that we have in the workforce out there.

As you have mentioned, Chairman Kennedy, the President has zeroed out funding for all of the title VII programs in this 2009 budget and has said that they were ineffective. I absolutely dis-

agree. Title VII, title VIII programs have a long and successful history. They go back to 1963 with the Health Professions Education Assistance Act that we passed to address the projections of the health professional shortages.

This legislation sought to establish education and training programs for the primary healthcare workforce and has continued to do so by providing grants to the students, to the health professions, to the institutions, the community organizations, to provide the education, the training in primary care medicine, whether it is internal medicine, or general pediatrics. As a result, we have a larger number of individuals from rural and underserved communities, economically disadvantaged backgrounds, and diverse groups that have been entering that primary care profession.

We know that these programs have been successful. We have seen reports out there, 70 to 80 percent of students are returning to serve as healthcare professionals in their communities. These are the kinds of statistics that we need to keep seeing.

I am hoping that the testimony from those of you today includes recommendations to help deal with the primary care shortages that face nearly 62 million Americans living in rural and medically underserved areas.

Senator Sanders, you have mentioned my legislation, some of the things that we are promoting in the Physician Shortage Elimination Act. I look forward to hearing from the panel members on some of the issues such as the integrated rural training track that will provide the graduate medical education or the GME reimbursement for residency training that is obtained in a non-hospital setting, as well as funding community health centers to enable them to provide shared residency training time with a teaching hospital.

The third issue—and, Senator Sanders, you mentioned this—is that my legislation will double the funding to $300 million annually for the National Health Service Corps. This is an immensely successful program that places primary healthcare workers in rural and medically underserved areas. Unfortunately, due to the reductions in funding, we turn away nearly 80 percent of program applicants every year from this—80 percent.

In Alaska, we are undoubtedly suffering from the most severe primary care vacancy rates, particularly in our rural and our frontier areas. We have unfulfilled physician assistant job openings at about 25 percent. Our family nurse practitioner jobs openings are at about 36 percent.

Alaska, many of you think that it is this State with a young population. We are young, but we also have the fastest-growing elderly population in the country, behind Nevada. We have got a very young, young population. In many of our villages, the average age is 18. Then we have the second fastest-growing elderly population in the country.

There is not a day—seriously, there is not a day that doesn't go by when one of my offices around the State or back here in Washington, DC, doesn't get a phone call from an elderly constituent or from a son or a daughter who is calling, some of them in tears, searching for someone to provide for a level of care because the healthcare providers are not accepting Medicare.

This is what reduced Medicare reimbursements to primary care providers in rural America brings about. Zero access to primary care healthcare services for the most vulnerable population, and that is the disabled and the elderly.

I am going to end with a statistic that is really compelling when we talk about rural health disparities. Sixty-two million Americans, this is about 20 percent of the U.S. population, live in designated medically underserved areas, many of them rural. Yet only 9 percent of the Nation's physicians practice there.

Clearly, this situation deserves the Congress's attention. I look forward to hearing the comments and the suggestions from all of you and I appreciate your work, collaboratively, together and with the committee as well.

Thank you.

Senator SANDERS. Thank you, Senator Murkowski.

Senator Patty Murray has long been a leader on healthcare issues in the Senate.

Senator Murray.

STATEMENT OF SENATOR MURRAY

Senator MURRAY. Mr. Sanders, thank you so much for holding this hearing. You and Senator Murkowski are just right on target on bringing everybody together.

I will submit my opening statement to the record.

Just let me say this. I have been holding a series of roundtables around my State to focus on the issue of healthcare providers and the lack of access and how it is impacting the cost of healthcare. Because, as more and more people are getting older and needing healthcare, there is fewer and fewer healthcare workers. Access is becoming harder. It is driving up the cost, and it is an issue that all of us have to deal with.

I have heard of how our nursing shortage is becoming very acute, yet even the University of Washington doesn't have enough slots to fill because they don't have enough faculty to teach nurses. Rural healthcare training and helping our rural healthcare folks is a huge issue in my State. Primary care physicians, lack of primary care physicians going into that field is really very, very worrisome to all of us.

It is a very timely hearing. I am very concerned about the President's budget. As has been stated, I am sorry that we don't have a witness from the Department of Health and Human Services. I understand they could not show up today so we could talk about that.

Focusing all of us on providing the type of people who need to go in all the career fields of healthcare will help us with access and, in turn, help us with bringing down the cost of healthcare, which I know is a goal of every single business, every single community, every single government agency that we have in this country today.

Thank you very much.

[The prepared statement of Senator Murray follows:]

PREPARED STATEMENT OF SENATOR MURRAY

I want to thank Senator Sanders and Senator Kennedy for organizing this hearing.

The shortage of doctors, nurses, and workers across the health care field is one of the most serious workforce challenges our country faces. And as the baby boomers retire, the problem is only going to get worse.

Experienced health care professionals are set to retire in large numbers in the near future—just as the baby boom generation will begin to need more care. The problem is already acute in some rural communities where it's increasingly difficult to recruit and retain doctors and nurses.

Senator Sanders, I've been concerned about this issue for many years, as I know you have. Like you, I believe we must make building our health care workforce a national priority, so I'm glad we're having this hearing today.

In the last year, I've held roundtables across my home State of Washington so I could talk to health care professionals and others experiencing this challenge firsthand, and learn more about what we can do to address this problem.

I know that what we're seeing in Washington State is similar to what is going on across the country. So I wanted to share just a few things I've heard at those roundtables:

- In the next 10 years, the need for new nurses will spike dramatically as our experienced nurses retire.
- At the same time, colleges—including the University of Washington—say they don't have the capacity to accept all the qualified nursing applicants, and they are struggling to recruit and retain nursing faculty.
- Several health care executives have told me that the number of medical students interested in primary care is dropping across the board, making it difficult to recruit primary care doctors.
- And there is a great need to find better ways to get more skills training and education for workers. Health care workers in rural areas say this is especially challenging—either because there aren't enough opportunities—or because they can't afford to leave work to get training or go back to school.

Given how severe this problem is, I have to say I was extremely disappointed to see that—instead of taking action and planning for the future—the President proposed significant cuts in this area in his fiscal year 2009 budget. He cut the overall health professions budget by $252 million. That's an 80 percent cut to one of the few government programs that could address this shortage.

Despite the fact that the Bureau of Labor Statistics reports that between 2004 and 2014, registered nursing will have the second greatest job growth of all U.S. professions, the Administration slashed the budget for nurse training. For example, the President zeroed out the $61 million Advanced Education Nursing program and several others.

I know we were expecting a witness from the Department of Health and Human Services to attend this hearing. I was sorry to hear no one was able to make it today because I have several questions for the Administration on this subject.

But I'm looking forward to hearing from our excellent panel of witnesses about what they think we can do to address these workforce challenges. Finding a way to train and recruit workers to the health care field—and to keep them in those jobs—must be a priority.

Thank you.

Senator SANDERS. Thank you very much.

Senator Sherrod Brown has been a leader when he was in the House and in the Senate on quality healthcare for all Americans. Senator Brown, thank you.

STATEMENT OF SENATOR BROWN

Senator BROWN. Thank you, Senator Sanders, and thank you, Senator Murkowski. Dr. Auerbach, nice to see you. There always seems to be a lot of Massachusetts representation in the witness panels here. I may be confused about that, but nice to see you.

In the last year, during my first year in the Senate, I have been part of about 80-plus roundtables in 55 Ohio counties, made up of a cross-section of people in these communities. In almost every single one of these 50-plus counties, I have heard from a hospital administrator or a nurse or a physical therapist or a public health official that we have shortages in all kinds of healthcare services.

We all know that. In Cincinnati, at Cincinnati Children's, it was made very clear to me we don't train enough pediatric nurses in my State or in this country. In southeast Ohio, I repeatedly heard we don't have enough dentists, and particularly dentists that accept Medicaid, to take care of the basic needs, the basic needs particularly for children. We know how that affects those children long-term.

In Mansfield, OH, the town I grew up in, I met with some community health workers, high school graduates that are being trained. Some were GED and had gotten their high school diploma that way. They are trained in doing outreach, and particularly in two zip codes in Mansfield, a town of about 50,000. One zip code was predominantly white, Appalachia. One was predominantly black. This zip code had, in the past several years, a rate of about 21 or 22 or 23 percent low-birth weight babies in these two zip codes.

After these community health workers began to go into the community whenever they knew of a pregnant woman and met with them and get them to an OB/GYN, the percentage of low-birth weight babies dropped—in the space of about 3 years, dropped to under 5 percent, which is the national average. That is what these professions can do, particularly community health workers and physician assistants and nurses aides and all that Senator Murkowski was talking about.

That is why title VII and title VIII are so important to this country. That is why we are incredulous that President Bush would choose to give a tax cut of literally $51 billion for 2009 to people making over $1 million a year—$51 billion—and then cut GME training and title VII and title VIII and refuse to sign a children's health insurance bill. Clearly, our priorities are wrong in this coun-

try, and we have to go to in a very different direction on healthcare.

One last point on this, which perhaps, is also a moral question: we see more and more America bringing people from across the ocean to be nurses, to be other healthcare professionals. To me, there is a bit of a moral question there. I certainly don't judge the people that come across the ocean, who want to be in our country and get a middle-class standard of living and a decent lifestyle and take care of their kids. I also think that we should be training our own physicians, our own nurses, our own healthcare providers so that the training that those countries do, wherever it is, especially nurses and especially other kinds of healthcare workers like that, that they can stay in their country and do the kind of work that their people paid for to train them.

We have a lot of work to do. Cutting title VII and title VIII is not the way to go. That is the importance of this hearing. I thank Senator Murkowski and Senator Sanders.

Senator SANDERS. Thank you, Senator Brown. Senator Wayne Allard of Colorado has joined us. Thank you very much.

Senator Allard.

STATEMENT OF SENATOR ALLARD

Senator ALLARD. Thank you, Mr. Chairman.

I know that this hearing is on primary care in the health profession, but I also want to speak from my experience as a veterinarian. Veterinarians are on the front line. I once diagnosed bubonic plague in cats who lived daily with the family; I may have saved that family because I made that diagnosis.

We have diseases such as toxoplasmosis and rabies and encephalitis. As a veterinary health officer, I was out there on the front line dealing with encephalitis outbreaks in the community in which I practiced. I just ask that you not forget about the veterinary profession. Veterinarians play a critical role in public health.

We have had testimony before this committee from the Food and Drug Administration, from the Department of Agriculture, and various agencies which simply do not have enough veterinarians on their staff to fulfill their missions. Veterinarians are highly trained in laboratory and research techniques, playing a key role in approval of drugs. For instance, they play a key role in public health diseases with the CDC.

I just ask that you keep these things in mind when we have this discussion. I certainly think we need to recognize that the veterinarians do play a key role in public health.

Thank you, Mr. Chairman.

Senator SANDERS. Thank you very much. OK. Thank you very much, Senator.

We are prepared to begin the discussion. The format will begin with Bruce Steinwald, who is the Director of Healthcare for the GAO, the Government Accountability Office. He will have 5 minutes. Then we will just go around, and people will have 2 minutes. Then we will just open it up for questions and comments.

Mr. Steinwald, if you could begin, please?

STATEMENT OF A. BRUCE STEINWALD, DIRECTOR, HEALTH-CARE, GOVERNMENT ACCOUNTABILITY OFFICE, WASHINGTON, DC

Mr. STEINWALD. Thank you, Senator Sanders and members of the committee. Thank you for inviting me to participate in this discussion.

In my prepared testimony, I have provided information on three areas. First, the recent trends in the supply, training, and demographics of primary care professionals. By that, I mean physicians, physician assistants, nurse practitioners, and dentists. I am sorry, not veterinarians, Senator Allard. Sorry.

Second, projections of the future supply of primary care professionals. And third, how primary care services are undervalued by our payment systems in the United States. I will try to tie those points together as I go on.

Please direct your attention to the first exhibit behind me, which, for the audience, is a variation on Table 1 on page 7 of the written statement. For all categories of primary care professionals, over a recent period of roughly 10 years, the average annual growth has been positive with some categories, especially nurse practitioners and physician assistants, growing faster than others.

Over a 10-year period, we do find an increase in primary care professionals. We have found that the supply of primary care physicians grew faster than the supply of specialists from 1995 to 2005. Looking to the future, we examined trends among participants in primary care training programs in the United States. In the interest of time, I will focus my remarks on residency programs for physicians only.

From 1995 to 2006, the number of primary care residents increased 6 percent. At the same time, the number of residents in specialty training increased 8 percent. These increases compare with population growth of about 15 percent over that same period.

Underlying the data on physicians is a change in the composition of residents. If you will turn your attention to my second exhibit, which is based on Table 4 on page 10 of the written statement, you will notice that looking at primary care residents, there has been a decline in the proportion, as you pointed out, Senator Sanders, in the proportion that are U.S. medical school graduates and an increase in the proportion that are either international medical graduates or doctors of osteopathy.

This decline in U.S.-trained primary care residents is often cited as a reason to be concerned about how our system undervalues primary care services. When looking at the demographic information and, in particular, minority representation, we found little data specific to primary care. What we did find is an increase, a modest increase in minority representation among all of the professional groups, but only a modest increase.

When identifying projections of future supply, we again found little information specific to primary care professionals. Most workforce projections focus on physician supply, and we identified two projections that were specific to primary care doctors—those of HRSA and of the American Academy of Family Physicians. Both projections indicate that we may face a shortage of primary care

physicians by around the year 2020, depending on underlying assumptions.

Our third finding has to do with the valuation of primary care services, which may be a factor in future supply. This finding is mostly about physicians and draws on information from the Medicare program. Our current system is predominantly a fee-for-service system, and fees are generally sensitive to the complexity of resources required to perform a service.

As an example of how the system undervalues primary care services, please turn your attention to Exhibit 3. Now I would like to say I have nothing against diagnostic colonoscopies. In fact, according to my primary care doctor, I am due to have one when I get around to scheduling it. I could have picked from hundreds of other comparable diagnostic and other kinds of services.

Anyway, you will note that in Boston, Medicare's fees for two services of similar duration—a diagnostic colonoscopy and a complex office visit—are vastly different. Because of the way the services are valued, specialists are already way ahead of the game. In this instance, the payment to a doctor for roughly a half an hour's work varies by a factor of four.

Exacerbating the disparity between primary care doctors and specialists are technological innovations and improvements that enhance the ability of specialists over time to provide more services and more complex services and, thereby, increase their revenues. On the other hand, most primary care physicians, whose principal services are office visits, have little ability to improve efficiency and save time and provide more services. There are limits to how much he or she can reduce the time spent with patients without compromising quality of care.

Furthermore, this undervaluing of primary care services appears to be counterproductive, given the vast literature describing the relationship between primary care costs and quality. In fact, we note several findings in our testimony on the benefits of primary care medicine. When I say that primary care services are undervalued, this doesn't mean that just increasing the prices paid for primary care is the solution.

I will wrap up now. As you are aware, though, we face unsustainable trends in the Medicare program and our health system as a whole. Just as payment incentives are misaligned in primary care, they are misaligned in specialty medicine as well. The reforms that we need are not just a question of raising fees for primary care services, but for recalibrating fees and evaluating costs and benefits of different modes of healthcare delivery as well as financing.

Mr. Chairman, this concludes my prepared remarks, and I look forward to your questions and to hearing the views of the other panelists.

[The prepared statement of Mr. Steinwald follows:]

PREPARED STATEMENT OF A. BRUCE STEINWALD, DIRECTOR OF HEALTH CARE

HIGHLIGHTS

WHY GAO DID THIS STUDY

Most of the funding for programs under title VII of the Public Health Service Act goes toward primary care medicine and dentistry training and increasing medical student diversity. Despite a longstanding objective of title VII to increase the total supply of primary care professionals, health care marketplace signals suggest an undervaluing of primary care medicine, creating a concern about the future supply of primary care professionals—physicians, physician assistants, nurse practitioners, and dentists. This concern comes at a time when there is growing recognition that greater use of primary care services and less reliance on specialty services can lead to better health outcomes at lower cost.

GAO was asked to focus on (1) recent supply trends for primary care professionals, including information on training and demographic characteristics; (2) projections of future supply for primary care professionals, including the factors underlying these projections; and (3) the influence of the health care system's financing mechanisms on the valuation of primary care services.

GAO obtained data from the Health Resources and Services Administration (HRSA) and organizations representing primary care professionals. GAO also reviewed relevant literature and position statements of these organizations.

WHAT GAO FOUND

In recent years, the supply of primary care professionals increased, with the supply of nonphysicians increasing faster than physicians. The numbers of primary care professionals in training programs also increased. Little information was available on trends during this period regarding minorities in training or actively practicing in primary care specialties. For the future, health professions workforce projections made by government and industry groups have focused on the likely supply of the physician workforce overall, including all specialties. Few projections have focused on the likely supply of primary care physician or other primary care professionals.

Health professional workforce projections that are mostly silent on the future supply of and demand for primary care services are symptomatic of an ongoing decline in the Nation's financial support for primary care medicine. Ample research in recent years concludes that the Nation's over reliance on specialty care services at the expense of primary care leads to a health care system that is less efficient. At the same time, research shows that preventive care, care coordination for the chronically ill, and continuity of care—all hallmarks of primary care medicine—can achieve improved outcomes and cost savings. Conventional payment systems tend to undervalue primary care services relative to specialty services. Some physician organizations are proposing payment system refinements that place a new emphasis on primary care services.

Supply of Primary Care Professionals

	No. of primary care professionals		No. of primary care professionals per 100,000 people		Average annual percentage change per capita
	Base year	Recent year	Base year	Recent year	
Primary care physicians	208,187	264,086	80	90	1.17
Physician assistants	12,819	23,325	5	8	3.89
Nurse practitioners	44,200	82,622	16	28	9.44
Dentists	118,816	138,754	46	47	0.12

Sources: GAO analysis of data from HRSA's Area Resource File and organizations representing primary care professionals.

Notes: Data on primary care physicians are from 1995 and 2005. Data on physician assistants are from 1995 and 2007. Data on nurse practitioners are from 1999 and 2005. Data on dentists are from 1995 and 2007. Data for identical time periods were not available. The average annual percentage change is not sensitive to these time period differences.

GAO discussed the contents of this statement with HRSA officials and incorporated their comments as appropriate.

Mr. Chairman and members of the committee, I am pleased to be here today as you prepare to consider the reauthorization of health professions education pro-

grams established under title VII of the Public Health Service Act.[1] Most of the funding for title VII programs goes toward primary care medicine and dentistry training and increasing medical student diversity.

Despite a longstanding objective of title VII to increase the total supply of primary care professionals, health care marketplace signals suggest an undervaluing of primary care medicine, creating a concern about the future supply of primary care professionals. As evidence, health policy experts cite a growing income gap between primary care physicians and specialists and a declining number of U.S. medical students entering primary care specialties—internal medicine, family medicine, general practice, and general pediatrics. Moreover, the Federal agency responsible for implementing title VII programs, the Health Resources and Services Administration (HRSA), notes that physician "extenders"—namely, physician assistants and nurse practitioners—may also be choosing procedure-driven specialties, such as surgery, cardiology, and oncology, in increasing numbers.[2 3]

A paradox commonly cited about the U.S. health care system is that the Nation spends more per capita than all other industrialized nations but ranks consistently low in such quality and access measures as life expectancy, infant mortality, preventable deaths, and percentage of population with health insurance. Moreover, experts have concluded that not all of this spending is warranted, and overutilization of services can, in fact, lead to harm.[4] These findings come at a time when there is growing recognition that greater use of primary care services and less reliance on specialty services can lead to better health outcomes at lower cost.

To examine the supply of primary care professionals in more detail, you asked us to provide information related to the current and future supply of these professionals. My remarks today will focus on: (1) recent supply trends for primary care professionals, including information on training and demographic characteristics; (2) projections of future supply for primary care professionals, including the factors underlying these projections; and (3) the influence of the health care system's financing mechanisms on the valuation of primary care services.

To discuss the recent supply trends for primary care professionals—including information on training and demographic characteristics—we obtained data from HRSA's Area Resource File; the American Academy of Physician Assistants (AAPA); and the American Academy of Nurse Practitioners (AANP). In addition, we reviewed published data from AMA, the American Association of Colleges of Nursing (AACN); and the American Dental Education Association (ADEA).[5] We also obtained pub-

[1] 42 U.S.C. §§ 292–295 p.

[2] Physician assistants are health care professionals who practice medicine under physician supervision. Physician assistants may perform physical examinations, diagnose and treat illnesses, order and interpret tests, advise patients on preventive health care, assist in surgery, and write prescriptions. Unlike physician assistants, nurse practitioners are licensed nurses who work with physicians and have independent practice authority in many States. This authority allows them to perform physical examinations, diagnose and treat acute illnesses and injuries, administer immunizations, manage chronic problems such as high blood pressure and diabetes, and order laboratory services and x-rays with minimal physician involvement.

[3] For the purposes of this testimony, we considered primary care physicians to be those practicing in family medicine, general practice, general internal medicine, and general pediatrics. Some physician groups, such as the American Medical Association (AMA), consider physicians practicing in obstetrics/gynecology to also be primary care physicians. In addition, we considered general dentists and pediatric dentists to be primary care dentists. We defined primary care physician assistants as those practicing in family practice, general practice, general internal medicine, and general pediatrics. We defined primary care nurse practitioners as those practicing in adult, family, and pediatric medicine. Other types of health professionals, such as registered nurses, can provide primary care services in a variety of settings, but they were outside the scope of our review.

[4] For example, noted studies show that Medicare spending for physician services varies widely by geographic areas and is unrelated to beneficiary health status. Elliott S. Fisher and H. Gilbert Welch, "Avoiding the Unintended Consequences of Growth in Medical Care: How Might More Be Worse?" *Journal of the American Medical Association*, vol. 281, no. 5 (1999), 446–453; E.S. Fisher, et al., "The Implications of Regional Variations in Medicare Spending. Part 1: The Content, Quality, and Accessibility of Care," *Annals of Internal Medicine*, vol. 138, no. 4 (2003), 273–287; E.S. Fisher, et al., "The Implications of Regional Variations in Medicare Spending. Part 2: Health Outcomes and Satisfaction with Care," *Annals of Internal Medicine*, vol. 138, no. 4 (2003), 288–298; and Joseph P. Newhouse, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, Mass.: Harvard University Press, 1993).

[5] We obtained the most recently available data on supply for each professional group, the groups' training programs, and the groups' demographic characteristics. We compared the most recent data to a prior data point, in many cases 10 years earlier. For primary care physicians, we obtained data on supply for 1995 and 2005 from the Area Resource File and information on training and demographics from published AMA data for 1995 and 2006. For physician assistants, we obtained data on supply and demographic characteristics from AAPA for 1995 and 2007. For nurse practitioners, we obtained data on supply and demographic characteristics from

lished annual estimates from the U.S. Census Bureau on the noninstitutionalized, civilian population.

To obtain information about projections of future supply of primary care professionals, we reviewed relevant literature and the position statements of organizations representing primary care professionals, including the American Academy of Family Physicians (AAFP) and the American College of Physicians (ACP). We also interviewed officials from HRSA, AAPA, AANP, the American Dental Association (ADA), and the Association of American Medical Colleges (AAMC). In selecting workforce supply projections for review, we focused on the projected estimates of national supply for primary care professionals from the past decade.

To obtain information on the influence of the health care system's financing mechanisms on the valuation of primary care services, we reviewed relevant literature on Medicare's resource-based physician fee schedule and the influence of primary care supply on costs and quality of health care services.

We assessed the reliability of HRSA's Area Resource File data by interviewing officials responsible for producing these data, reviewing relevant documentation, and examining the data for obvious errors.[6] We assessed the reliability of the data provided by the AAPA and the AANP by discussing with association officials the validation procedures they use to ensure timely, complete, and accurate data. We determined the data used in this testimony to be sufficiently reliable for our purposes. We discussed a draft of this testimony with HRSA officials. They provided technical comments, which we incorporated as appropriate. We conducted this work from December 2007 through February 2008, in accordance with generally accepted government auditing standards.

In summary, in recent years, the supply of primary care professionals increased, with the supply of nonphysicians increasing faster than physicians. The numbers of primary care professionals in training programs also increased. Little information was available on trends during this period regarding minorities in training or actively practicing in primary care specialties. For the future, health professions workforce projections made by government and industry groups have focused on the likely supply of the physician workforce overall, including all specialties. Few projections have focused on the likely supply of primary care physician or other primary care professionals.

Health professional workforce projections that are mostly silent on the future supply of and demand for primary care services are symptomatic of an ongoing decline in the Nation's financial support for primary care medicine. Ample research in recent years concludes that the Nation's over reliance on specialty care services at the expense of primary care leads to a health care system that is less efficient. At the same time, research shows that preventive care, care coordination for the chronically ill, and continuity of care—all hallmarks of primary care medicine—can achieve improved outcomes and cost savings. Conventional payment systems tend to undervalue primary care services relative to specialty services. Some physician organizations are developing payment system refinements that place a new emphasis on primary care services.

BACKGROUND

Among other things, title VII programs support the education and training of primary care providers, such as primary care physicians, physician assistants, general dentists, pediatric dentists, and allied health practitioners.[7] HRSA includes in its definition of primary care services, health services related to family medicine, internal medicine, preventative medicine, osteopathic general practice, and general pediatrics that are furnished by physicians or other types of health professionals. Also, HRSA recognizes diagnostic services, preventive services (including immunizations and preventive dental care), and emergency medical services as primary care. Thus, in some cases, nonprimary care practitioners provide primary care services to populations that they serve.

AANP for 1999, 2003, and 2005 and information on training from published AACN data for 1994 and 2005. For dentists, we obtained data on supply for 1995 and 2007 from the Area Resource File and information on demographics from published ADEA data for 2000 and 2005.

[6] Data from the AMA Masterfile and the American Osteopathic Association (AOA) Masterfile—on which data on physicians in the Area Resource File is based—are widely used in studies of physician supply because they are a comprehensive list of U.S. physicians and their characteristics.

[7] Allied health professionals include, for example, audiologists, dental hygienists, clinical laboratory technicians, occupational therapists, physical therapists, medical imaging technologists, and speech pathologists.

Title VII programs support a wide variety of activities related to this broad topic. For example, they provide grants to institutions that train health professionals; offer direct assistance to students in the form of scholarships, loans, or repayment of educational loans; and provide funding for health workforce analyses, such as estimates of supply and demand.[8] In recent years, title VII programs have focused on three specific areas of need—improving the distribution of health professionals in underserved areas such as rural and inner-city communities, increasing representation of minorities and individuals from disadvantaged backgrounds in health professions, and increasing the number of primary care providers. For example, the Scholarships for Disadvantaged Students Program awards grants to health professions schools to provide scholarships to full-time, financially needy students from disadvantaged backgrounds, many of whom are minorities.

Primary Care Education and Training Programs

After completing medical school, medical students enter a multi-year training program called residency, during which they complete their formal education as a physician. Because medical students must select their area of practice specialty as part of the process of being matched into a residency program, the number of physician residents participating in primary care residency programs is used as an indication of the likely future supply of primary care physicians. Physician residents receive most of their training in teaching hospitals, which are hospitals that operate one or more graduate medical education programs. Completion of a physician residency program can take from 3 to 7 years after graduation from medical school, depending on the specialty or subspecialty chosen by the physician. Most primary care specialties require a 3-year residency program. In some cases, primary care physicians may choose to pursue additional residency training and become a subspecialist—such as a pediatrician who specializes in cardiology. In this case, the physician would no longer be considered a primary care physician, but rather, a cardiologist.

According to the AAPA, most physician assistant programs require applicants to have some college education. The average physician assistant program takes about 26 months, with classroom education followed by clinical rotations in internal medicine, family medicine, surgery, pediatrics, obstetrics and gynecology, emergency medicine, and geriatric medicine. Physician assistants practice in primary care medicine, including family medicine, internal medicine, pediatrics, and obstetrics and gynecology, as well in surgical specialties.

After completion of a bachelor's degree in nursing, a nurse may become a nurse practitioner after completing a master's degree in nursing. According to the AACN, full-time master's programs are generally 18 to 24 months in duration and include both classroom and clinical work. Nurse practitioner programs generally include areas of specialization such as acute care, adult health, child health, emergency care, geriatric care, neonatal health, occupational health, and oncology.

Dentists typically complete 3 to 4 years of undergraduate university education, followed by 4 years of professional education in dental school. The 4 years of dental school are organized into 2 years of basic science and pre-clinical instruction followed by 2 years of clinical instruction. Unlike training programs for physicians, there is no universal requirement for dental residency training. However, a substantial proportion of dentists—about 65 percent of dental school graduates—enroll in dental specialty or general dentistry residency programs.

SUPPLY OF PRIMARY CARE PROFESSIONALS INCREASED; LITTLE DATA AVAILABLE ON MINORITY REPRESENTATION

In recent years, the supply of primary care professionals increased, with the supply of nonphysicians increasing faster than physicians. The numbers of primary care professionals in training programs also increased. Little information was available on trends during this period regarding minorities in training or actively practicing in primary care specialties.

In Recent Years, Supply of Primary Care Professionals Increased

In recent years, the number of primary care professionals nationwide grew faster than the population, resulting in an increased supply of primary care professionals on a per capita basis (expressed per 100,000 people). Table 1 shows that over roughly the last decade, per capita supply of primary care physicians—internists, pediatricians, general practice physicians, and family practitioners—rose an average of

[8] For fiscal year 2007, funding for the title VII health professions programs was about $183 million. This excluded funding for student loans, which did not receive funds through the annual appropriation process.

about 1 percent per year,[9] while the per capita supply of nonphysician primary care professionals—physician assistants and nurse practitioners—rose faster, at an average of about 4 percent and 9 percent per year, respectively. Nurse practitioners accounted for most of the increase in nonphysician primary care professionals. The per capita supply of primary care dentists—general dentists and pediatric dentists—remained relatively unchanged.

Table 1.—Supply of Primary Care Professionals

	No. of primary care professionals		No. of primary care professionals per 100,000 people		Average annual percentage change per capita
	Base year	Recent year	Base year	Recent year	
Primary care physicians [1]	208,187	264,086	80	90	1.17
Physician assistants [2]	12,819	23,325	5	8	3.89
Nurse practitioners [3]	44,200	82,622	16	28	9.44
Dentists [4]	118,816	138,754	46	47	0.12

Sources: GAO analysis of data from HRSA's Area Resource File, AAPA, AANP, and the U.S. Census Bureau.
Notes: Data on primary care professionals for identical time periods were not available. The average annual percentage change is not sensitive to these time period differences.
[1] Data on primary care physicians include numbers for both M.D.'s and DOs. Data for M.D.'s are from 1995 and 2005, and for D.O.'s are from 1995 and 2004.
[2] Data on physician assistants are from 1995 and 2007. Data on the total number of physician assistants were obtained from AAPA, then weighted by using the percentage of physicians assistants who practiced primary care according to the 1995 AAPA membership survey and the 2007 AAPA physician assistant census survey.
[3] Data on nurse practitioners are from 1999 and 2005. Data on the total number of nurse practitioners were obtained from AANP, then weighted by using the percentage of nurse practitioners who practiced primary care according to the AANP.
[4] Data on dentists are from 1995 and 2007.

Growth in the per capita supply of primary care physicians outpaced growth in the per capita supply of physician specialists by 7 percentage points in the 1995–2005 period. (See Table 2.)

Table 2.—Supply of Primary Care and Specialty Care Physicians, 1995 and 2005

	No. of physicians		No. of physicians per 100,000 people		Percentage change per capita
	1995	2005	1995	2005	
Primary care physicians	208,187	264,086	80	90	12
Specialty care physicians	468,843	553,451	181	189	5
All physicians	677,030	817,537	262	280	7

Source: GAO analysis of data from HRSA's Area Resource File.
Note: Numbers do not add to totals due to rounding.

By definition, aggregate supply figures do not show the distribution of primary care professionals across geographic areas. Compared with metropolitan areas, nonmetropolitan areas, which are more rural and less populated, have substantially fewer primary care physicians per 100,000 people. In 2005, there were 93 primary care physicians per 100,000 people in metropolitan areas, compared with 55 primary care physicians per 100,000 people in nonmetropolitan areas.[10] Data were not available on the distribution of physician assistants, nurse practitioners, or dentists providing primary care in metropolitan and nonmetropolitan areas.[11]

[9] Allopathic medicine is the most common form of medical practice. Graduates of allopathic medical schools receive doctor of medicine (M.D.,) degrees. Osteopathic medicine is a form of medical practice similar to allopathic medicine that also incorporates manual manipulation of the body as a therapy. Graduates of osteopathic medical schools receive doctor of osteopathic (D.O.) medicine degrees. The number of primary care physicians includes both M.D.'s and D.O.'s.
[10] Specialty care physicians are even more concentrated in metropolitan areas. In 2005, there were 33 specialty care physicians per 100,000 people in nonmetropolitan areas, compared with 200 specialty care physicians per 100,000 people in metropolitan areas. In total, there were 87 physicians per 100,000 people in nonmetropolitan areas and 293 physicians per 100,000 people in metropolitan areas in 2005.
[11] One researcher, analyzing HRSA data, reported that in 2007 more than 30 million people were living in areas with too few dentists. Shelly Gehshan, "Foundations' Role in Improving Oral Health: Nothing to Smile About," *Health Affairs*, vol. 27, no. 1 (2008).

Number of Primary Care Professionals in U.S. Training Programs Increased from 1995 to 2006

For two groups of primary care professionals—physicians and nurse practitioners—the number in primary care training has increased in recent years. Over the same period, the number of primary care training programs for physicians declined, while programs for nurse practitioners increased. Comparable information for physician assistants and dentists was not available.

From 1995 to 2006, the number of physician residents in primary care training programs increased 6 percent, as shown in Table 3. Over this same period, primary care residency programs declined, from 1,184 programs to 1,145 programs.

Table 3.—No. of Physicians in Residency Programs, in the United States, 1995 and 2006

	No. of resident physicians		Percentage change
	1995	2006	
Primary care residents	38,753	40,982	6
Specialty care residents	59,282	63,897	8
All physician residents	97,416	104,526	7

Sources: AMA, ''Appendix II: Graduate Medical Education,'' Journal of the American Medical Association (JAMA) vol. 276, no. 9 (September 1996) and ''Appendix II: Graduate Medical Education, 2006–2007,'' JAMA vol. 298, no. 9 (September 2007).

Note: Primary care residencies include those for family medicine, internal medicine, pediatrics, internal medicine/family practice, and internal medicine/pediatrics.

The composition of primary care physician residents changed from 1995 to 2006. A decline in the number of allopathic U.S. medical school graduates (known as USMD) selecting primary care residencies was more than offset by increases in the numbers of international medical graduates (IMG) and doctor of osteopathy (D.O.) graduates entering primary care residencies.[12] Specifically, from 1995 to 2006, USMD graduates in primary care residencies dropped by 1,655 physicians, while the number of IMGs and D.O.'s in primary care residencies rose by 2,540 and 1,415 physicians respectively. (See Table 4.)

Table 4.—Number of Physicians in Residency Programs, by USMDs, IMGs, and D.O.'s, 1995 and 2006

	1995			2006		
	USMDs	IMGs	D.O.'s	USMDs	IMGs	D.O.'s
Primary care residents	23,801	13,025	1,748	22,146	15,565	3,163
Specialty care residents	45,300	11,957	1,585	47,575	12,611	3,466
All physician residents	69,101	24,982	3,333	69,721	28,176	6,629
Total (USMDs + IMGs + D.O.'s)		97,416			104,526	

Sources: AMA, ''Appendix II: Graduate Medical Education,'' JAMA vol. 276, no. 9 (September 1996) and ''Appendix II: Graduate Medical Education, 2006–2007,'' JAMA vol. 298, no. 9 (September 2007).

Note: Primary care residencies include those for family medicine, internal medicine, pediatrics, internal medicine/family practice, and internal medicine/pediatrics.

From 1994 to 2005, the number of primary care training programs for nurse practitioners and the number of graduates from these programs grew substantially. During this period, the number of nurse practitioner training programs increased 61 percent, from 213 to 342 programs. The number of primary care graduates from these programs increased 157 percent from 1,944 to 5,000.

Little Information Available Regarding Minorities in Training or Actively Practicing In Primary Care Specialties

Little information was available regarding participation of minority health professionals in primary care training programs or with active practices in primary care.[13]

[12] Physicians who enter U.S. residency programs include graduates of both U.S. medical schools and foreign medical schools. Physicians from foreign medical schools—international medical graduates—can be citizens of other countries or U.S. citizens who attended medical school abroad.

[13] HRSA's Health Careers Opportunity Program defines underrepresented minorities as racial and ethnic groups that are underrepresented in the health professions relative to their numbers in the general population. According to HRSA, African-Americans, Hispanics, American Indians, and Alaska Natives are underrepresented in the health professions. During the period we exam-

Physicians were the only type of primary care professional for whom we found information on minority representation. We found information not specific to primary care for physician assistants, nurse practitioners, and dentists identified as minorities, which may be a reasonable substitute for information on proportions of minorities in primary care.

For physicians, we used the proportion of minority primary care residents as a proxy measure for minorities in the active primary care physician workforce. From 1995 to 2006, the proportion of primary care residents who were African-American increased from 5.1 percent to 6.3 percent; the proportion of primary care residents who were Hispanic increased from 5.8 percent to 7.6 percent. Data on American Indian/Alaska Natives were not collected in 1995, so this group could not be compared over time; in 2006, 0.2 percent of primary care residents were identified as American Indian/Alaska Natives.

Minority representation among each of the other health professional types—overall, not by specialty—increased slightly. AAPA data show that from 1995 to 2007, minority representation among physician assistants increased from 7.8 percent to 8.4 percent. AANP data show that from 2003 to 2005, minority representation among nurse practitioners increased from 8.8 percent to 10.0 percent. ADEA data show that from 2000 to 2005, the proportion of African-Americans among graduating dental students rose slightly from 4.2 percent to 4.4 percent, while the proportion of Hispanics among graduating dental students increased from 4.9 percent to 5.9 percent. The proportion of Native American/Alaska Native among graduating dental students grew from 0.6 percent to 0.9 percent.

Other demographic characteristics of the primary care workforce have also changed in recent years. In two of the professions that were traditionally dominated by men in previous years—physicians and dentists—the proportion of women has grown or is growing. Between 1995 and 2006, the proportion of primary care residents who were women rose from 41 percent to 51 percent. Growth of women in dentistry is more recent. In 2005, 19 percent of professionally active dentists were women,[14] compared with almost 45 percent of graduating dental school students who were women.

UNCERTAINTIES EXIST IN PROJECTING FUTURE SUPPLY OF HEALTH CARE PROFESSIONALS; FEW PROJECTIONS ARE SPECIFICALLY FOR PRIMARY CARE

Accurately projecting the future supply of primary care health professionals is difficult, particularly over long time horizons, as illustrated by substantial swings in physician workforce projections during the past several decades. Few projections have focused on the likely supply of primary care physician or nonphysician primary care professionals.

History of Physician Workforce Supply Predictions Illustrates Uncertainties in Forecasting

Over a 50-year period, government and industry groups' projections of physician shortfalls gave way to projections of surpluses, and now the pendulum has swung back to projections of shortfalls again. From the 1950s through the early 1970s, concerns about physician shortages prompted the Federal and State governments to implement measures designed to increase physician supply. By the 1980s and through the 1990s, however, the Graduate Medical Education National Advisory Committee (GMENAC), the Council on Graduate Medical Education (COGME), and HRSA's Bureau of Health Professions were forecasting a national surplus of physicians. In large part, the projections made in the 1980s and 1990s were based on assumptions that managed care plans—with an emphasis on preventive care and reliance on primary care gatekeepers exercising tight control over access to specialists—would continue to grow as the typical health care delivery model. In fact, managed care did not become as dominant as predicted and, in recent years, certain researchers, such as Cooper,[15] have begun to forecast physician shortages. COGME's most recent report, issued in January 2005, also projects a likely shortage of physicians in the

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ined, minority representation increased among the general population. Specifically, from 1995 to 2006, the proportion of African-Americans in the general population increased from 12.0 percent to 12.3 percent; the proportion of Hispanics increased from 10.3 percent to 14.8 percent; and the proportion of American Indian/Alaska Natives increased from 0.7 percent to 0.8 percent.

[14] American Dental Association, "Survey and Economic Research on Dentistry: Frequently Asked Questions" (Chicago, Ill.: American Dental Association), *http://www.ada.org/ada/prod/survey/faq.asp* (accessed Jan. 7, 2008).

[15] Richard A. Cooper, et al., "Economic and Demographic Trends Signal an Impending Physician Shortage," *Health Affairs*, vol. 21, no. 1 (2002).

coming years and,[16] in June of 2006, the AAMC called for an expansion of U.S. medical schools and federally supported residency training positions.[17] Other researchers have concluded that there are enough practicing physicians and physicians in the pipeline to meet current and future demand if properly deployed.[18]

Few Projections Address Future Supply of Primary Care Professionals

Despite interest in the future of the health care workforce, few projections directly address the supply of primary care professionals. Recent physician workforce projections focus instead on the supply of physicians from all specialties combined. Specifically, the projections recently released by COGME point to likely shortages in total physician supply but do not include projections specific to primary care physicians.[19] Similarly, ADA's and AAPA's projections of the future supply of dentists and physician assistants do not address primary care practitioners separately from providers of specialty care. AANP has not developed projections of future supply of nurse practitioners.

We identified two sources—an October 2006 report by HRSA and a September 2006 report by AAFP—that offer projections of primary care supply and demand, but both are limited to physicians.[20] HRSA's projections indicate that the supply of primary care physicians will be sufficient to meet anticipated demand through about 2018, but may fall short of the number needed in 2020. AAFP projected that the number of family practitioners in 2020 could fall short of the number needed, depending on growth in family medicine residency programs.

HRSA based its workforce supply projections on the size and demographics of the current physician workforce, expected number of new entrants, and rate of attrition due to retirement, death, and disability. Using these factors, HRSA calculated two estimates of future workforce supply. One projected the expected number of primary care physicians, while the other projected the expected supply of primary care physicians expressed in full-time equivalent (FTE) units. According to HRSA, the latter projection, because it adjusts for physicians who work part-time, is more accurate.[21] The agency projected future need for primary care professionals based largely on expected changes in U.S. demographics, trends in health insurance coverage, and patterns of utilization. HRSA predicted that the supply of primary care physicians will grow at about the same rate as demand until about 2018, at which time demand will grow faster than supply. Specifically, HRSA projected that by 2020, the nationwide supply of primary care physicians expressed in FTEs will be 271,440, compared with a need for 337,400 primary care physicians. HRSA notes that this projection, based on a national model, masks the geographic variation in physician supply. For example, the agency estimates that as many as 7,000 additional primary care physicians are currently needed in rural and inner-city areas and does not expect that physician supply will improve in these underserved areas.

In a separate projection, AAFP reviewed the number of family practitioners in the United States. AAFP's projections of future supply were based on the number of active family practice physicians in the workforce and the number of completed family practice residencies in both allopathic and osteopathic medical schools. AAFP's projections of need relied on utilization rates adjusted for mortality and socioeconomic factors. Specifically, AAFP estimated that 139,531 family physicians would be needed by 2020, representing about 42 family physicians per 100,000 people in the United States. To meet this physician-to-population ratio, AAFP estimated that family practice residency programs in the aggregate would need to expand by 822 residents per year.

Both reports noted the difficulties inherent in making predictions about future physician workforce supply and demand. Essentially, they noted that projections

[16] COGME, "Sixteenth Report: Physician Workforce Policy Guidelines for the United States, 2000–2020" (January 2005).

[17] AAMC, "AAMC Statement on the Physician Workforce" (June 2006).

[18] David Goodman, et al., "End-Of-Life Care At Academic Medical Centers: Implications For Future Workforce Requirements," *Health Affairs*, vol. 25 no. 2 (2006) and Jonathan P. Weiner, "Prepaid Group Practice Staffing And U.S. Physician Supply: Lessons For Workforce Policy," *Health Affairs*, Web Exclusive (Feb. 4, 2004).

[19] COGME does not currently hold a position on the appropriate ratio of primary care physicians to specialty physicians. This is in contrast to the position COGME held from 1992 through 2004, which recommended that half of all physicians should be primary care physicians.

[20] U.S. Department of Health and Human Services, HRSA, Bureau of Health Professions, "Physician Supply and Demand: Projections to 2020" (October 2006) and AAFP, "Family Physician Workforce Reform (as approved by the 2006 Congress of Delegates) Recommendations of the AAFP" (September 2006).

[21] The FTE projection takes into account an expected decrease in the number of hours worked by physicians due to demographic workforce changes, including a greater share of female physicians and older physicians, some of whom are likely to work less than full-time.

based on historical data may not necessarily be predictive of future trends. They cite as examples the unforeseen changes in medical technology innovation and the multiple factors influencing physician specialty choice. Additionally, HRSA noted that projection models of supply and demand incorporate any inefficiencies that may be present in the current health care system.

MOVE TOWARD PRIMARY CARE MEDICINE, A KEY TO BETTER QUALITY AND LOWER COSTS, IS IMPEDED BY HEALTH CARE SYSTEM'S CURRENT FINANCING MECHANISMS

Health professional workforce projections that are mostly silent on the future supply of and demand for primary care services are symptomatic of an ongoing decline in the Nation's financial support for primary care medicine. Ample research in recent years concludes that the Nation's over reliance on specialty care services at the expense of primary care leads to a health care system that is less efficient. At the same time, research shows that preventive care, care coordination for the chronically ill, and continuity of care—all hallmarks of primary care medicine—can achieve better health outcomes and cost savings. Despite these findings, the Nation's current financing mechanisms result in an atomized and uncoordinated system of care that rewards expensive procedure-based services while undervaluing primary care services. However, some physician organizations—seeking to reemphasize primary care services—are proposing a new model of delivery.

Payment Systems That Undervalue Primary Care Appear To Be Counterproductive

Fee-for-service, the predominant method of paying physicians in the United States, encourages growth in specialty services. Under this structure, in which physicians receive a fee for each service provided, a financial incentive exists to provide as many services as possible, with little accountability for quality or outcomes. Because of technological innovation and improvements over time in performing procedures, specialist physicians are able to increase the volume of services they provide, thereby increasing revenue. In contrast, primary care physicians, whose principal services are patient office visits, are not similarly able to increase the volume of their services without reducing the time spent with patients, thereby compromising quality. The conventional pricing of physician services also disadvantages primary care physicians. Most health care payers, including Medicare—the Nation's largest payer—use a method for reimbursing physician services that is resource-based, resulting in higher fees for procedure-based services than for office-visit "evaluation and management" services.[22] To illustrate, in one metropolitan area, Boston, Massachusetts, Medicare's fee for a 25- to 30-minute office visit for an established patient with a complex medical condition is $103.42 [23]; in contrast, Medicare's fee for a diagnostic colonoscopy—a procedural service of similar duration—is $449.44.[24]

Several findings on the benefits of primary care medicine raise concerns about the prudence of a health care payment system that undervalues primary care services. For example:

- Patients of primary care physicians are more likely to receive preventive services, to receive better management of chronic illness than other patients, and to be satisfied with their care.[25]
- Areas with more specialists, or higher specialist-to-population ratios, have no advantages in meeting population health needs and may have ill effects when specialist care is unnecessary.[26]
- States with more primary care physicians per capita have better health outcomes—as measured by total and disease-specific mortality rates and life expect-

[22] Evaluation and management (E/M) services refer to office visits and consultations furnished by physicians. To bill for their service, physicians select a common procedural terminology (CPT) code that best represents the level of E/M service performed based on three elements: patient history, examination, and medical decisionmaking. The combination of these three elements can range from a very limited 10-minute face-to-face encounter to a very detailed examination requiring an hour of the physician's time.

[23] The fee for this service in Boston, MA, is represented on the fee schedule as CPT code 99214.

[24] The fee for this service in Boston, MA, is represented on the fee schedule as CPT code 45378.

[25] A.B. Bindman, et al., "Primary Care and Receipt of Preventive Services," *Journal of General Internal Medicine* vol. 11, no. 5 (1996); D.G. Safran, et al., "Linking Primary Care Performance to Outcomes of Care," *Journal of Family Practice*, vol. 47, no. 3 (1998); and A.C. Beal, et al., "Closing the Divide: How Medical Homes Promote Equity in Health Care: Results From The Commonwealth Fund 2006 Health Care Quality Survey" (The Commonwealth Fund, June 2007).

[26] B. Starfield, et al., "The Effects Of Specialist Supply On Populations' Health: Assessing The Evidence," *Health Affairs* web exclusive (2005).

ancy—than States with fewer primary care physicians (even after adjusting for other factors such as age and income).[27]

• States with a higher generalist-to-population ratio have lower per-beneficiary Medicare expenditures and higher scores on 24 common performance measures than States with fewer generalist physicians and more specialists per capita.[28]

• The hospitalization rates for diagnoses that could be addressed in ambulatory care settings are higher in geographic areas where access to primary care physicians is more limited.[29]

Some Health Care Reform Proposals Seek to Re-emphasize Primary Care Medicine

In recognition of primary care medicine's value with respect to health care quality and efficiency, some physician organizations are proposing a new model of health care delivery in which primary care plays a central role. The model establishes a "medical home" for patients—in which a single health professional serves as the coordinator for all of a patient's needed services, including specialty care—and refines payment systems to ensure that the work involved in coordinating a patient's care is appropriately rewarded.

More specifically, the medical home model allows patients to select a clinical setting—usually their primary care provider's practice—to serve as the central coordinator of their care. The medical home is not designed to serve as a "gatekeeper" function, in which patients are required to get authorization for specialty care, but instead seeks to ensure continuity of care and guide patients and their families through the complex process of making decisions about optimal treatments and providers. AAFP has proposed a medical home model designed to provide patients with a basket of acute, chronic, and preventive medical care services that are, among other things, accessible, comprehensive, patient-centered, safe, and scientifically valid. It intends for the medical home to rely on technologies, such as electronic medical records, to help coordinate communication, diagnosis, and treatment. Other organizations, including ACP, the American Academy of Pediatrics (AAP), and AOA, have developed or endorsed similar models and have jointly recommended principles to describe the characteristics of the medical home.[30]

Proposals for the medical home model include a key modification to conventional physician payment systems—namely, that physicians receive payment for the time spent coordinating care. These care coordination payments could be added to existing fee schedule payments or they could be included in a comprehensive, per-patient monthly fee. Some physician groups have called for increases to the Medicare resource-based fee schedule to account for time spent coordinating care for patients with multiple chronic illnesses. Proponents of the medical home note that it may be desirable to develop payment models that blend fee-for-service payments with per-patient payments to ensure that the system is appropriately reimbursing physicians for primary, specialty, episodic, and acute care.

CONCLUDING OBSERVATIONS

In our view, payment system reforms that address the undervaluing of primary care should not be strictly about raising fees but rather about recalibrating the value of all services, both specialty and primary care. Resource-based payment systems like those of most payers today do not factor in health outcomes or quality metrics; as a consequence, payments for services and their value to the patient are misaligned. Ideally, new payment models would be designed that consider the relative costs and benefits of a health care service in comparison with all others so that methods of paying for health services are consistent with society's desired goals for health care system quality and efficiency.

Mr. Chairman, this concludes my prepared statement. I will be happy to answer any questions that you or members of the committee may have.

Senator SANDERS. Thank you very much, Mr. Steinwald.

In no particular order, let us begin with Dr. Grumbach, who is the Director of the University of California at San Francisco Center for California Health Workforce Studies.

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[27] B. Starfield, et al., "Contribution of Primary Care to Health Systems and Health," *Milbank Quarterly*, vol. 83, no. 3 (2005).

[28] K. Baicker and A. Chandra, "Medicare Spending, the Physician Workforce, and Beneficiaries' Quality of Care," Health Affairs web exclusive (2004).

[29] M. Parchman, et al., "Primary Care Physicians and Avoidable Hospitalizations," *Journal of Family Practice*, vol. 39, no. 2 (1994).

[30] AAFP, AAP, ACP, AOA, "Joint Principles of the Patient-Centered Medical Home" (March 2007).

Thank you very much for being with us, Dr. Grumbach. Please take 2 minutes.

STATEMENT OF KEVIN GRUMBACH, M.D., DIRECTOR, UCSF CENTER FOR CALIFORNIA HEALTH WORKFORCE STUDIES, PROFESSOR AND CHAIR, UCSF DEPARTMENT OF FAMILY AND COMMUNITY MEDICINE, SAN FRANCISCO, CA

Dr. GRUMBACH. Thank you for inviting me, Senator Sanders, members of the committee. I would like to honor the brevity of the requests for these opening remarks. I want to just hit on a couple of points.

One, the Senators have identified the key issues. There is a crumbling infrastructure of primary care. It hits hardest in the most underserved communities of our Nation. What I would like to impress upon you is our research and research of colleagues that make it clear that certain Federal programs are quite effective in achieving their goals.

There is now a very solid research base to support with good evidence the effectiveness of title VII training programs, that institutions that get title VII funding are more likely to have their graduates work in primary care, to serve in underserved areas, to work at community health centers, to join the National Health Service Corps, about 50 percent more likely yield of physicians who will work at community health centers.

When asked the question, a simultaneous program of expansion of community health centers without investment in the pipeline that actually preferentially feeds physicians in the health centers.

Second, there is a good evidence basis for the effects of the National Service Corps that have lasting effect on underserved communities, a very solid research base there.

The last thing I would like to emphasize is the distorted incentives in the Medicare program and to pick up on Mr. Steinwald's comment. One way Federal policies can influence this is through proactive policies, such as title VII, title VIII, National Service Corps, but the other key problem is looking at the Medicare program, which has incentives in everything from GME to physician payment policies that pull people away from primary care. That without addressing the incentives of the Medicare program, It will be impossible to fully correct some of the deficits in primary care and people working in underserved communities.

Thank you.

[The prepared statement of Dr. Grumbach follows:]

PREPARED STATEMENT OF KEVIN GRUMBACH, M.D.

SUMMARY

1. Primary care is the essential foundation of a well-performing health system.—Health systems built on a solid foundation of primary care deliver more effective, efficient, and equitable care than systems that fail to invest adequately in primary care.

2. The primary care infrastructure in the United States is crumbling, and patient access to primary care is suffering throughout the Nation.—From 1997 to 2005, the number of U.S. medical school graduates entering careers in family medicine residencies dropped by 50 percent, as did the number of internal medicine residents planning careers in primary care rather than specialty medicine. In a 2006 survey of 92 large- or medium-sized physician groups, 94 percent of the respondents ranked internists or family physicians as the most difficult to recruit.

Federally funded community health centers reported more than 750 vacant positions for primary care physicians in 2004. In 2007, 29 percent of Medicare beneficiaries reported a problem finding a primary care physician, up from 24 percent in 2006.

3. The Federal Government can address the crisis in primary care through:

a. Targeted health professions primary care training programs such as title VII programs.—Research evidence demonstrates the effectiveness of these programs, finding that institutions receiving Title VII Section 747 Primary Care Training Grants are more likely to produce graduates who enter primary care fields, work at Community Health Centers, and participate in the National Health Service Corps.

b. Reform of Medicare Graduate Medical Education funding.—Medicare GME funding policies tie funds to hospital-based settings emphasizing specialty training and hospital service priorities, rather than the public's workforce needs. Medicare GME funding needs to be reformed to become more aligned with primary care workforce needs and less rigidly tied to hospital-based training sites.

c. The National Health Services Corps.—Research has shown that many NHSC participants remain in service to the underserved after completing their service obligations, and that temporary placement of NHSC physicians in rural underserved areas positively impacts the long-term non-NHSC physician supply in those areas. In 2006, there were over 4,200 vacant positions in underserved areas for NHSC physicians, yet only 1,200 funded NHSC positions to fill these slots.

d. Medicare physician payment reform.—Between 1995 and 2003, the real take home income of primary care physicians decreased by 10.2 percent, and the gap in earnings between primary care and specialist physicians widened considerably. From 1997 to 2006, Medicare expenditures for specialty-oriented physician services (e.g., surgery, imaging studies) increased 36 percent faster than expenditures for primary care-oriented evaluation and management (E&M) services. In 2006, non-E&M services accounted for 86 percent in the overage in Medicare physician expenditures above the overall SGR target. To reverse the current disincentives for primary care practice, Medicare payment reforms should include:

i. Splitting the SGR and creating separate SGR accounts for E&M and non-E&M services,
ii. Adding a medical home care coordination payment, in addition to fee-for-service payments,
iii. Subsidies for capital investment to modernize the medical home through EMR installation and related IT, training and hiring of primary care office staff for innovative chronic and preventive care programs, and other infrastructure needs, and
iv. Greater performance-based payment incentives linked to achieving progress on quality and access targets.

Senator Kennedy, Senator Enzi, and members of the Senate Committee on Health, Education, Labor, and Pensions, thank you for inviting my testimony today on this hearing on the health care workforce. My name is Dr. Kevin Grumbach. I am a family physician and Professor and Chair of the Department of Family and Community Medicine at the University of California, San Francisco. I also am Director of the Center for California Health Workforce Studies and Co-Director of the Center for Excellence in Primary Care at UCSF. My testimony today will focus on the crisis in the Nation's primary care physician workforce.

There are three main points I would like to emphasize:

1. Primary care is the essential foundation of a well-performing health system.
2. The primary care infrastructure in the United States is crumbling, and patient access to primary care is suffering throughout the Nation.
3. The Federal Government can address the crisis in primary care through:
   a. Targeted health professions primary care training programs such as title VII programs,
   b. Reform of Medicare Graduate Medical Education funding,
   c. The National Health Services Corps, and
   d. Medicare physician payment reform.

Let me review the evidence in support of each of these points.

1. PRIMARY CARE IS THE ESSENTIAL FOUNDATION OF A WELL-PERFORMING HEALTH SYSTEM

A primary care home serves as the patient's door into the health care system and the patient's guide through the system. Patients and families can choose a family physician, general internist, or pediatrician to be their primary care physician. Working closely with these physicians, nurse practitioners and physician assistants also deliver primary care. When people say, "I'm going to see my personal physician," they are usually talking about their primary care physician. Primary care has the job of preventing illness; treating acute problems; caring for the millions of people with chronic conditions such as high blood pressure, arthritis, and diabetes; providing compassionate care at the end of life; and coordinating specialty and other referral services.

Research evidence makes it clear that health systems built on a solid foundation of primary care deliver more effective, efficient, and equitable care than systems that fail to invest adequately in primary care:

• Costs.—Patients with a regular primary care physician have lower overall costs than those without. Compared with specialty medicine, primary care provides comparable quality of care at lower cost for a variety of conditions such as diabetes, hypertension, and low back pain. In comparisons of regions and States in the United States, increased primary care physician to population ratios are associated with reduced hospitalization rates and lower overall health care costs.

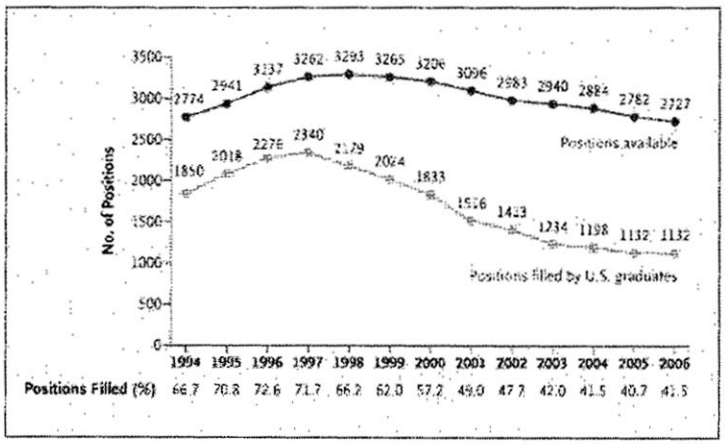
• Quality.—States with more primary care physicians per capita—but not specialists—have better population health indicators such as total mortality, heart disease and cancer mortality, and neonatal mortality. Medicare patients in these States also receive better quality of care, including more appropriate care for heart attacks, diabetes, and pneumonia. Patients with a primary care home are more likely to receive appropriate preventive services such as cancer screening and flu shots.

• Equity.—Racial disparities are reduced when patients receive care from a well-functioning medical home.

2. THE PRIMARY CARE INFRASTRUCTURE IN THE UNITED STATES IS CRUMBLING, AND PATIENT ACCESS TO PRIMARY CARE IS SUFFERING THROUGHOUT THE NATION

From 1997 to 2005, the number of U.S. medical school graduates entering careers in family medicine residencies dropped by 50 percent.

Family Medicine Residency Positions and Number Filled by U.S. Medical School Graduates



A similarly large decrease has occurred in the number of internal medicine residents planning careers in primary care rather than specialty medicine.

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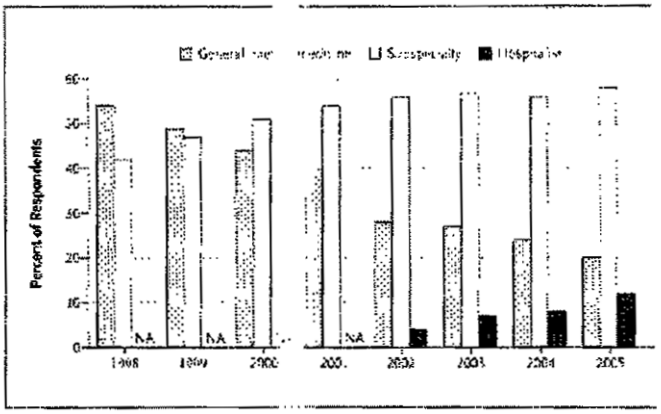
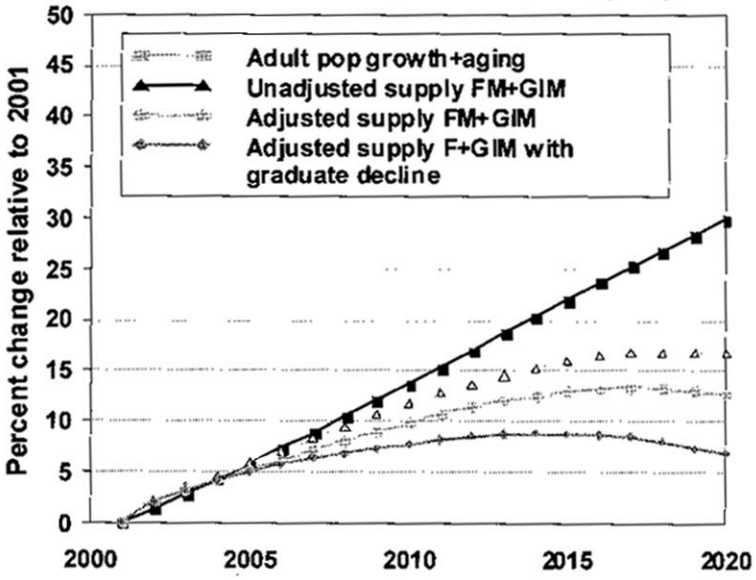
Proportions of Third-Year Internal Medical Residents Choosing Careers as Generalists, Subspecialists, and Hospitalists



An analysis performed by Dr. Jack Colwill and colleagues at the University of Missouri indicates that the growth in the supply of primary care physicians for adult patients is now lagging behind the rate of growth in the adult population, with the gap projected to widen dramatically over the next decade.

Adult Care: Projected Generalist Supply vs Pop Growth+Aging



SOURCE: J Colwill, unpublished data, 2007.
NOTES: "aging of pop" based on visits per age group; "Adjusted supply"—adjusted for age and gender. Graduate decline"—extends the 2001–2004 rate of decline of graduates through 2007.

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The human resource crisis in primary care is apparent in the difficulties faced by health organizations in recruiting primary care physicians. In a 2006 survey of 92 large- or medium-sized physician groups, 94 percent of the respondents ranked internists or family physicians as the most difficult to recruit. Federally funded community health centers reported more than 750 vacant positions for primary care physicians in 2004.

These workforce trends are having a deleterious effect on patients. Lack of access to primary care physicians is becoming an alarming problem in communities throughout the Nation, not just in traditionally underserved rural and inner city communities. In 2007, 29 percent of Medicare beneficiaries reported a problem finding a primary care physician, up from 24 percent in 2006. Soon after Massachusetts began implementing its universal coverage plan, it confronted the glaring deficiency of having an insufficient supply of primary care physicians to provide medical homes to the patients newly insured by the State health plan.

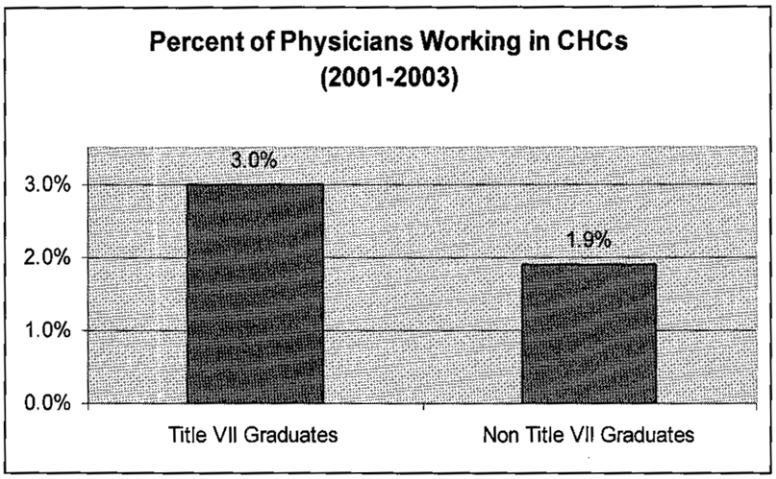
3. FEDERAL POLICIES TO ADDRESS THE PRIMARY CARE WORKFORCE CRISIS: AN EVIDENCE-BASED APPROACH TO EFFECTIVE POLICY

Research evidence supports the critical influence of Federal policies on the State of the Nation's primary care workforce, and points to effective interventions to address the current crisis.

a. Targeted Health Professions Primary Care Training Programs: Title VII Programs

Title VII Section 747 Primary Care Training Grants are intended to strengthen the primary care educational infrastructure at medical schools and residency programs and to encourage physicians-in-training to pursue careers working with underserved populations. Research shows an association between title VII grants to medical schools and increased production of primary care physicians and a greater likelihood that graduates will practice in underserved areas. In addition, a study of title VII grants to family medicine residency programs in nine States found that graduates of title VII residencies were more likely to practice in rural and low-income areas than their counterparts trained at residencies that did not receive title VII grants.

Recent research conducted by our own team at UCSF, led by Dr. Diane Rittenhouse, has documented the importance of title VII grants for strengthening the educational pipeline producing primary care physicians who work at federally qualified community health centers and join the National Health Service Corps. Physicians who graduated from title VII-funded U.S. medical schools were 50 percent more likely to be practicing at a CHC in 2001–03 than physicians who graduated from medical schools that did not receive title VII funding. As the figure below indicates, 3.0 percent of graduates of title VII-funded medical schools were working at CHCs in 2001–03, compared with 1.9 percent of graduates of schools not funded by title VII. Similar results were found for title VII-funded residency programs. Of family physicians who trained at title VII-funded residencies, 6.8 percent worked at CHCs in 2001–03, compared to 5.0 percent of family physicians who trained at residencies not funded by title VII.



These same patterns were found for the association between title VII funding and physician participation in the National Health Services Corps. For example, family physicians who attended title VII residency programs were 50 percent more likely to participate in the NHSC Loan Repayment Program than family physicians who trained at residencies not funded by title VII.

This recent research provides evidence that the title VII section 747 grant program supports the training of primary care physicians who are more likely to staff CHCs and participate in the NCHS. These findings have important implications for Federal policy decisions, including the recent major reduction in title VII section 747 funding. Reductions in title VII destabilize institutions that disproportionately serve as the pipeline for producing primary care physicians who participate in the NHSC and/or work at CHCs, undermining the Federal effort to improve access for the underserved through CHC expansion. Ongoing Federal investment in the medical education pipeline to prepare and motivate physicians to participate in the NHSC and to work in CHCs should be considered an integral component of efforts to improve access to care for the underserved.

b. Reforming Medicare Graduate Medical Education Funding

Medicare GME funding policies tie funds to hospital-based settings emphasizing specialty training and hospital service priorities, rather than the public's workforce needs. Medicare GME funding needs to become more aligned with primary care workforce needs and less rigidly tied to hospital-based training sites. The minutes of the September 2008 meeting of the Council of Graduate Medical Education summarize draft recommendations on GME funding that are consistent with the priorities identified by many medical educators as fundamental to more rational GME funding that corrects current disincentives for primary care training. These include:

- Broadening the definition of "training venue" beyond traditional training sites,
- Removing regulatory barriers limiting flexible GME training programs and training venues, and
- Making accountability for the public's health the driving force for graduate medical education, including by:
  - developing mechanisms by which local, regional or national groups can determine workforce needs, assign accountability, allocate funding, and develop innovative models of training which meet the needs of the community and of trainees;
  - linking continued funding to meeting pre-determined performance goals.

Deliberations about altering the current funding formulae for Medicare GME allocations to reduce overall Medicare GME funding must carefully consider the potential impact on vulnerable primary care residency training programs. Funding formulae should not be revised without considering the types of principles under discussion by the Council of Graduate Medical Education to create a more accountable and rational approach to GME funding.

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c. National Health Services Corps

National Health Service Corps physicians comprise a substantial proportion of physicians staffing CHCs. Research indicates that after completing their NHSC obligation, a large proportion of NHSC participants remain in service to the underserved. In addition, temporary placement of NHSC physicians in rural underserved areas positively impacts the long-term non-NHSC physician supply in those areas. Unfortunately, the demand for NHSC physicians far exceeds the supply. In 2006 there were over 4,200 vacant positions in underserved areas for NHSC physicians, yet only 1,200 NHSC physicians available to fill these slots.

The NHSC is an effective strategy to provide incentives to physicians in training to enter primary care and provide service where it is most needed.

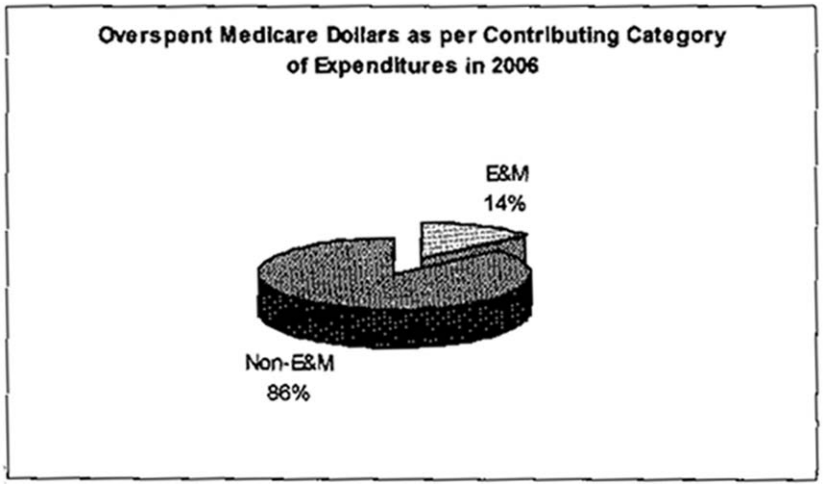
d. Medicare Physician Payment Reform

One of the major disincentives for physicians in training to pursue careers in primary care is the widening gap in earnings between primary care physicians and physicians in subspecialty fields. The income of primary care physicians, adjusted for inflation, decreased by 10.2 percent from 1995 to 2003. Median specialist income in 2004 was 180 percent of primary care income. Unadjusted for inflation, specialist income grew almost 4 percent per year from 1995 to 2004, while primary care income grew 2 percent per year. A specialist spending 30 minutes performing a surgical procedure, a diagnostic test, or an imaging study is often paid three times as much as a primary care physician conducting a 30-minute visit with a patient who has diabetes, heart failure, headache, or depression.

Although Medicare is only one payor among many in the U.S. health system, Medicare has a dominant influence on physician payment policies for all payors. Most private health plans base their payment policies on Medicare's relative value unit system. Thus, Medicare physician payment policy is physician workforce policy. Changes to Medicare physician payment policies that reverse the financial disincentives for primary care practice can play a powerful role in addressing the crisis in the primary care workforce.

i. Splitting the Sustainable Growth Rate (SGR)

From 1997 to 2006, Medicare expenditures for specialty-oriented physician services (e.g., surgery, imaging studies) increased 36 percent faster than expenditures for primary care-oriented evaluation and management (E&M) services. In 2006, non-E&M services accounted for 86 percent in the overage in Medicare physician expenditures above the overall SGR target.



Although there are valid reasons for Medicare to use some type of SGR approach to control overall physician expenditures, the specific manner in which the SGR has been implemented has had a disproportionately adverse impact on Medicare payments to primary care physicians. Because there is one conversion factor for all services, primary care physicians are essentially penalized when large increases in expenditures for specialized services drive down the conversion factor that is applied to E&M and non-E&M services alike.

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A simple policy that could mitigate much of this unintended effect of the SGR that disproportionately penalizes primary care physicians would be to use a split SGR system for E&M and non-E&M services, such that the conversion factor for each category of service would rise or fall based on expenditure trends within that category of service.

We have modeled the implications of a split SGR. In our modeling scenario, we allowed total Medicare physician expenditures to increase from 1997 to the actual observed 2006 level of $93.7 billion. However, instead of allowing total expenditures to increase more rapidly in the non-E&M service category than in the E&M category, as historically occurred, we kept the 1997–2006 rate of expenditure increase (90 percent) equivalent within each of the E&M and non-E&M SGR pools. Under this scenario, E&M spending in 2006 would have been $37.5 billion rather than $34.4 billion, and fees for E&M services would have been 9 percent greater in 2006 than they actually were. Non-E&M spending in 2006 would have been $56.2 billion rather than the actual $59.3 billion. The conversion factors in 2006 under the high growth scenario would have been 41.3 for E&M services and 35.9 for non-E&M services. These compare with the actual 2006 conversion factor of 37.9 for both E&M and non-E&M services. This modeling exercise indicates how implementation of a split SGR could allow Medicare to provide more incentives for primary care services without increasing overall Medicare expenditures.

ii. Adding a Medical Home Care Coordination Payment, in Addition to Fee-for-Service Payments

Providing comprehensive care to patients with chronic illnesses and complex medical problems requires that physicians spend considerable time coordinating services, communicating with patients and caregivers by phone and e-mail, and devoting effort to similar types of activities not reimbursed under the traditional "piecemeal" payment approach of fee-for-service. The Patient Centered Primary Care Collaborative, a coalition of large employers and primary care physician associations, has called for payors to add a monthly care coordination payment "for the physician work that falls outside of a face-to-face visit and for the heath information technologies needed to achieve better outcomes. Bundling of services into a monthly fee removes volume-based incentives and promotes efficiency. The prospective nature of the payment recognizes the up-front costs to maintain the required level of care. Care coordination payments should be risk-adjusted to ensure that there are no inherent incentives to avoid the treatment of the more complex, costly patients."

An example of the cost-effectiveness of such a care coordination payment is illustrated by the experiences of North Carolina's Medicaid management program, known as Community Care of North Carolina. To qualify for a monthly coordination payment of $5.50 per Medicaid patient per month, primary care practices must agree to use evidence-based guidelines for at least 3 conditions, track tests and referrals, and measure and report on clinical and service performance. The program spent $8.1 million between July 2002 and July 2003, but saved more than $60 million over historic expenditures. In the second year of the program $10.2 million were spent but $124 million was saved. In 2005 the savings grew to $231 million.

iii. Subsidies for Capital Investment to Modernize the Medical Home Through EMR Installation and Related IT, Training and Hiring of Primary Care Office Staff for Innovative Chronic and Preventive Care Programs, and Other Infrastructure Needs

Specialist physicians who spend a large amount of their work time in hospitals benefit from the capital investments and staffing paid for by hospitals. Hospitals pay for installation of hospital-based electronic medical records, operating room equipment, and the nurses and other personnel to staff operating rooms and intensive care units. Primary care physicians are largely on their own when it comes to finding resources for capital improvement and staffing support. The work of primary care occurs mainly in the physician's office. Investments in purchasing an EMR or hiring a health educator to assist patients to learn how to manage their chronic illnesses come out of the physician's own practice earnings. In an environment where real net income for primary care physicians is falling, there is little margin in practice revenues to pay for such practice improvements.

CONCLUSION

Primary care is essential, and it is in crisis. Decisive action is required by the Federal Government to avert the collapse of primary care and its catastrophic consequences for the public. Many leaders in the private sector, such as large employers, are already taking action on issues such as physician payment reform to support new models of primary care.

Research provides evidence of strategies that are of proven effectiveness in strengthening the primary care workforce and providing incentives for primary care practice. Some of these strategies, such as implementing a split SGR for Medicare physician payment or reforming Medicare GME payments, do not require new funds but rather a reconsideration of how existing funds are allocated. Other strategies, such as a reasonable level of funding for the Section 747 Title VII Primary Care Training Grants Program, require small investments. For example, restoring title VII section 747 funding to its 2003 level of $92.4 million would represent an annual investment equivalent to 0.02 percent of the annual Medicare budget. Such investments in the future of the Nation's primary care physician workforce are a cost-effective investment in the Nation's health care infrastructure and in the health of the public.

Thank you.

Senator SANDERS. Thank you very much.

Dr. Roderick Hooker is the Director of Research, Rheumatology Section, Medical Service Department of Veterans Affairs at the Dallas VA Medical Center.

STATEMENT OF RODERICK S. HOOKER, Ph.D., P.A., DIRECTOR OF RESEARCH, RHEUMATOLOGY SECTION, MEDICAL SERVICE DEPARTMENT OF VETERANS AFFAIRS, DALLAS VA MEDICAL CENTER, DALLAS, TX

Mr. HOOKER. Thank you, Senator Sanders and others on the committee.

Senator SANDERS. Is your mike on, sir?

Mr. HOOKER. I, too, want to keep my remarks brief so we can have a richer discussion around the table.

Approximately little over 35 years ago, an experiment was begun in the United States at three different locations—at Duke University, at University of Washington, and University of Colorado. These were experiments in trying to deliver primary care without the use of doctors for every visit. Physician assistants was that experiment. It is now over 65,000 P.A.s have graduated. Over 60,000 are in some sort of clinical role.

They are widely dispersed throughout Alaska and many other States. Most States except Vermont have P.A. programs. It seems to be working. It works very well for a number of reasons. They are economically trainable. They get out into primary care at a greater percentage than physician ratios, and they seem to deliver very high numbers of primary care visits.

I believe that there are opportunities here to expand on this, especially coupled with the other noble experiment that began little over 35 years ago with family medicine. These two professions have pretty much grown alongside each other with the benefit of title VII. I believe that title VII can be enhanced to try to expand this particular endowment of the United States that is now being emulated in seven other countries around the world, and many others are looking to the experience here as well.

With that, I will conclude my opening remarks and pass on.

[The prepared statement of Mr. Hooker follows:]

PREPARED STATEMENT OF RODERICK S. HOOKER, PH.D., P.A.

Good morning. Thank you, Senators Kennedy, Enzi, and other members of the committee for the opportunity to provide comments this morning on the primary health care workforce. I will address the implications for reauthorization Title VII Health Professions Programs under the Public Health Service (PHS) Act.

My name is Roderick Hooker. My role in health care began many years ago as a Hospital Corpsman in the U.S. Navy. I have been a physician assistant for 30 years. In addition, I hold an MBA in Health Care Management and Organization and a Ph.D. in Health Policy. I am a physician assistant in the Department of Veterans Affairs Medical Center in Dallas, TX. I am also an Associate Professor at the University of North Texas, School of Public Health, and the University of Texas Southwestern Medical School. My research career has focused on the medical workforce and organizational efficiency in health care delivery.

I am particularly interested in the critical role of physician assistants (PAs) and nurse practitioners (NPs) and how they expand access to primary health care. The research shows that absent a PA or NP, some populations would have no access to health care.

Today, I'd like to briefly share my thoughts on the supply and demand of PAs and NPs in the United States. There is a critical need to reinvigorate the title VII program's investment to increase the supply, diversity, and distribution of PAs in medically underserved communities. (NP programs receive Federal funding support through title VIII of the PHS Act.)

PHYSICIAN ASSISTANTS

Physician assistants are licensed health professionals. They:

- practice medicine as a team with their supervising physicians;
- exercise autonomy in medical decisionmaking; and
- provide a comprehensive range of diagnostic and therapeutic services, including physical examinations, taking patient histories, ordering and interpreting laboratory tests, diagnosing and treating illnesses, suturing lacerations, assisting in surgery, writing prescriptions, and providing patient education and counseling.

PA educational preparation is based on the medical model. They practice medicine as delegated by and with the supervision of a doctor. Physicians may delegate to PAs those medical duties that are within the physician's scope of practice and the PA's training and experience, as allowed by law. A physician assistant provides health care services that were traditionally only performed by a physician.

OVERVIEW OF PHYSICIAN ASSISTANT EDUCATION

All physician assistant programs provide students with a primary care education that prepares them to practice medicine with physician supervision. PA programs are located at schools of medicine or health sciences, universities, teaching hospitals, and the Armed Services. All 139 PA educational programs are accredited by the Accreditation Review Commission on Education for the Physician Assistant and offer a bachelor or master's degrees.

TITLE VII SUPPORT OF PA EDUCATION PROGRAMS

The title VII support for PA educational programs is the only Federal funding available, on a competitive application basis, to PA programs.

Targeted Federal support for PA educational programs is authorized through section 747 of the Public Health Service Act. The program was reauthorized in the 105th Congress through the Health Professions Education Partnerships Act of 1998, P.L. 105–392, which streamlined and consolidated the Federal health professions education programs. Support for PA education is now considered within the broader context of training in primary care medicine and dentistry.

P.L. 105–392 reauthorized awards and grants to schools of medicine and osteopathic medicine, as well as colleges and universities, to plan, develop, and operate accredited programs for the education of physician assistants with priority given to training individuals from disadvantaged communities. The funds ensure that PA students have continued access to an affordable education and encourage PAs, upon graduation, to practice in underserved communities. These goals are accomplished by funding PA education programs that have a demonstrated track record of: (1) placing PA students in health professional shortage areas; (2) exposing PA students to medically underserved communities during the clinical rotation portion of their training; and (3) recruiting and retaining students who are indigenous to communities with unmet health care needs.

The title VII program works as intended.

- A review of PA graduates from 1990–2006 demonstrates that PAs who have graduated from PA educational programs supported by title VII are 59 percent more likely to be from underrepresented minority populations and 46 percent more likely to work in a rural health clinic than graduates of programs that were not supported by title VII.

• A study by the UCSF Center for California Health Workforce Studies found a strong association between physician assistants exposed to title VII during their PA educational preparation and those who ever reported working in a federally qualified health center or other community health center.

The PA programs' success in recruiting underrepresented minority and disadvantaged students is linked to their ability to creatively use title VII funds to enhance existing educational programs. For example, a PA educational program in Iowa used title VII funds to target disadvantaged students, providing mentoring opportunities for students, increasing training in cultural competency, and identifying new family medicine preceptors in underserved areas. PA programs in Texas use title VII funds to create new clinical rotation sites in rural and underserved areas, including new sites in border communities. They establish non-clinical rural rotations to help students understand the challenges faced by rural communities. One Texas program developed web-based and distant learning technology and methodologies so students can remain at clinical practice sites. A PA program in New York, where over 90 percent of the students are ethnic minorities, used title VII funding to focus on primary care training for underserved urban populations. They did this by linking with community health centers, expanding the pool of qualified minority role models that engage in clinical teaching, mentoring, and preceptorship for PA students. Several other PA programs use title VII grants to leverage additional resources to assist students with the added costs of housing and travel that occur during relocation to rural areas for clinical training.

Without title VII funding, many special PA training initiatives would be eliminated. Institutional budgets and student tuition fees are not sufficient to meet the special, unmet needs of medically underserved areas or disadvantaged students. The need is very real, and title VII is critical in leveraging innovations in PA training.

The clinical training opportunities that are made available through the section 747 program are substantial and documented. They result in the delivery of essential health care services in medically underserved communities that would otherwise not be available.

TITLE VII AND THE DISTRIBUTION OF HEALTH CARE PROFESSIONALS

The Health Resources and Services Administration (HRSA) estimate the need for an additional 7,802 health professionals to remove the Primary Care Health Professional Shortage Areas (HPSAs) designation nationwide.

The title VII programs are the only Federal education programs that are designed to address the supply and distribution imbalances in the health professions. Since the establishment of Medicare, the costs of physician residencies, nurses, and some allied health professions training has been paid through Graduate Medical Education (GME) funding. However, GME funding has never been available to support PA education. More importantly, GME was not intended to generate a supply of providers who are willing to work in the Nation's medically underserved communities.

There is compelling evidence that race and ethnicity correlate with persistent, and often increasing, health disparities. Further evidence substantiates the need for increasing the diversity of health care professionals. Title VII programs recruit providers from a variety of backgrounds.

Changes in the health care marketplace reflect a growing reliance on PAs as part of the health care team. The supply of physician assistants is inadequate to meet the needs of society; demand for PAs is expected to increase. Title VII continues to provide a crucial pipeline of trained PAs to underserved areas. The U.S. Bureau of Labor Statistics, US News and World Report, and Money magazine all speak to the growth, demand, and value of the PA profession. Medically underserved communities need additional assistance to attract health care professionals who are in high demand in the private market.

NEED FOR INCREASED TITLE VII SUPPORT FOR PA EDUCATION PROGRAMS

Despite the increased demand for PAs, funding has not increased for title VII programs. More is needed to educate and place physician assistants in underserved communities. Nor has title VII support for PA education kept pace with increases in the cost of education. In fact, title VII support has decreased sharply. A review of HRSA section 747 grants reveals that 42 PA educational programs received a total of $7,011,443 million in fiscal year 2005, compared to $3,292,535 million awarded to 27 grantees in fiscal year 2006, and just $2,616,129 awarded to 15 grantees in fiscal year 2007.

RECOMMENDATIONS FOR REAUTHORIZATION

The Title VII Health Professions Programs needs to be reauthorized by the 110th Congress. Little needs to be tweaked or substantially changed during the reauthorization process. I do, however, believe that title VII needs to be reinvigorated, valued, and recognized as providing an important public good. Evidence now supports the notion that title VII has lived up to the expectations of its early creators.

Support for the education of primary care providers is sorely needed. There is a pressing need to recruit underrepresented minorities and disadvantaged populations. Doing so provides quality health care in medically underserved communities; a cornerstone.

Finally, an increased emphasis must be placed on support for PA educational programs through the reauthorization process. The current funding for primary care medicine and dentistry has been at the expense of funding support for PA education. I believe that PA educational programs must be eligible to participate in all title VII programs. In particular:

- Section 738 (a)(3) Loan Repayments and Fellowships Regarding Faculty Positions;
- Section 736(g)(1)(A) Programs of Excellence in Health Professions Education for Under-represented Minorities; and
- Sections 701–720 Health Education Assistance Loan (HEAL) Program.

I appreciate the opportunity to provide comments during the committee's roundtable discussion.

Thank you.

Senator SANDERS. Thank you very much, Dr. Hooker.

Edward S. Salsberg, M.P.A., is Director, Center for Workforce Studies, Association of American Medical Colleges in Washington.

STATEMENT OF EDWARD S. SALSBERG, M.P.A., DIRECTOR, CENTER FOR WORKFORCE STUDIES, ASSOCIATION OF AMERICAN MEDICAL COLLEGES, WASHINGTON, DC

Mr. SALSBERG. Thank you, Senator Sanders. The AAMC appreciates the opportunity to talk to you today. I am going to very briefly summarize some of the comments in my submitted testimony.

The AAMC is particularly concerned these days with the likely shortage, major shortage of physicians in the coming years. This shortage is really going to be driven by the increasing U.S. population, the aging of the U.S. population and, in fact, many of the advances in medicine that are keeping people alive longer and using services, along with an aging physician workforce and a younger generation of physicians that aren't working the same long hours that physicians did in the past.

We have recommended a 30 percent increase in medical school enrollment, and we are seeing some progress. The reality is that that increase is really not going to be enough to meet all of the needs of Americans. We really have to look at how we redesign the healthcare system, how we use other health professionals, how we use our physicians more efficiently and effectively.

We are already concerned about the problems of distribution, and the reality is if we face major shortages of physicians and other health professionals, unfortunately, it is likely to be the rural and poorer communities, the inner city areas that are going to really feel those shortages most severely.

We think it is absolutely essential, in addition to increasing the supply of physicians, that we support programs that are going to address the maldistribution problem. There are some programs that we know work. The National Health Service Corps has an excellent track record, and we know that there are more applicants

than there are awards. We support very strongly an increase in the funding for the National Health Service Corps.

We know that title VII has been a complex and comprehensive program with a lot of parts, and those parts are designed to address a number of these problems of access, distribution, supply, and diversity. We think those programs are clearly essential to a comprehensive strategy.

Clearly, title VII alone isn't going to solve this problem, but we can't see how you can solve the problem without those pieces that are supported by title VII. That doesn't mean that there isn't room for improvement of title VII, and AAMC would be happy to work with the committee in exploring how we might strengthen and improve the program.

[The prepared statement of Mr. Salsberg follows:]

PREPARED STATEMENT OF EDWARD SALSBERG, M.P.A.

SUMMARY

- The Nation is likely to face a major shortage of physicians in the future due to a growing and aging population; advances in medicine leading to longer life; an aging physician workforce; and shorter work hours for younger physicians in practice.
- Between 1980 and 2005, the U.S. population grew by more than 70 million people (31 percent) while medical school enrollment was essentially flat.
- Shortages are likely to be greatest in poor and rural communities and other communities that historically have had a difficult time recruiting and retaining physicians.
- It takes at least a decade to increase the supply of American educated physicians; therefore action is needed now to assure access and to prevent a crisis in the future.
- AAMC recommends a 30 percent increase in medical school enrollment by 2015 and funding for additional graduate medical education (GME) positions.
    - While this is a necessary step it will not be sufficient to assure access in the future; systems redesign, improvements in productivity, greater use of non-physician clinicians and more effective use of physicians is also essential.
- Increasing the physician supply alone will also not address the problems of geographic and specialty mal-distribution. More than 30 million Americans live in areas designated as having shortages. The AAMC recommends a doubling of annual NHSC awards and increased—not decreased—support for title VII.
- The financing of graduate medical education has a major impact on the physician workforce.
    - Existing funding is threatened in the President's budget request and by the proposed rule prohibiting Federal Medicaid payments for GME. The AAMC supports legislation (S. 2460) to extend the current moratorium prohibiting action on the proposed rule.
    - Current GME regulations (Medicare) penalize outpatient/primary care training.

AAMC RECOMMENDATIONS FOR TITLE VII REAUTHORIZATION

- The AAMC strongly recommends continuation of programs authorized under Title VII of the Public Health Service Act with modifications. This program has numerous components designed to improve access, distribution, effectiveness and equity.
- Retain diversity programs as currently structured at a higher authorization level, and create a new program to support demonstration projects designed to increase the number of underrepresented minority faculty. Increasing the diversity of the health workforce should be a national priority. Title VII programs are critical to this effort.
- Improve data collection and program evaluation by increasing the authorization for regional workforce analysis centers and authorizing a new national workforce database to track the supply and location of health professionals.

• Improve the alignment between title VII grants and service in underserved areas by restructuring the primary care programs to preferentially award grants to applicants entering a formal relationship with providers in underserved areas.

• Create a new program to award grants for schools or departments to administer demonstration projects to improve the quality and efficiency of primary care.

• Address inefficiencies in the title VII loan programs.

My name is Edward Salsberg, and I am the Director of the Center for Workforce Studies at the Association of American Medical Colleges (AAMC). Thank you for the opportunity to speak to you today regarding the physician workforce and the response of America's medical schools and teaching hospitals to a growing concern about potential future physician shortages.

The AAMC is a nonprofit association representing all 126 accredited U.S. allopathic medical schools; nearly 400 major teaching hospitals and health systems, including Department of Veterans Affairs medical centers; and 94 academic and scientific societies. Through these institutions and organizations, the AAMC represents 109,000 faculty members, 67,000 medical students, and 104,000 resident physicians.

Our mission is to improve the health of the public by enhancing the effectiveness of academic medicine. Together with our members we pursue this mission through the education of the physician and medical scientist workforce, the discovery of new medical knowledge, the development of innovative technologies for prevention, diagnosis and treatment of disease, and the delivery of health care services in academic settings.

The AAMC is committed to promoting an adequate supply of well-educated physicians sufficient in number and competencies to assure access to high quality medical care in the future. To this end, the AAMC established its Center for Workforce Studies in 2004 to enhance and make publicly available comprehensive data and analyses regarding the supply of and demand for physicians. The Center is committed to providing the medical education community (medical schools, medical students, residency programs and teaching hospitals), the public, and policymakers with superior information on current and likely future physician workforce needs. The Center does this through original research, analysis of existing data, collaboration with other associations representing physicians and through an annual conference on physician workforce research. In recent months, the Center has updated a number of documents including our "2007 State Physician Workforce Databook" and a listing of "Recent Reports and Studies of Physician Shortages in the United States." These reports accompany this statement and are available along with additional information on the Center on our Web site, *http://www.aamc.org/workforce*.

In my comments today, I want to provide you with some basic background on the physician workforce, why we are concerned about the likelihood of a future physician shortage, what the AAMC is recommending in terms of physician workforce policies, and finally, how the Nation's medical schools and teaching hospitals are responding. I also want to specifically address the importance of the title VII program in addressing physician workforce needs of the Nation.

BACKGROUND ON THE SUPPLY OF PHYSICIANS

The vast majority of licensed physicians in the United States are educated in allopathic medical schools—those that confer an M.D. degree—and residency training programs in the Nation's teaching hospitals accredited by the Accreditation Council for Graduate Medical Education (ACGME). Allopathic medical schools and their affiliated teaching hospitals also are a critical source of research, new medical knowledge, and clinical care, and are a vital part of the Nation's medical safety net.

• Physicians in the United States can practice medicine only after completion of a medical degree ("undergraduate medical education" or UME), and several years of post-graduate training in an accredited residency program ("graduate medical education" or GME).

• Each year approximately 16,000 physicians graduate from U.S. medical schools with an M.D. degree; these graduates fill roughly two-thirds of first-year residency positions in training programs—such as internal medicine, general surgery, pediatrics, and others—that are accredited by the Accreditation Council for Graduate Medical Education (ACGME).

• In 2006–07, nearly 6,800 graduates of foreign medical schools, generally referred to as international medical school graduates or IMGs, entered residency training, representing about 27 percent of the new residents that year; of those, about 1 in 4 were U.S. citizens who attended schools outside of the United States.

• Graduates of osteopathic medical schools (D.O.'s) represent about 11 percent of all physicians entering graduate training each year. More than half of D.O.'s enter ACGME accredited residency programs.

• Physicians in the United States are licensed by individual States, all of whom require an M.D. or D.O. degree, as well as some level of accredited graduate training (GME).

• In 2006, there were almost 870,000 physicians active in medicine in the United States, of which 56,000 were osteopaths. This figure includes just under 105,000 physicians in residency training. About 25 percent of active physicians in the United States are graduates of non-U.S. medical schools.

WHY A PHYSICIAN SHORTAGE IS LIKELY

The expected future shortage of physicians is driven by likely changes in both the supply and the demand for physicians. On the demand side, key factors include: (1) the growing U.S. population (more than 25 million each decade). In fact, between 1980 and 2005, the U.S. population grew by more than 70 million people (31 percent) while medical school enrollment remained essentially flat; (2) the rapid increase in the number of people over the age of 65 (who use twice as many physician services per capita each year than those under 65); (3) advances in medicine that prolong life and improve the quality of life for millions of Americans; and (4) the rising expectations of Americans along with increasing wealth that will motivate and enable them to use more services. On the supply side, key factors include: (1) the aging of the physician workforce (36 percent of active physicians are over 55 and most will retire by 2020); and (2) a new generation of physicians, who value lifestyle and do not appear willing to work the long hours that prior generations of physicians have worked. At current levels of training, the physician-to-population ratio will peak before 2020 and then fall, just as the baby boomers begin to reach 75 years of age.

Since 2002, there have been at least 35 studies showing current or future physician workforce needs of a State or specialty.[1] An October 2006 report by the Health Resources and Services Administration (HRSA) predicts that the demand for physicians will exceed the supply by 2020.[2] The underserved and elderly populations are most likely to be affected. These shortages are likely to exacerbate the existing lack of access for the 20 percent of Americans that live in government-designated Health Professional Shortage Areas (HPSA).[3] Many rural and urban communities, economically disadvantaged and underrepresented minority populations are likely to remain medically underserved for the foreseeable future, and certainly will be more underserved if a national shortage emerges.

THE SUPPLY OF PHYSICIANS

For the last 50 years, the physician-to-population ratio has been growing steadily. This reflects a doubling in medical school enrollment in the 1960s and 1970s. However, with the report of the Graduate Medical Education National Advisory Commission (GMENAC) in the late 1970s predicting a large surplus of physicians, medical school enrollment stabilized. In fact, the number of graduates from U.S. medical schools has been virtually flat since 1980. As a result, a very large number of active physicians now are nearing retirement age. In 2005, a little more than 12,000 active physicians reached age 63; by 2017, this number will grow to more than 24,000.

The near-zero growth in U.S.-M.D. graduates has translated to a decrease in the number of medical school slots per population in America. In fact, between 1980 and 2005, the U.S. population grew by more than 70 million (31 percent)[4] while there was no growth in allopathic enrollment; this has led to a significant and steady decline in enrollment per 100,000 population. In addition to the large number of physicians approaching retirement age, there are growing reports that the newest generation of physicians do not want to work the long hours of physicians in the past. Gender also plays a role. While only 10 percent of practicing physicians were female in 1980, they are now about 50 percent of the medical students. While this trend is encouraging from a societal perspective, it has implications for the physician workforce because women tend to work fewer hours than their male counterparts do. Moreover, there are growing reports that many of today's young physicians, male

[1] *http://www.aamc.org/workforce/recentworkforcestudies2007.pdf.*

[2] HRSA Bureau of Health Professions. Physician Supply and Demand: Projections to 2020. October 2006. *http://bhpr.hrsa.gov/healthworkforce/reports/physiciansupplydemand/default.htm*. Accessed: February 5, 2008.

[3] *http://bhpr.hrsa.gov/shortage/.*

[4] U.S. Census Bureau.

and female, are choosing to work fewer hours than their older counterparts regardless of their gender. As a result, the future physician workforce may effectively be 10 percent lower than their aggregate numbers may suggest.

In order to be able to forecast future supply of physicians more accurately, the AAMC, in collaboration with physician specialty societies and the American Medical Association (AMA) undertook two major surveys: one of more than 9,000 physicians over 50, the other of 4,100 physicians under 50. The "Over 50 Survey" was designed to understand factors influencing retirement patterns and plans; the "Under 50 Survey" was designed to assess whether in fact younger physicians are working fewer hours than physicians in the past. The surveys confirmed the likelihood of future physician shortages.

AAMC WORKFORCE POLICY RECOMMENDATIONS

While there are already shortages in many communities and for some specialties today, the potential major nationwide shortages loom in the future. However, we need to be concerned today as it takes at least a decade to impact the supply of U.S.-educated physicians due to the time to develop additional capacity and the length of education and training. An appropriate supply of well-educated and trained physicians is an essential element to assure access to quality health care services for all Americans. The recommendations of the 2006 AAMC Position Statement on the Physician Workforce are intended to better assure an appropriate supply of physicians while increasing medical education opportunities for Americans. The AAMC recommendations include:

• **Enrollment in LCME-accredited medical schools should be increased by 30 percent from the 2002 level by 2015. This expansion should be accomplished by increased enrollment in existing schools as well as by establishing new medical schools.**—The United States medical education community has spent decades developing standards and methods to help assure that schools meet appropriate minimum standards and that physicians that graduate from these schools have the skills and knowledge necessary to provide high quality care. The nation is better served when a greater, not lesser, proportion of future physicians are held to these standards. Moreover,

- There are large numbers of Americans who aspire to attend U.S. medical schools but have been unable to gain admission due in part to limited capacity. Many are so committed that they are willing to pay high tuitions at schools with varying standards and leave the United States for several years to reach their goal. We estimate that more than 3,000 U.S. citizens enter medical school outside of the United States each year;
- There is growing international concern that English-speaking countries may be draining valuable human resources from less-developed countries. Increasing U.S. medical school graduates will reduce the "pull" of physicians from less developed countries without creating barriers for individual migration.

Achieving the desired growth in medical school graduates will require an increase in enrollment at most existing schools as well as the creation of new medical schools. Increases in enrollment are particularly appropriate in areas of the country where the population has grown rapidly over the past 25 years and areas where the population is projected to grow rapidly in future years. In addition, States with low medical school enrollment per capita, with numerous underserved areas and States with large and growing elderly populations may also be appropriate areas for medical school enrollment growth.

The AAMC is making every effort to inform the medical education community about the growing likelihood of a physician shortage but does not control the number of medical student enrollments or training positions available. The AAMC's recommendation to increase enrollment has not gone unnoticed. The 2007 entering class to U.S. medical schools is the largest in the Nation's history. The number of first-year enrollees totals almost 17,800 students, a 2.3 percent increase over 2006. More than 42,300 individuals applied to enter medical school in 2007, an increase of 8.2 percent over 2006. Nearly 32,000 were first-time applicants, the highest number on AAMC record. According to a 2007 survey of medical school deans, 100 of the Nation's 126 medical schools already have increased their enrollment or plan to increase their enrollment by five or more students within the next 5 years, when compared to their baseline 2002–2003 enrollment. Data from this survey projects that first-year enrollment will grow to 19,909 in 2012 from 16,488 in 2002, an increase of nearly 21 percent. It appears that our member institutions will reach the 30 percent increase in enrollment goal from both existing and new schools by 2017.

• **The aggregate number of graduate medical education (GME) positions should be expanded to accommodate the additional graduates from accredited medical schools.**—U.S. medical schools face many challenges in increasing the number of medical school graduates. A primary goal of this expansion is to increase the supply of physicians available to assure access to services in the future. Since all physicians must complete accredited graduate training to become licensed in the United States, the number of GME positions is a critical choke point to increase the supply of physicians available to care for Americans.

We strongly urge Congress to preserve Medicare support for GME. The AAMC also recommends that Congress eliminate the current limit on the number of Medicare-funded residency positions. This will allow GME programs to expand in response to increased medical school enrollment and other physician workforce dynamics. The AAMC welcomes the opportunity to work with the committee to educate the public and policymakers about the importance of stabilizing and expanding GME support in the context of an impending physician shortage.

The AAMC believes the *Resident Physician Shortage Reduction Act of 2007* (S. 588) is a useful beginning in meeting the Nation's needs for future physician services. We express support for this important first step in what we hope will be a systematic and rapid process to eliminate the Medicare resident cap. However, we do wish to be clear that financing this legislation from other cuts in Medicare in which we have any interest will be self-defeating and unacceptable.

On a related matter, the President's fiscal year 2009 budget proposes, over 5 years, to cut indirect medical education (IME) payments to teaching hospitals by a total of $21.75 billion. The Administration would accomplish this by reducing the add-on payment from 5.5 percent to 2.2 percent over 3 years, as well as eliminating IME payments to hospitals treating Medicare Advantage beneficiaries. We ask Congress to reject these proposals, which are shortsighted in light of the looming physician shortage.

Additionally, the AAMC strongly urges Congress to preserve Medicaid support for GME. As you know, CMS has issued a proposed rule that would reverse a longstanding policy of providing Federal matching funds for State Medicaid GME payments. The AAMC asks you to delay further action on this proposed rule by immediately taking up and passing S. 2460, which extends by 1 year a current moratorium prohibiting CMS from moving forward with these Medicaid GME cuts.

The AAMC also asks Congress to take up legislation to remove regulatory barriers that penalize GME programs that train residents in outpatient settings such as community-based primary care offices. We also encourage Congress to continue funding programs that offer higher reimbursement levels for physicians who practice in underserved areas.

• **The AAMC should continue to advocate for and promote efforts to increase enrollment and graduation of racial and ethnic minorities from medical school; and promote the education and training of leaders in medical education and health care from racial and ethnic minorities.** Studies repeatedly have shown that medical students from racial and ethnic minority groups are more likely to practice in underserved communities and to care for a disproportionate number of disadvantaged patients. This information, coupled with other compelling arguments, underlies the AAMC's strong advocacy for greater diversity in medical education. The implementation of lawful, race- and ethnicity-conscious decisionmaking in medical school admissions and in faculty recruitment and retention is essential to meet society's need for a physician workforce capable of caring optimally for our increasingly diverse population.

In the fall of 2006, the AAMC launched the AspiringDocs.org campaign, which seeks to encourage well prepared African-American, Hispanic/Latino, and Native American college students from all undergraduate majors to pursue medicine as a career. U.S. medical schools and teaching hospitals have a decades-long commitment to building diversity in medicine. To complement efforts to increase the pipeline of prospective students, the AspiringDocs.org campaign takes a new approach—career marketing—to reach an untapped segment of potential minority student applicants in America's colleges and universities that was revealed by an innovative AAMC analysis.

• **The J–1 visa is the most appropriate visa for non-U.S. citizen graduates of foreign medical schools entering graduate medical education programs in the United States and should be encouraged.**—The primary purpose of graduate medical education is education. The J–1 program's purpose is educational and its administration by the Educational Commission for Foreign Medical Graduates (ECFMG) assures that J–1 residents and fellows possess valid educational credentials, have successfully passed Steps 1 and 2 of the United States Medical Licensing Examination (USMLE), and that their country of origin needs the knowledge and

skills that they will obtain through their education in the United States. No other immigration program or visa category is as consistent with the aims of U.S. graduate medical education or offers an equal assurance of the quality of entrants.

The H–1 visa (an employment visa) is not appropriate for physicians coming to the United States for education and training purposes. At the national level, consideration should be given to clarifying and expanding the types of visas available for physicians seeking GME in the United States.

• **The National Health Service Corps (NHSC) has played an important role in expanding access for underserved populations, and continued expansion of this program is strongly recommended.**—The NHSC is a program sponsored by the Department of Health and Human Services (HHS) that helps place physicians and other health care providers in communities where they are most needed, both through scholarships and through loan repayment. The NHSC has a proven track record of serving the underserved in both rural and urban settings; 60 percent of its clinicians are located in rural areas, while the remainder serve urban populations in settings such as Community Health Centers (CHC), health departments, and other critical access facilities. A recent report in the *Journal of the American Medical Association* by Rosenblatt and colleagues demonstrates the reliance of CHCs on NHSC scholars and loan repayment recipients and the inability of these safety net sites to recruit an adequate number of physicians.[5]

Since its creation, the NHSC consistently has received significantly more applications for positions than it is able to support with the funding provided by Congress. Funding for the NHSC has decreased by $47 million (27 percent) since fiscal year 2003, when its budget was $171 million. Limited funding has reduced new NHSC awards from 1,570 in fiscal year 2003 to an estimated 947 in fiscal year 2008, a nearly 40 percent decrease.

The growing debt of graduating medical students is likely to increase the interest and willingness of U.S. medical school graduates to apply for NHSC funding and awards. The scholarship program funds tuition and other fees for over 150 medical students annually. Moreover, almost 80 percent of the NHSC budget funds loan repayments (numbering about 1,200 annually) for physicians that agree to serve underserved communities after the completion of residency training. The AAMC has recommended increasing annual NHSC awards by 1,500 to allow more graduates to practice in underserved areas. A NHSC appropriation of at least $400 million is necessary to sustain current NHSC levels and the AAMC-recommended increase.

AAMC RECOMMENDATIONS FOR TITLE VII REAUTHORIZATION

While we are encouraged by the response of the medical education community to our call for an increase in medical school enrollment, the AAMC and our constituents recognize that increasing the supply of physicians will not in and of itself address the problems of geographical and specialty mal-distribution. Having an adequate national supply of physicians is necessary but not sufficient to assure access to health care services for all Americans. The AAMC believes that Title VII of the Public Health Service Act is an essential part of the elements needed to assure access.

Federal funding for the title VII health professions training programs administered by the Health Resources and Services Administration (HRSA) has been instrumental in increasing the supply of the primary care workforce and in addressing the needs of the underserved. Title VII programs support the training and education of health care providers through loans, loan guarantees, and scholarships to students, and grants and contracts to academic institutions and non-profit organizations.

The statutory authority for these programs provided by the Health Professions Education Partnerships Act of 1998 [P.L. 105–392] expired in September 2002. Each year, the community, in its efforts to preserve funding for these programs, faces opposition from the Office of Management and Budget, and in fiscal year 2006, the programs sustained a 51.5 percent cut in Federal funding. The President's budget request for fiscal year 2009 recommends eliminating all funding for the title VII programs.

Recognizing that a new approach to the title VII programs is needed to strengthen them and improve their prospects for long-term survival, the AAMC in September 2004 appointed a committee to review the missions and effectiveness of the programs and propose recommendations as Congress considers reauthorization. The AAMC Committee agreed that the programs' shared goals should continue to be en-

[5] Rosenblatt RA, Andrilla CH, Curtin T, Hart LG. Shortages of medical personnel at community health centers: implications for planned expansion. *JAMA*. 2006; 295(9):1042–9.

hancing primary care, bringing care to underserved areas, and improving the diversity of the health care workforce. The committee also agreed that the reauthorization of the title VII programs should improve accountability of the programs by creating outcomes measures and enhancing the collection and analysis of data to monitor the programs' impact.

The committee set forth a series of recommendations to align current funding streams with these goals and enhance the future viability of the programs. A copy of the AAMC Committee's final report accompanies this statement.

• **Diversity (Sections 736–739).**—The AAMC recommends the programs under Sections 736–739 of the Public Health Service Act be retained in their current structure, which includes the following programs: Centers of Excellence, Health Careers Opportunity Program, Faculty Loan Repayment Program, and the Scholarships for Disadvantaged Students. They should be funded at $155 million. Additionally, the AAMC notes the need for increased emphasis on the development of underrepresented minority faculty, as these mentors create an environment that allows minority health professions students to succeed and graduate to provide care in their communities. The AAMC recommends the creation of a new program to support demonstration projects designed to increase the number of underrepresented minority faculty. The program should receive $5 million of the $155 million recommended for sections 736–739.

• **Health Workforce Information and Analysis (Section 761).**—Despite the emphasis of title VII programs on bringing care to underserved areas, there continues to be a dearth of information on their impact on workforce distribution. Additional funding is needed to establish and maintain a system for linking physician practice location and their medical education and graduate training experiences. A national workforce-tracking database is needed to identify where title VII-trained professionals are practicing and to produce benchmark data to be used in evaluating the programs and determining preferences for the granting process.

The Regional Centers for Health Workforce Studies supported by HRSA have led the way in conducting health workforce studies and collecting data to inform State and national programs regarding State and regional health workforce needs. In addition, the Regional Centers have been able to leverage Federal funding to obtain additional State and private support. Yet, this component of title VII has remained unfunded since fiscal year 2006. The AAMC supports the continuation and expansion of these Centers, by reauthorizing section 761 at $2 million for the six regional centers and authorizing $3 million for a new national workforce database to track the location of health professionals educated and trained in programs receiving title VII support.

• **Primary Care (Section 747).**—Primary care is an effective and necessary investment that benefits the health of all people. Title VII funding is key to producing primary care providers and improving their education. The section 747 programs are guided by two agendas: caring for the underserved and preserving and promoting primary care.

The AAMC recommends a new structure, in which grants are preferentially awarded to applicants who enter into a formal relationship and submit a joint application with a Federally Qualified Health Center (FQHC), an FQHC Look-Alike, Area Health Education Center (AHEC), or a clinic located in a HPSA or MUA or a clinical practice setting in which at least 40 percent of its patients are either uninsured or supported by Medicaid. The AAMC recommends the continuation of the funding priorities and preferences included in the current statute.

Additionally, the AAMC proposes the creation of a new program under section 747 in which grants will be awarded to schools or departments to administer demonstration projects centered on improving the quality of primary care in selected emphasis areas. A funding level of $198 million is recommended for section 747, with the distribution among the disciplines and between undergraduate and graduate programs to remain the same.

• **Address Inefficiencies in title VII loan programs.**—The title VII student loan programs offer long-term, low interest loans for economically disadvantaged and underrepresented minority students in the health professions. The average medical student participating in the title VII student loan programs will save over $50,000 when compared to current Stafford loans. Unfortunately, many medical students will not accept a Primary Care Loan (PCL) due to the extended service requirement and harsh default penalties. Students' avoidance of the PCL program has resulted in a large portion of available funds going unawarded each year, undermining the original intent of the program, and thereby subjecting the program to annual Federal rescissions.

In addition to reducing these harsh default penalties, the AAMC recommends that the eligibility requirements for all HHS title VII and title VIII health professions

loan programs be amended to allow for the waiver of parental financial information in extraordinary circumstances.

Currently, the HHS Student Financial Aid Guidelines (section 101.3.142) indicate that "institutions still must take parents' information" into account to determine students' eligibility PCL, HPSL, LDS, and Nursing Student Loan (NSL) programs. In other Federal financial aid programs—for instance, under the auspices of the Department of Education—financial aid officers have the ability to adjust this parental financial information requirement to reflect an individual's specific situation; however, HHS regulations state that the requirement to include parental data "cannot be waived."

There are compelling instances in which it would be appropriate for financial aid officers to use professional judgment to waive parental data for one or both parents, such as when a parent is incarcerated or incapacitated during long-term hospital care, or when a parent's whereabouts are unknown. Permitting financial aid officers to use their professional judgment to waive this requirement in appropriate cases would afford them greater flexibility in ensuring that scarce resources are best targeted to those students who are truly in need. Furthermore, the AAMC believes this is a more appropriate interpretation of the Federal regulations that require the consideration of the "expected contribution from parents." (42 CFR Part 57.206).

Report language accompanying the FY 2007 Senate Labor-HHS-Education Appropriations bill (S. 3708, S. Rept. 109–287) encouraged "HRSA to omit the consideration of parental income from the fiscal year 2007 competitions as well as from future guidance and methodology" for administering the title VII student loan programs. As you are aware, discrepancies in availability of parental financial information have disqualified already disadvantaged students from obtaining these affordable loans. The AAMC has been working with HRSA to ensure that students' fiduciary abilities are more appropriately represented in the student aid process by granting financial aid administrators greater professional discretion. The AAMC believes congressional direction through title VII reauthorization will help ensure that title VII funds are more appropriately allocated in the future.

The issues surrounding the physician workforce and potential shortages are complex. The AAMC and our member institutions are committed to assuring an adequate supply of well-educated physicians to ensure that the future needs of Americans are met.

Senator SANDERS. Thank you very much, Mr. Salsberg.

James Q. Swift, D.D.S., is Board President of the American Dental Education Association, and he is a professor at the University of Minnesota School of Dentistry. Dr. Swift, thanks very much for being with us.

STATEMENT OF JAMES Q. SWIFT, D.D.S., BOARD PRESIDENT, AMERICAN DENTAL EDUCATION ASSOCIATION, PROFESSOR, UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY, MINNEAPOLIS, MN

Mr. SWIFT. Thank you, Senator Sanders. Thank you to the committee for allowing me to be here. I represent the American Dental Education Association, which represents 15,000 dental educators, dental students, residents, and educators and students in allied dental health programs.

I would like to focus on three specific areas of my testimony. The one relates to our diversity mission. In the dental education environment, there is a significant shortage of underrepresented minorities in education programs for the dental profession. We do think that this needs to be addressed because the future of the profession is dependent and critical upon achieving optimum oral health for racial and ethnic minority groups, which experience a higher level of oral health problems and have limited access to dental care. We must address that specific issue.

In addition, there is a significant access to dental care problems, as illustrated by Senator Sanders and Senator Kennedy earlier on.

We need to get beyond the semantics of the concept of dentist shortages or maldistributions. There is a significant problem out there with access to oral health care, as illustrated by the cases that you had mentioned.

There are millions of Americans, especially children, that don't have access to oral health care, and there are several solutions that have been proposed and several solutions that can be influenced or impacted by this committee. I look forward to working with you to determine that.

Last, there is a significant problem in the dental education environment with dental faculty. This was also referenced earlier in the testimony. It is difficult to entice dentists after they graduate from dental school with a debt somewhere between $175,000 on the average, depending on whether you attend a private dental school or a publicly funded dental school, in addition to the predoctoral costs prior to getting to that point, makes it financially unable for these individuals to be able to go out into some of these underserved areas and work for lower income, when they have that type of debt to face.

I look forward to giving further testimony and comments on how we can perhaps achieve some solutions to these problems. Thank you for letting me be here.

[The prepared statement of Mr. Swift follows:]

PREPARED STATEMENT OF THE AMERICAN DENTAL EDUCATION ASSOCIATION (ADEA), PRESENTED BY JAMES Q. SWIFT, D.D.S.

SUMMARY

The testimony of the American Dental Education Association (ADEA) is presented by Dr. James Q. Swift, ADEA President and Professor and Director of the Division of Maxillofacial Surgery at the University of Minnesota School of Dentistry. The testimony speaks to the primary challenges faced by academic dentistry, the dental profession, and Congress.

Chief among the challenges that we face together is the need to increase diversity among professionally active dentists and allied dental professionals, which are at the present time predominately White non-Hispanic. The low number of African American, Hispanic, and Native American students in dental schools remains disproportionate to their numbers in the U.S. population.

Although the U.S. population is mostly homogenous, there is growing diversity for which we are unprepared. Increasing diversity in the dental profession is vital to the future of the profession and it is central to achieving optimal oral health for racial and ethnic minority groups, which experience a higher level of oral health problems and have limited access to dental care.

Furthermore we need to move past the semantics of dentist "shortage" or dentist "maldistribution." There can be no doubt that there is a significant access problem for millions of Americans. We must acknowledge that the current dental workforce is unable to meet present day demand and need for dental care. Millions of Americans experience dental pain daily and cannot afford to buy dental insurance or pay for dental care out-of-pocket. The dental safety-net as well as charity dental care provided by dentists cannot solve the problem.

Interest in the dental profession remains high and competition to enter dental school is robust. Several new dental schools are scheduled to open across the country to meet individual State workforce and access needs. This will exacerbate the current shortage of dental faculty to educate and train the future dental workforce. We face a crisis if resources are not dedicated to help recruit and retain faculty for the Nation's dental schools.

ADEA suggests several straightforward steps that Congress can take to immediately address the challenges we face. The answers lie in prioritizing resources both in terms of manpower and funding to tackle these challenges. Some are fairly simple and pragmatic while others, admittedly, will require coordination among multiple interested parties and compromise. ADEA stands ready to work with Congress and our colleagues in the dental community to ameliorate the access to dental

care problems the Nation faces and to meet the needs for the future dental workforce.

INTRODUCTION

The American Dental Education Association (ADEA)[1] welcomes the committee's examination of issues related to the dental workforce and diversity of the profession. I am Dr. James Q. Swift, Professor and Director of the Division of Maxillofacial Surgery at the University of Minnesota School of Dentistry. I appear before you this morning as the President of ADEA and am honored to share my views with you.

Profound disparities in the oral health of the Nation's population have resulted in a "silent epidemic" of dental and oral diseases affecting the most vulnerable among us. These disparities, in combination with the current shortage of dental school faculty, the scarcity of underrepresented minority dentists, and the need for targeted incentives to draw dentists to practice in rural and underserved communities, make this committee's examination timely and necessary.

The challenge to Congress and the dental community is not only how to expand the capacity of the dental workforce, but also how to improve access to oral health care. According to Delta Dental Plans Association and the National Association of Dental Plans, 134 million Americans do not have dental insurance. The lack of insurance is a significant barrier to receiving needed preventive and restorative care. Having insurance, however, does not guarantee quick access to dental care; even insured Americans can wait weeks for appointments with their general dentists and/or specialists.

Despite concerted efforts by Congress and the dental community to address access to dental care, there has been little genuine progress made since the untimely death of 12-year-old Deamonte Driver, 1 year ago. Deamonte was a young Maryland boy who died from infection caused by an abscessed tooth that spread to his brain. All of us know this tragedy could have been avoided if his Medicaid coverage had not lapsed and if he had had better access to dental care. I do congratulate Congress for having approved a guaranteed dental benefit in the bill to reauthorize the State Children's Health Insurance Program (SCHIP), even though the bill was twice vetoed. ADEA and the entire oral health community pledge to work for passage of this important bill in the next Congress.

THE DENTAL AND ORAL DISEASE BURDEN IN THE UNITED STATES

It has been 7 years since the first-ever U.S. Surgeon General's report[2] was published which comprehensively examined the status of the Nation's oral health (Table 1 provides a summary of the report's major findings). The report identified oral health as integral to general health stating that "Oral health is a critical component of health and must be included in the provision of health care and the design of community programs." It also declared that "oral health is essential to the general health and well-being of all Americans." Unfortunately, millions are left wanting and needing dental care. There are "profound and consequential oral health disparities within the population," the Surgeon General concluded, particularly among its diverse segments "including racial and ethnic minorities, rural populations, individuals with disabilities, the homeless, immigrants, migrant workers, the very young, and the frail elderly."

Over the past 55 years, discoveries stemming from dental research have reduced the burden of dental caries (tooth decay) for many Americans. However, the Surgeon General's report declared dental carries to be America's most prevalent infectious disease, five times more common than asthma and seven times more common than hay fever in school children. The burden of the disease, in terms of both extent and severity, has shifted dramatically to a subset of our population. About a quarter of the population now accounts for about 80 percent of the disease burden. Dental caries remains a significant problem for vulnerable populations of children and people

[1] The American Dental Education Association (ADEA) represents all 57 U.S. dental schools, 714 dental residency training programs, 285 dental hygiene programs, 271 dental assisting programs, and 21 dental laboratory technology programs, as well as the faculty, dental residents and dental allied dental students at these institutions as well as 10 Canadian dental schools. It is at academic dental institutions that future practitioners and researchers gain their knowledge, the majority of dental research is conducted, and significant dental care is provided. Our member institutions serve as dental homes to thousands of patients, many of whom are underserved low-income patients covered by Medicaid and the State Children's Health Insurance Program.

[2] U.S. Department of Health and Human Services. Oral Health in America: a Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

who are economically disadvantaged, elderly, chronically ill, or institutionalized. This high-risk group includes nearly 20 million low-income children (nearly all are eligible for Medicaid or SCHIP). Early childhood caries is found in children less than 5 years of age. It is estimated that 2 percent of infants 12–23 months of age have at least one tooth with questionable decay whereas 19 percent of children 2–5 years of age have early childhood caries in the United States.[3] It should be noted that the American Academy of Pediatric Dentistry recommends that all children visit a dentist in their first year of life and every 6 months thereafter, or as indicated by the individual child's risk status or susceptibility to disease. ADEA concurs with this recommendation.

Table 1.—Major Findings of the U.S. Surgeon General's Report

- Oral diseases and disorders in and of themselves affect health and well-being throughout life.
- Safe and effective measures exist to prevent the most common dental diseases—dental caries and periodontal diseases.
- There are profound and consequential oral health disparities within the U.S. population.
- More information is needed to improve America's oral health and eliminate health disparities.
- The mouth reflects general health and well-being.
- Oral diseases and conditions are associated with other health problems.
- Scientific research is key to further reduction in the burden of diseases and disorders that affect the face, mouth and teeth.
- Each year, millions of productive hours are lost due to dental diseases. Children miss 51 million hours of school due to treatment problems. Workers lose 164 million work hours because of dental disease.
- Lifestyle behaviors that affect general health such as tobacco use, excessive alcohol use, and poor dietary choices affect oral and craniofacial health as well.

THE U.S. POPULATION AND THE DENTAL WORKFORCE

The U.S. Bureau of Labor Statistics (BLS), which placed the number of *practicing* dentists at 161,000 in 2006,[4] projects a 9 percent growth in the number of dentists through 2016. This rate would bring the total number of practicing dentists to 176,000.

About 80 percent of dentists are solo practitioners in primary care general dentistry while the remaining dentists practice one of nine recognized specialty areas: (1) endodontics; (2) oral and maxillofacial surgery; (3) oral pathology; (4) oral and maxillofacial radiology; (5) orthodontics; (6) pediatric dentistry; (7) periodontics; (8) prosthodontics; and (9) public health dentistry.

Table 2.—Approximate Number of Dentists in the United States in 2006

General Dentists	136,000
Specialists:	34,878
Orthodontists	9,400
Oral and Maxillofacial Surgeons	7,700
Pedodontists	4,978
Prosthodontists	3,300
Periodontists	5,100
Endodontists	4,400
Other dentists and specialists	5,756

The vast majority of the 176,634 professionally active dentists in the United States are White non-Hispanic. At the present time the U.S. population is 303,375,763.[5] At the time of the last census, when there were 22 million fewer people, the largest segment of the U.S. population was White (75 percent) but an increasing percentage was minority with 35.3 million (13 percent) Latino, and 34.6 million (12 percent) Black or African-Americans (see Table 3).

[3] Savage MF, Lee JY, Kotch JB. Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs. Pediatrics 2004;(114)4.

[4] U.S. Bureau of Labor Statistics, *http://www.bls.gov/oco/content/ocos072.stm*, accessed February 5, 2008.

[5] U.S. Bureau of the Census, *http://www.census.gov/population/www/popclockus.html*, February 5, 2008.

Table 3.—U.S. Population by Race and Hispanic Origin for the United States: 2000 [6]

Race and Hispanic or Latino Number	Number	Percent of total population
Race:		
One race	274,595,678	97.6
White	211,460,626	75.1
Black or African-American	34,658,190	12.3
American Indian and Alaska Native	2,475,956	0.9
Asian	10,242,998	3.6
Native Hawaiian and Other Pacific Islander	398,835	0.1
Some other race	15,359,073	5.5
Two or more races	6,826,228	2.4
Total population	281,421,906	100.0
Hispanic or Latino:		
Hispanic or Latino	35,305,818	12.5
Not Hispanic or Latino	246,116,088	87.5
Total population	281,421,906	100.0

[6] Source: U.S. Census Bureau, Census 2000 Redistricting (PL 94–171) Summary File, Tables PL1 and PL2, http://www.census.gov/prod/2001pubs/c2kbr01-1.pdf, February 5, 2008.

DENTAL HYGIENE, DENTAL ASSISTING, DENTAL LABORATORY TECHNOLOGY

The allied dental workforce, comprised of dental hygienists, dental assistants and dental laboratory technologists, is central to meeting increasing needs and demands for dental care. About 167,000 [7] dental hygienists, 280,000 [8] dental assistants and 53,000 [9] dental laboratory technologists were in the U.S. workforce in 2006. Both dental hygiene and dental assisting are among the fastest growing occupations in the country with expected growth of 30 percent and 29 percent respectively through 2016 bringing the total numbers of dental hygienists to about 217,000 and dental assistants to 361,000. Only about 2,000 dental laboratory technologists will be added to the workforce by 2016. The ability to increase the number is limited. At the present time there are only 21 accredited training programs.

Dental hygienists are licensed professionals who perform a variety of clinical tasks while dental assistants work alongside dentists during dental procedures and provide assistance. However, both dental hygienists and assistants perform substantial routine preventive and certain other radiographic and treatment services in compliance with State practice acts. Dental laboratory technicians fill prescriptions from dentists for crowns, bridges, dentures, and other dental prosthetics and may specialize in one of five areas: orthodontic appliances, crowns and bridges, complete dentures, partial dentures, or ceramics.

DENTIST SHORTAGE OR MALDISTRIBUTION

Some say we have a dental shortage. Others say we have a maldistribution of dentists to meet the Nation's oral health needs. No matter how one defines it, there can be no doubt that there is a significant access problem for millions of Americans. We must acknowledge that the current dental workforce is unable to meet present day demand and need for dental care.

If every man, woman and child were to have a dental home and were covered by dental insurance, then the Nation would clearly have an insufficient number of dentists to care for the population. We are not close to being at this point but we aspire to get there as quickly as possible so everyone who needs and wants dental care is able to achieve optimal oral health. The need and demand for dental services continues to increase; in large measure this is due to the population explosion. Also, Baby Boomers as well as the geriatric population, are retaining more teeth and there is a growing focus on increasing access and preventative dental care.

[7] U.S. Bureau of Labor Statistics, *http://www.bls.gov/oco/pdf/ocos097.pdf*, accessed February 5, 2008.

[8] U.S. Bureau of Labor Statistics, *http://www.bls.gov/oco/ocos163.htm*, accessed February 5, 2008.

[9] U.S. Bureau of Labor Statistics, *http://www.bls.gov/oco/ocos238.htm*, accessed February 5, 2008.

Each year academic dental institutions (ADIs), including dental schools, allied dental programs and postdoctoral/advanced dental education programs), graduate thousands of new practitioners to join the dental workforce. About 4,500 predoctoral dental students graduate annually. About half of these new graduates immediately sit for a State licensure exam before beginning private practice as general dentists, or they join the military, the U.S. Public Health Service, or they advance their education in a dental specialty. Approximately 2,800 graduates along with hundreds of practicing dentists apply to residency training programs. Nearly 23,000 allied dental health professionals graduate from ADIs each year and join the dental workforce. Approximately 14,000 dental hygiene students, 8,000 dental assistants, and 800 dental laboratory technologists graduate annually.

According to the U.S. Surgeon General, the ratio of dentists to the total population has been steadily declining for the past 20 years, and at that rate, by 2021, there will not be enough active dentists to care for the population. The number of Dental Health Professions Shortage Areas (D-HPSAs) designated by the U.S. Health Resources and Services Administration (HRSA) has grown from 792 in 1993 to 3,527 in 2006. In 1993, HRSA estimated 1,400 dentists were needed in these areas; by 2006, the number grew to 9,164. Nearly 47 million people live in D–HPSAs across the country. Although it is unknown how many of these areas can financially support a dentist or attract a dentist by virtue of their infrastructure or location, it is clear that more dentists are needed in these areas.

Modified and updated criteria for Dental HPSAs designation has been in "clearance" at the U.S. Department of Health and Human Services for more than 2 years. At the present time the HPSA criteria require three basic determinations for a geographic area request: (1) the geographic area involved must be rational for the delivery of health services, (2) a specified population-to-practitioner ratio representing shortage must be exceeded within the area, and (3) resources in contiguous areas must be shown to be over-utilized, excessively distant, or otherwise inaccessible. HPSA designation is used by a variety of purposes by Federal programs. [10]

NEED/DEMAND FOR DENTAL CARE

Need for oral care is based on whether an individual requires clinical care or attention to maintain full functionality of the oral and craniofacial complex. The disproportionate burden of oral diseases and disorders indicates that specific population groups are in greater need of oral health care. Demand is generally understood as the amount of a product or service that users can and would buy at varying prices.

Americans spent roughly $91.5 billion on dental procedures in 2006, the vast majority of this amount was paid out of pocket ($40.6 billion) or through private insurance ($45.3 billion) while $5.5 billion was paid through public programs, Medicare ($0.1 billion) and Medicaid/State Children's Health Insurance Program ($5.3 billion). [11] Mostly this was spent on fillings, crowns, implants, and high-end restorative procedures. The extent of oral health care disparities clearly indicates that many of those in *need* of oral health care do not *demand* oral health care.

Unfortunately millions of Americans experience dental pain daily and cannot afford to buy dental insurance or pay for dental care out-of-pocket. Since few oral health problems in their early stages are life-threatening, people often delay treatment for long periods of time. Often, when they do seek care, it is hospital emergency rooms or others in the dental safety-net system—ADIs, community health centers, school-based clinics, and municipal clinics. This system of care is inadequate to effectively deal with the magnitude of the problem.

Additionally, charity dental care provided by dentists cannot solve the problem. Each year, ADIs eagerly join with dentists in the community and others to participate in Give Kids a Smile Day, a national initiative by the American Dental Association to focus attention on the epidemic of untreated oral disease among disadvantaged children. The 5th annual Give Kids A Smile Day held on February 1, 2007 provided care to 751,000 children at more than 2,000 locations across the country. Approximately $72 million in dentistry was provided at no charge to patients. Taking part were 14,315 volunteer dentists and 38,000 others including dental school faculty and students. While this event is noteworthy for all care it provides, it is not a cure for the problem. State dental societies regularly organize Missions of

[10] Several Federal programs utilize the Federal HPSA designation in the administration of their programs including the National Health Service Corps and the U.S. PHS Grant Programs administered by HRSA-BHPr gives funding preference to title VII and VIII training programs in HPSAs.

[11] Catlin, Aaron, Cowan, Cathy et al., Health Spending in 2006, Health Affairs, 2008, 27 (1): page 14–29.

Mercy in which thousands of people receive free care in temporary dental "hospitals" and about 74 percent of dentists routinely provide free or discounted care to people who otherwise could not afford it. Charity has exceeded $1.5 billion annually.[12]

While dental care demands are higher than many other health care demands, many people in the United States do not receive basic preventive dental services and treatment. Most oral diseases are preventable if detected and treated promptly. Preventative care is essential to contain costs associated with oral health care treatment and delivery. Children who have early preventive dental care are more likely to continue using preventive services. Those who wait to visit a dentist are more likely to visit for a costly oral health problem or emergency.

ACCESS TO CARE AND ACADEMIC DENTAL INSTITUTIONS

U.S. academic dental institutions are the fundamental underpinning of the Nation's oral health. As educational institutions, dental schools, allied dental education, and advanced dental education programs are the source of a qualified workforce, influencing both the number and type of oral health providers. U.S. academic dental institutions play an essential role in conducting research and educating and training the future oral health workforce. All U.S. dental schools operate dental clinics and most have affiliated satellite clinics where preventative and comprehensive oral health care is provided as part of the educational mission. All dental residency training programs provide care to patients through dental school clinics or hospital-based clinics. Additionally, all dental hygiene programs operate on-campus dental clinics where classic preventive oral health care (cleaning, radiographs, fluoride, sealants, nutritional and oral health instruction) can be provided 4–5 days per week under the supervision of a dentist. All care provided is supervised by licensed dentists as is required by State practice acts. All dental hygiene programs have established relationships with practicing dentists in the community for referral of patients.

As safety net providers, ADIs are the dental home to a broad array of vulnerable and underserved low-income patient populations including racially and ethnically diverse patients, elderly and homebound individuals; migrants; mentally, medically or physically disabled individuals; institutionalized individuals; HIV/AIDS patients; Medicaid and State Children's Health Insurance Program (SCHIP) children and uninsured individuals. These dental clinics serve as a key referral resource for specialty dental services not generally accessible to Medicaid, SCHIP, and other low-income uninsured patients. ADIs provide care at reduced fees and millions of dollars of uncompensated care is provided each year.

NO PROFESSORS—NO PROFESSION: STRAINS ON ACADEMIC DENTISTRY

The math is simple on this equation. There is an increasing need and demand for dental care. There is a current shortage of dental faculty to educate and train the future dental workforce. Several new dental schools are scheduled to open across the country to meet individual State workforce and access needs. We face a crisis if resources are not dedicated to help recruit and retain faculty for the Nation's dental schools.

The number of vacant budgeted faculty positions at U.S. dental schools increased throughout the 1990s, with a peak of 358 positions in 2000. Following this peak, the number of vacancies declined, falling to 275 in 2004–2005. Since that time, there has been a rapid increase in the number of estimated vacancies, reaching 417 in 2005–2006, falling slightly to 406 in 2006–2007. Competition for this scarce resource of faculty will be exacerbated by the opening of new academic dental institutions across the country.

At the present time there are 57 U.S. dental schools in 34 States, the District of Columbia and Puerto Rico. There are 714 dental residency training programs located in 44 States, the District of Columbia and Puerto Rico. There are 285 dental hygiene programs in all 50 States and the District of Columbia, 271 dental assisting programs located in 47 States and Puerto Rico and 21 accredited dental laboratory technology programs located in 21 States.

Growing demand for dental care in certain areas of the country has precipitated the opening of seven new dental schools. In 2003 the Arizona School of Health Sciences, the University of Nevada Las Vegas in 2002, and the Nova Southeastern University in Florida in 1997. Midwestern University in Glendale, AZ will open a dental school in August 2008 with an enrollment of 100 students per class. The den-

[12] American Dental Association, "Insuring Bright Futures: Improving Access to Dental Care and Providing a Healthy State for Children" statement to Energy and Commerce Committee hearing March 27, 2007.

tal school is part of Midwestern's expansion plan to address the State of Arizona's health care workforce shortages. Western University of Health Sciences in Pomona, CA plans to open a dental school in 2009. The University is in the preliminary phase of the accreditation process. The North Carolina State legislature plans to open a dental school at East Carolina University in Greenville, NC to focus on rural dentistry. The school plans to operate 10 student dental clinics in underserved communities throughout the State enrolling 50 students per class. Very recently New Mexico Governor Bill Richardson included funding in his fiscal year 2009 budget for construction of a facility at the University of New Mexico for a dental residency program and to begin planning for a new dental school.

ACADEMIC DENTAL INSTITUTIONS AND RESEARCH

Oral health is an important, vital part of health throughout life, and through dental research and education, we can enhance the quality and scope of oral health. Despite tremendous improvements in the Nation's oral health over the past decades, the benefits have not been equally shared by millions of low-income and underserved Americans. Dental research, the underpinning of the profession of dentistry, is needed to identify the factors that determine disparities in oral health and disease. Translational and clinical research is underway to analyze the prevalence, etiology, and impact of oral conditions on disadvantaged and underserved populations and on the systemic health of these populations. In addition, community- and practice-based disparities research, funded by the National Institute of Dental and Craniofacial Research (NIDCR) and the Centers for Disease Control and Prevention's Oral Health Programs, can help to identify and reduce risks, enhance oral health-promoting behaviors, and help integrate research findings directly into oral health care practice.

APPLICATIONS, DIVERSITY AND THE DENTAL PIPELINE

Interest in the dental profession remains high and competition for first-year positions is robust. The application cycle for 2008 is still in process, but it appears that applicant to enrollee ratio is about 3:1. The number of applicants increased from 4,644 in 1960 to 15,734 in 1975, a dramatic increase of 239 percent. A precipitous decline followed that peak, falling to 4,996 in 1989. Applicants increased 97 percent between 1989 and 1997, to 9,829; falling again over the last 2 years to 9,010. First-year enrollments varied less during these time periods, increasing 76 percent between 1960 and 1978, from 3,573 to 6,301. First-year enrollments declined then through 1989 to 3,979. Since 1989, first-year enrollment has increased nearly 20 percent.

The number of African-American, Hispanic, and Native American students in dental schools remains disproportionate to their numbers in the U.S. population. In 2006, underrepresented minority (URM) students comprised 12.4 percent of the applicants and 11.6 percent of first-year enrollees. Asian/Pacific Islanders and whites comprised 69.7 percent of applicants and 71.1 percent of first-year enrollees. The proportion of URM applying and enrolling in U.S. dental schools is far less than the proportion of URM in the communities served by the dental school. For example, during the 2003–2004 academic year, 7 percent of dental students enrolled at the University of California Los Angeles and the University of Southern California were Hispanic, while 46.5 percent of the Los Angeles population were Hispanic. Also in 2003–2004, total African-American enrollment at all U.S. dental schools was 5.41 percent, while 12.8 percent of the U.S. population were black. The proportion of URM dentists also remains significantly lower than the proportion of URM in the U.S. population. Currently, about 6.8 percent of professionally active dentists are URM, while 27.9 percent of the U.S. population are URM.

Increasing diversity in the dental profession is vital to the future of the profession and it is central to achieving optimal oral health for racial and ethnic minority groups, which experience a higher level of oral health problems and have limited access to dental care. Recognizing that enrollment of underrepresented minorities (URM) had remained largely stagnant, ADEA has become actively engaged in supporting programs that bolster underrepresented minority recruitment and retention into dentistry and partnered with foundations and others to make headway:

• The "Pipeline, Profession, and Practice: Community-Based Dental Education" program sponsored by the Robert Wood Johnson Foundation (RWJF). This program has also been supported by the California Endowment and the W.K. Kellogg Foundation. The 5-year initiative launched in 2003 was to help increase access to oral health care. This program provided institutions with grants to link their schools to communities in need of dental care and to boost their URM and low-income (LI) student enrollment numbers. Dental Pipeline I successfully concluded with 15 dental

schools participating. Dental students and residents in the program provided care to thousands of low-income patients through partnerships with 237 community-based clinics. The success of the first Pipeline has spurred the RWJF and the California Endowment to continue the program with Pipeline II, adding a mentoring portion to the curriculum. Awards will soon be announced.

• The "Summer Medical and Dental Education Program (SMDEP)" is a collaborative program administered by ADEA and the Association of American Medical Colleges and funded by the Robert Wood Johnson Foundation–RWJF. The program will run from summer 2006 through summer 2009 and offer academic enrichment for disadvantaged undergraduate freshmen/sophomores. The curriculum includes classes in organic chemistry, physics, biology and pre-calculus/calculus. Students gain learning and communication skills; get exposure to medicine and dentistry issues and get clinical exposure. Finally, students have a financial planning workshop to learn about financial strategies and issues. Nearly 1,900 students have participated (333 dental and 1,564 medical). Seventy-one percent of the participants have been women, 48 percent have been Black or African-American, 21 percent have been Hispanic or Latino, and two percent have been American Indian.

• ADEA has received a grant from the Josiah Macy, Jr. Foundation to increase the diversity of the dental workforce in the United States. ADEA is serving as the host organization and coordinating committee of the program entitled Moving *Forward: Bridging the Gap*. The grant funds the planning process to implement a flexible 7-year dental curriculum, modeled after one currently used in medicine, to prepare a new cadre of underrepresented minority and low-income (URM/LI) students for the practice of dentistry. The program aims to move toward the implementation of a 7-year curriculum that will significantly increase the number of URM students that receive a dental education and then enter the workforce as dental school graduates.

RECOMMENDATIONS TO ADDRESS DENTAL WORKFORCE CHALLENGES

There are several straightforward steps that Congress can take to immediately address the challenges we face. The answer lies in prioritizing resources both in terms of manpower and funding to tackle these challenges. Some are fairly simple and pragmatic while others, admittedly, will require coordination among multiple interested parties and compromise. ADEA stands ready to work with Congress and our colleagues in the dental community to ameliorate the access to dental care problems the Nation faces and to meet the needs for the future dental workforce. Specifically, we recommend:

1. Strengthen and Improve Medicaid

Early intervention is the key to assuring that children have good oral health. While children enrolled in Medicaid have a Federal guarantee for access to dental services through the Early Periodic Screening Diagnosis and Treatment program (EPSDT),[13] accessing services is often difficult due to low reimbursement rates and the number of participating dentists. Other barriers include a lack of community-based oral health projects and public outreach. Unfortunately millions of children covered by Medicaid are not getting regular dental care. Many dentists decline Medicaid patients because of low reimbursement levels and complain about Medicaid paperwork. We urge Congress to work with States to increase reimbursement rates and to simplify and streamline the application, enrollment and recertification process for Medicaid, and lessen the administrative burden associated with this program. These actions would significantly increase access to care for children insured by Medicaid.

Children covered by Medicaid have access to excellent care. Medicaid regulations[14] define dental as diagnostic, preventive, or corrective procedures provided by or under the supervision of a dentist in the practice of his or her profession, including treatment of: (1) the teeth and associated structures of the oral cavity and (2) disease, injury or impairment that may affect the oral or general health of the recipient.

2. Include Dental Guarantee in SCHIP

Congress can improve the Nation's oral health and increase access to dental care for vulnerable children covered by the State Children's Health Insurance Program

[13] Medicaid statutes, P.L. 101–239, Section 6403, require that dental services for children shall at a minimum, include relief of pain and infection, restoration of teeth, and maintenance of dental health. Medicaid guarantees medically necessary services, including preventive dental care, under its EPSDT provision.

[14] 42 CFR 440.100.

(SCHIP) by: (1) Establishing a Federal guarantee for dental coverage in SCHIP; (2) Developing a dental wrap-around benefit in SCHIP; (3) Facilitating ongoing outreach efforts to enroll all eligible children in SCHIP and Medicaid; and (4) Ensuring reliable data reporting on dental care in SCHIP and Medicaid. These objectives are supported by ADEA and the entire dental community and were strongly advocated during the recent congressional action on the Children's Health and Medicare Protection Act (H.R. 3162—CHAMP Act).

Presently dental coverage is an optional benefit in SCHIP. Dental care sits atop the list of parent-reported unmet needs. For children with special needs dental care is the most prevalent unmet health care need surpassing mental health, home health, and all other services. Dental coverage is often the first benefit cut when States seek budgetary savings. SCHIP lacks a stable and consistent dental benefit that would provide a comprehensive approach to children's health while reducing costly treatments caused from advanced dental disease. Congress can help stabilize access to oral health care services by improving funding for the SCHIP program.

3. Establish Dental Homes for Everyone

Ideally everyone should have a continuous and accessible source of oral health care—a dental home—established early in childhood and maintained throughout one's life. Having an established dental home makes oral health care accessible, continuous, comprehensive, coordinated, compassionate, and culturally effective. The dental home should be able to provide the following: (1) An accurate risk assessment for oral diseases and conditions; (2) An individualized preventive dental health program based on risk assessment; (3) Anticipatory guidance about growth and development issues; (4) A plan for emergency dental trauma; (5) Information about proper care of patients', infants' or children's teeth and soft tissues; (6) Information about proper nutrition and dietary practices; (7) Comprehensive dental care in accordance with accepted guidelines and periodicity schedules for general and pediatric dental health; and (8) Referrals to other dental specialists when care cannot be provided directly within the dental home.

4. Reauthorize and Fund the Dental Health Improvement Act

The Dental Health Improvement Act (DHIA), championed by Senators Susan Collins and Russ Feingold, is up for reauthorization. The program assists States in developing innovative dental workforce programs. The first grants were awarded to States last Fall 2006 and are being used to increase hours of operation at clinics caring for underserved populations, to recruit and retain dentists to work in these clinics, for prevention programs including water fluoridation, dental sealants, nutritional counseling, and augmenting the State dental offices to coordinate oral health and access issues. Eighteen States were among the inaugural cohort awarded.

5. Establish a Dental Disproportionate Share (DDS) Program

The capacity of ADI clinics to meet the needs of publicly insured and uninsured patients is compromised by inadequate payments from Medicaid and other Federal and State programs which threaten their financial viability as critical dental safety net providers. ADEA urges Congress to establish a Medicaid allotment for each State and territory that would be distributed in quarterly payments to qualified dental clinics operated directly by ADIs or those with an affiliation agreement with an ADI. Federal payments made to qualified clinics should require State matching funds. Qualified dental clinics would be required to have a pediatric Medicaid, SCHIP, and uninsured dental patient load equal to or more than a specified threshold compared to the total of their pediatric patients. Payments from the allotment would be based on a specified percentage of Medicaid payments for children's dental services in the previous quarter. ADEA is eager to explore this proposal with the committee.

6. Pass Deamonte's Law, H.R. 2371

This legislation would authorize $10 million for two pilot programs that would greatly assist academic dental institutions and community health centers to address access issues. The bill calls for $5 million for grants to accredited dental education programs to support training that enhances and strengthens skills of dental students, dental residents and dental hygiene students in the provision of oral health care to children. Funding could be used to support continuing education for practicing dentists and dental hygienists in pediatric dentistry. Additionally, the bill would authorize $5 million for grants to federally qualified community health centers (CHC) to increase access to oral health care for patients seeking treatment. Funding could be used to hire dentists, purchase of dental equipment and construction of dental facilities. Also, funding could be used to support contractual relationships between CHCs and surrounding private practice dentists.

7. Pass the Essential Oral Health Act, H.R. 2472

The legislation aims to improve the delivery of dental services through a variety of measures. It would provide each State an option to accept an increase in its Federal Medical Assistance Percentage rate for its dental Medicaid and SCHIP programs provided certain access to care provisions are met. States that increase the percentage of plan users and participating dentists will continue to receive the enhanced match. It would authorize grants to pilot the Community Dental Health Coordinator (CDHC) position which will work in underserved communities, in collaboration with health and community organizations and schools to provide community-focused oral health promotion. The CDHC will also connect residents with limited dental care access to dentists. The bill would authorize grants for volunteer dental programs by community-based organizations, State dental associations, dental schools, and hospitals with postdoctoral dental education programs to provide free dental care to underserved populations. Finally, the legislation would encourage dentists to provide additional donated dental services by providing a $5,000 tax credit for free and discounted services provided.

8. Pass the Special Care Dentistry Act

This legislation introduced in previous Congresses aims to provide dental care to the most vulnerable citizens, poor children, aged, blind and disabled. This includes developmentally disabled and mentally retarded, disabled, the aged frail elderly and medically compromised elderly as well as medically compromised patients. Across the country there are approximately 31 million such patients. The bill would permit flexibility for States allowing them to either make provision for special care dentistry coverage through a State's existing EPSDT program or by creating a separate program for Aged, Blind or Disabled Adults.

9. Restore Dental Graduate Medical Education for Programs in Non-Hospital Settings

Congress should bolster support for dental residency training in both hospitals and non-hospital sites through Medicare Graduate Medical Education (GME). While all medical residency training positions are supported by Medicare GME only some dental residencies are. No dentist may practice a specialty without having first successfully completed residency training. The current number of positions and funding is woefully insufficient for all dental graduates to participate in a year of service and learning in an accredited program. ADEA encourages dental graduates to pursue postdoctoral dental education in either general dentistry, advanced dental education program or a dental specialty. To accommodate advanced education in general dentistry and specialties additional supported training positions are needed. Meeting this challenge would help to strengthen the dental workforce and would help provide access to care.

10. Make Dentistry Eligible for Title VII Administrative Academic Units, Predoctoral Training, Faculty Development

At the present time academic dental institutions are ineligible to compete for three important programs within the title VII primary care medicine and dentistry cluster; namely the Academic Administrative Units in Primary Care (AAU), Faculty Development in Primary Care (FD), and Predoctoral Training (PDTP) Programs. Congress should broaden eligibility to include dentistry and increase funding to accommodate this eligibility. In its November 2001 report to Congress, the HRSA Advisory Committee on Training in Primary Care Medicine and Dentistry (ACTPCMD) also recommended this modification.

• Academic Administrative Units in Primary Care grants establish and improve *primary care units* so that they are equal to other departments or divisions in the medical school. Resources may be used to enhance the ability of the primary care unit to significantly expand their primary care mission in teaching, research and faculty development. *ADEA suggests general and pediatric dentistry and dental public health units be added within the dental school.*

• Faculty Development in Primary Care grants help to plan, develop, and operate programs, and pay stipends, for training of physicians who plan to teach in family medicine, general internal medicine and general pediatrics training programs. Four grant types: Type I Primary Care Clinician Researchers; Type II Primary Care Master Educators; Type III Primary Care Community Faculty Leaders; and Type IV Community Preceptors. *ADEA suggests training for dentists who plan to teach in general and pediatric dentistry and public health dentistry be added.*

• The Predoctoral Training grants help to plan, develop, and operate or participate in predoctoral programs in family medicine, general internal medicine and gen-

eral pediatrics. *ADEA suggests that both general and pediatric dentistry and public health dentistry be added.*

11. Maintain Support for Title VII General and Pediatric Dentistry

Support for title VII programs is essential to expanding existing or establishing new general dentistry and pediatric dentistry residency programs. Title VII general and pediatric dental residency training programs have shown to be effective in increasing access to care and enhancing dentists' expertise and clinical experiences to deliver a wide range of oral health services to a broad patient pool, including geriatric, pediatric, medically compromised patients, and special needs patients. Title VII support increases access to care for Medicaid and SCHIP populations. The value of these programs is underscored by reports of the Advisory Committee on Training in Primary Care Medicine and Dentistry and the Institute of Medicine. Without adequate funding for general dentistry and pediatric dentistry training programs it is anticipated that access to dental care for underserved populations will worsen.

General Dentistry and Pediatric Dentistry Residency Training programs are essential to building and the primary care dental workforce are effective in increasing access to care for vulnerable populations including patients with developmental disabilities, children and geriatric patients. These programs are safety net providers of oral health care and generally include outpatient and inpatient care and afford residents with an excellent opportunity to learn and practice all phases of dentistry including trauma and emergency care, comprehensive ambulatory dental care for adults and children under the direction of experienced and accomplished practitioners.

12. Restore Funding for Title VII Diversity Programs

The only Federal programs whose goal it is to strengthen and diversify the health professions are the Title VII Centers of Excellence (COE) and Health Careers Opportunity Program (HCOP). These programs work in diverse communities to achieve this national goal. After several years of cuts to these programs saw small increases; however, they remain woefully underfunded. Congress should restore their funding to fiscal year 2005 levels.

Table 4.—COE and HCOP Funding by Fiscal Year (FY)

[In millions of dollars]

	FY 2005	FY 2006	FY 2007	FY 2008
COE	$35	$12	$11.88	$12.77
HCOP	33	4	3.9	9.8

These programs assist institutions in developing a more diverse applicant pool, establishing and strengthening the academic performance of under-represented minority students enrolled in health professions schools, improving institutional academic, research and library capacity, and enhancing pipeline efforts to undergraduate and pre-college students. Also, HCOP makes grants to community-based health and educational entities to support student pipeline and other academic activities.

13. Limit Graduating Student Loan Debt Is Key to Access and Career Choice

Students are graduating from dental school with increasing amounts of educational debt. In 2007 the average for all graduates with debt averaged $172,627, those graduating from a public school averaged $148,777 while those graduating from private/State-related schools averaged $206,956. This level of debt places a great deal of pressure on new dentists. Many new graduates who wish to further their education in a specialty or general dentistry forgo the option. New dentists who might otherwise choose a career in the U.S. Public Health Service or Armed Forces shun the option. By virtue of the staggering debt new dentists have upon graduating, many seek practice opportunities in relatively affluent areas where they are likely to earn higher salaries. This cycle has repeated itself year after year leaving underserved areas chronically understaffed. Congress can alleviate the debt burden new dentists face upon graduating by doing the following:

1. Restore nearly $50 million taken through rescissions from the title VII and VIII revolving health professions student loan programs[15]. These low-interest loan pro-

[15] As part of the Labor-HHS-Education Appropriations for FY 2005 and FY 2006, Congress rescinded the "unobligated balances" from the title VII and VIII student loan programs. Consequently, HRSA returned $21 million to the U.S. treasury in 2005 and $26.5 million in 2006.

Continued

grams designed and authorized by Congress to address shortages in the health professions workforce help limit borrowing from higher cost private loan programs. No Federal funds are required to maintain these programs and they receive no annual appropriation, thereby posing no burden on taxpayers. They are funded with the interest from student/graduate repayment, creating a self-sustaining revolving fund designed by Congress to address shortages in the health professions workforce.

2. Increase the aggregate unsubsidized Stafford Loan limits[16] that dental and medical students use. The current annual cap is $38,500 while the aggregate is limited to $189,125. The cap forces dental and medical students into less favorable loan options such as the GradPLUS or private student loans. This needlessly drives up graduating debt.

3. Congress should immediately and permanently restore the Economic Hardship Deferment option that was eliminated when Congress passed the College Cost Reduction and Access Act.[17]

14. Increase Access for Native American and Alaska Native Populations

Congress should increase the award size for the Indian Health Service (IHS) loan repayment program and make both the loan repayment and the IHS scholarship programs tax free. By taking this action Congress would help to boost the number of dentists and other health care providers in Indian country. Eliminating taxation of IHS scholarship and loan repayment programs would be equivalent to increasing the programs' appropriations substantially without costing any additional money. Equalizing the programs will enhance the IHS competitiveness for health care providers seeking loan repayment in exchange for service in eligible sites. The current playing field between IHS and the National Health Service Corps and Department of Defense scholarship and loan repayment programs[18] are not competitive. Also, unlike other Federal scholarship and loan repayment programs, IHS scholarship stipends are subject to income and FICA taxation so the IHS pays up to 20 percent of Federal taxes *directly* to the Internal Revenue Service (IRS). As a result in fiscal year 2006 IHS withheld 27.65 percent of each scholarship recipient's stipend to pay taxes. An additional 7.65 percent of the IHS contribution to the FICA tax also comes

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HRSA administers the loan programs authorized under Titles VII and VIII of the Public Health Service Act: (1) the Health Professions Student Loan (HPSL) program awards funds to accredited schools of dentistry, optometry, pharmacy, podiatric medicine, and veterinary medicine; (2) The Loans for Disadvantaged Students (LDS) program awards funds to HPSL and Primary Care Loan eligible students who are from a disadvantaged background as defined by HHS; (3) The Primary Care Loan (PCL) program awards funds to accredited schools of allopathic and osteopathic medicine for medical students who agree to enter and complete residency training in primary care within 4 years after graduation and practice in primary care for the life of the loan; and (4) The Nursing Student Loan (NSL) program awards funds to accredited schools of nursing under title VIII.

[16] The aggregate combined Stafford Loan limit for health professions should be adjusted to reflect the annual unsubsidized Stafford Loan limits. The aggregate combined Stafford Loan limit for health professions students has remained stagnant for over a decade, does not account for increases in annual unsubsidized Stafford Loan limits or reflect programs of different duration, and is not defined in regulation. The "Deficit Reduction Act of 2005" (DRA) increased the annual unsubsidized Stafford Loan limit for graduate/professional students from $10,000 to $12,000 (effective July 1, 2007). This increased the annual combined Stafford Loan limit from $18,500 to $20,500. Certain health professions students in 9-month and 12-month programs are eligible for an additional $20,000 and $26,667 in unsubsidized Stafford Loans per year, respectively. The current aggregate combined Stafford Loan limit for health professions is $189,125. The justification for this figure is defined in the Federal Student Aid handbook as: *This increased aggregate loan limit would permit a student to receive the current maximum Stafford annual loan limits for 4 years of undergraduate study ($6,625 + $7,500 + $10,500 + $10,500) and 4 years of graduate/professional study ($18,500 x 4), plus the maximum increased unsubsidized loan limit for an academic year covering 9 months for 4 years of graduate/professional study ($20,000 x 4).* However, this current aggregate limit does not reflect the increased annual unsubsidized loan limits mandated by the DRA nor does it recognize the annual increases allowed for health professions students in 12-month programs.

[17] On September 27, 2007, President Bush signed the "College Cost Reduction and Access Act" (CCRAA, H.R. 2669, H. Rpt. 110–317). The measure included a change to the definition of economic hardship deferment, which has the potential to eliminate the pathway that most hospital-based dental residents as well as most medical residents use to qualify for the program. CCRAA changed the definition of economic hardship deferment. The new definition does not include the debt-to-income pathway, which is the most common means by which hospital-based dental residents and most medical residents obtained eligibility. Under the new definition, a borrower's income cannot exceed the greater of either the minimum wage rate or 150 percent of the poverty line applicable to the borrower's family size. For an independent single student the maximum qualifying monthly income will be $1,276.

[18] P.L. 107–16, Section 413, the Economic Growth and Tax Relief Reconciliation Act of 2001, which provides for the scholarship programs, and P.L. 108–357, Section 320, the American Jobs Creation Act of 2004, provides for the loan repayment programs.

from the scholarship program funds. IHS had to use $2.3 million (17.5 percent) of its fiscal year 2006 appropriation to pay taxes rather than award scholarships to deserving NA/IA health professions students.

15. Prioritize Dental Access in Rural Health Clinics

Delivery of health care in rural America is changing rapidly; however, one thing remains constant: rural communities across America rely on rural health clinics to provide care to everyone including those who are uninsured or underinsured. Full-service community hospitals in rural areas are safety net providers providing basic health services but often oral health care is unavailable. To improve the oral health status of rural America, Congress should incentive rural health clinics to add preventive and restorative dental services to the list of core services they provide on-site or under arrangement.

16. Increase Funding for Dental and Craniofacial Research and Disparities Research

Funding for dental research must be both reliable and increased. Oral health researchers funded by the National Institute of Dental and Craniofacial Research (NIDCR) have built a base of scientific and clinical knowledge that has been used to improve oral health. NIDCR is the only Institute within the NIH that is committed to oral health research and training. Institute-sponsored research continues to link oral infection to such systemic diseases as diabetes, cardiovascular disease (heart attack and stroke) and adverse pregnancy outcomes (pre-term birth and low-birth weight). Dental research is advancing investigations in bone formation and craniofacial development, treatment of facial pain, salivary gland disorders. The Institute remains the primary public agency that supports dental behavioral, biomedical, clinical, and translational research. Research is needed to identify the factors that determine disparities in oral health and disease. These factors may include proteomic, genetic, environmental, social, and behavioral aspects and how they influence oral health singly or in combination. Translational and clinical research is underway to analyze the prevalence, etiology, and impact of oral conditions on disadvantaged and underserved populations and on the systemic health of these populations. In addition, community- and practice-based disparities research, funded by the NIDCR and the Centers for Disease Control and Prevention's Oral Health Programs, can help to identify and reduce risks, enhance oral health-promoting behaviors, and help integrate research findings directly into oral health care practice.

17. Bolster Prevention to Eradicate Dental Caries

Congress could make great strides in reducing dental caries if they focused on preventive strategies that can save millions of dollars. The cost of providing restorative treatment is much higher than providing preventive services. Among the most immediate and effective strategies would be to establish a national water fluoridation standard. This is the best and safest public health measure to prevent dental disease. The CDC reports that approximately one-third of Americans lack access to a community fluoridated water supply. Other strategies to reduce dental caries include: (1) applying pit and fissure sealants (plastic coating that are applied to the grooves and fissures of primary and permanent teeth) to patients at high-risk for dental caries. Only 18.5 percent of children have at least one sealed tooth. A nationally based dental sealant program in the public schools is an ideal way to deliver cost-effective services to children; (2) increasing dietary and hygiene counseling for patients at high-risk for dental caries; and (3) professionally applying topical fluoride 1–2 times annually for patients at high-risk for dental caries.

The Centers for Disease Control and Prevention (CDC) found that delivering sealants to all children attending low-income schools was the most cost-effective strategy in significantly reducing as child's risk of having untreated dental disease. Combining oral health promotion and education with prevention strategies will improve the oral health of children who are at a higher risk for dental disease. Almost as importantly, these programs save money. Delta Dental, a private dental insurer estimates that preventive care, early detection, and treatment of oral health conditions save $4 billion annually in the United States. According to the Children's Dental Health Project, dental costs for children who receive preventative dental care early in life are 40 percent lower than costs for children whose oral health is neglected. The American Dental Hygienists Association estimates that for every $1 spent on prevention in oral health care, $8 to $50 are saved on restorative and emergency dental procedures.

18. Adequately Fund the Centers for Disease Control and Prevention (CDC) Division of Oral Health

Congress should continue to support this important program. The Centers for Disease Control and Prevention Oral Health Program expands the coverage of effective

prevention programs by building basic capacity of State oral health programs to accurately assess the needs in their State, organize and evaluate prevention programs, develop coalitions, address oral health in State health plans, and effect allocation of resources to the programs. CDC's funding and technical assistance to States is essential to help oral health programs build capacity.

CONCLUSION

In conclusion, I thank the committee for considering ADEA's recommendations with regard to addressing access to dental care and dental workforce issues. A sustained Federal commitment is needed to meet the challenges oral disease poses to our Nation's citizens including children, the vulnerable and disadvantaged. Congress must address the growing needs in educating and training the oral health care and health professions workforce to meet the growing and diverse needs of the future. ADEA stands ready to partner with you to develop and implement a national oral health plan that guarantees access to dental care for everyone, eliminates oral health disparities, bolsters the Nation's oral health infrastructure, eliminates academic and dental workforce shortages, and ensures continued dental health research. I am happy to answer any questions you may have.

Senator SANDERS. Dr. Swift, thank you very much.

Bruce Auerbach, M.D., is President-Elect, Massachusetts Medical Society, Vice President and Chief of Emergency Medicine at Sturdy Memorial Hospital in Attleboro, MA. Dr. Auerbach, thanks very much.

STATEMENT OF BRUCE AUERBACH, M.D., PRESIDENT-ELECT, MASSACHUSETTS MEDICAL SOCIETY, VICE PRESIDENT AND CHIEF OF EMERGENCY MEDICINE, STURDY MEMORIAL HOSPITAL, ATTLEBORO, MA

Dr. AUERBACH. Thank you, Senator Sanders and members of the committee, for allowing us to be here and participate in this very important hearing.

We are all in agreement today that unless we take the necessary steps to increase the number of physicians, particularly those going into primary care, our goal to increase access to quality healthcare and reduce costs will fail.

As Senator Sanders mentioned earlier, even if we instantaneously snapped our fingers and had universal healthcare tomorrow, that would not solve the access problem. The experiment that we are doing in Massachusetts proves that. We are adding hundreds of thousands of residents that were previously uninsured into the system. It has really not done anything except worsen the primary care shortage or the perception of the primary care shortage.

The Massachusetts Medical Society has chronicled for several years the deterioration in the workforce in Massachusetts. During the last 2 years, we experienced for the first time critical shortages to severe shortages in primary care. Primary care physicians have a unique role in managing and coordinating care. When you consider that all of the national studies have shown that the healthcare systems that provide the best and lowest cost care to those with the most, are those with the most robust primary care systems, the imperative is clear.

I would like to make three main points that, hopefully, we will discuss more fully. National and State data confirm that we are in or at least on the verge of a primary care crisis. The critical role of these physicians in providing cost-effective quality care is without dispute. The key focus of much of our work in Massachusetts, as we implement our new State law, is to correct this issue.

Second, the title VII program is one of the only federally funded programs designed specifically to increase the number of primary care providers, particularly in underserved areas. Our experience in Massachusetts, confirmed by national data, shows that these dollars have been very effective in training physicians who continue to practice in community health centers and underserved areas. It is essential that title VII be reauthorized and well funded.

There are several steps the Federal Government could take to address these issues and two I would like to highlight. First, a more accurate count of full-time practicing physicians. Current databases rely on the number of medical licenses and misrepresent the number of physicians taking care of patients full time. Second, we need to have a focus on medical student debt relief and other financial incentives for physicians—or students who pursue primary care.

I thank you very much and I'm looking forward to working with you on this issue.

[The prepared statement of Dr. Auerbach follows:]

PREPARED STATEMENT OF BRUCE AUERBACH, M.D.

Good Morning. I am Dr. Bruce Auerbach, President-Elect of the Massachusetts Medical Society and Vice President and Chief of Emergency and Ambulatory Services at Sturdy Memorial Hospital in Attleboro, MA. It is my distinct pleasure to represent the Massachusetts Medical Society at today's hearing on the "Health Care Workforce Shortages for the Future" and reauthorization of Title VII of the Public Health Services Act. The Massachusetts Medical Society represents over 19,000 physicians, students and residents and is dedicated to improving the health and welfare of the residents of the Commonwealth.

At the outset I want to emphasize the fundamental importance of the title VII program and why we at the Massachusetts Medical Society believe these programs are imperative to achieve our overall goal of universal access to quality health care for all Americans. The title VII program is one of only two federally funded programs specifically designed to increase the number of primary care physicians and providers, particularly in underserved areas. The importance of the primary care physician in the medical home is without dispute. There is strong evidence to demonstrate the effectiveness of physicians who provide first contact, comprehensive, longitudinal care, and coordination of care. Countries with strong primary care systems have lower health care costs than those with weaker primary care systems. In this Nation we know that States with more primary care resources tend to mirror these lower costs and have better health care outcomes.

And yet at a time when health care reform is a priority on national and State agendas, and efforts to increase access to care are intensifying, we face burgeoning shortages of physicians, including primary care physicians. The American College of Physicians recently warned that "primary care, the backbone of the Nation's health care system, is at grave risk of collapse." (Bodenheimer, "Primary Care—Will It Survive? NEJM August 31, 2006) (*Appendix I*) It is a fundamental truth—which we are learning the hard way in Massachusetts—comprehensive health care reform cannot work without appropriate access to primary care physicians and providers. In this context it is clear that the need for title VII funds is perhaps even greater than when the program was originally conceived. When you consider that all the national studies have shown that the health care systems providing the best and lowest cost care to their populations are those with the most robust primary care systems, the imperative is clear.

My testimony today will focus on three areas: (1) outlining the primary care crisis in Massachusetts and our efforts to address this problem; (2) review the successes and history of title VII programs and the impact on primary care, including community health centers; and (3) share our recommendations for title VII and related programs.

I. PRIMARY CARE CRISIS—MASSACHUSETTS PERSPECTIVE

For nearly a decade the Massachusetts Medical Society has systematically studied and documented changes in our physician workforce and medical practice environ-

ment. The need for this data was clear. While our physicians and patients reported increasing stresses to the system, others maintained that the Commonwealth suffered from an oversupply of physicians. To this end the Massachusetts Medical Society, in consultation with outside consultants, initiated two annual studies that profile changes in the medical practice environment and physician workforce.

The first of these two studies, the Physician Practice Environment Index report (*Appendix II*) was first published in 1997 and is a statistical indicator of nine selected factors that impact the delivery of patient care in Massachusetts and the United States. The indicators are as follows:

1. Applications to medical schools,
2. Percent of physicians over 55 years of age,
3. Median physician income levels,
4. Ratio of median housing prices to median physician income,
5. Mean number of hours spent on patient care activities,
6. Physician cost of doing business,
7. Number of visits per emergency department,
8. Change in average malpractice rates, and
9. Number of advertisements for physician employment in the *New England Journal of Medicine*.

This year's report published in April 2007 shows a decline in the Massachusetts medical practice environment for the 13th consecutive year. Further, the rate of deterioration in Massachusetts was 26 percent faster than in the United States as a whole over the 14-year period from 1992–2006. This lengthy deterioration is one principle cause of accelerating physician shortages and reflects the growing imbalance between high costs of medical practice relative to a low rate of reimbursement in a State dominated by managed care. This economic imbalance is particularly harmful to primary care practices where revenues are historically proportionally much lower than costs.

The second report, The Massachusetts Medical Society Physician Workforce Study (*Appendix III*) was developed with the input of prominent labor economists and chronicles changes in physicians supply. In addition to ongoing shortages in several specialties, the 2007 Workforce Report shows severe to critical shortages in primary care for the second year in a row. The impact of shortages in primary care physicians is of great concern given the unique role primary care physicians serve in managing individual patient care.

Among its findings, the study found that in 2006, 53 percent of patients were able to see primary care physicians within a week of contacting the physicians. In 2007, however, that rate dropped to 42 percent. Moreover, 17 percent of survey respondents with a serious, but not life threatening medical problem say the wait for a doctors appointment was a problem in 2007, an increase of 7 percent from 2006. Hospitals and physician practices report increasing delays in their ability to recruit or retain primary care providers. In my own community, where I am on the Board of the large multispecialty group practice, the time to recruit primary care physicians has doubled and tripled in the last 5 years. The impact of the shortages on patients and physicians ability to provide quality care is multifold. In addition to significantly longer waiting times, physicians are forced to see many more patients in less time.

The Massachusetts Medical Society workforce study concluded "The task before those concerned about workforce issues is to educate policymakers about how changes in the physician workforce will affect cost, access and quality and impress upon them that serious efforts to promote quality of care and reduce costs will not be effective unless qualified physicians are there to provide care." Taking heed of this statement is more important than ever as Massachusetts implements universal health care and attempts to provide affordable insurance to hundreds of thousands of previously uninsured residents.

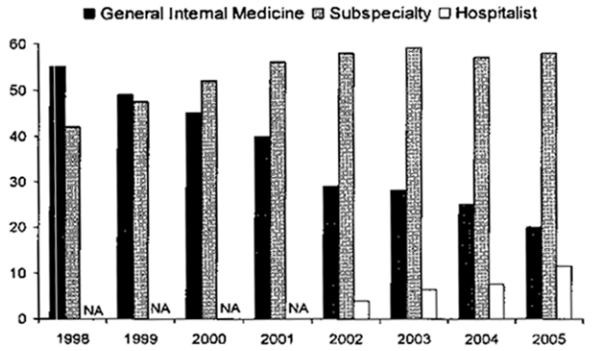
These numbers are reflected nationally. The 2006 American Academy of Family Physicians Workforce study reports that in 2005 there were 31.2 family physicians per 100,000 people in the United States. The study found that meeting the Nation's anticipated need for primary care in 2020 will require a workforce of 139,531 family physicians, or a ratio of 41.6 family physicians per 100,000 people. To achieve the 2020 target, the AAFP concluded that 3,725 family physicians will need to be produced annually by ACGME-accredited family medicine residencies and 714 annually by AOA-accredited family medicine residencies. As such, the typical ACGME-accredited family medicine residency would need to expand from an average of 21.7 residents to 24 residents.

Portending worse shortages for the future, the AAMC reported the number of family medicine residency positions available in the 2007 Match (2,603) continued

to decline this year—100 fewer positions available than in 2006, and more than 500 fewer than were available in the 2000 Match. As the following charts dramatically illustrate, the escalating trend with resident's choices over the past 8 years has been away from primary care.

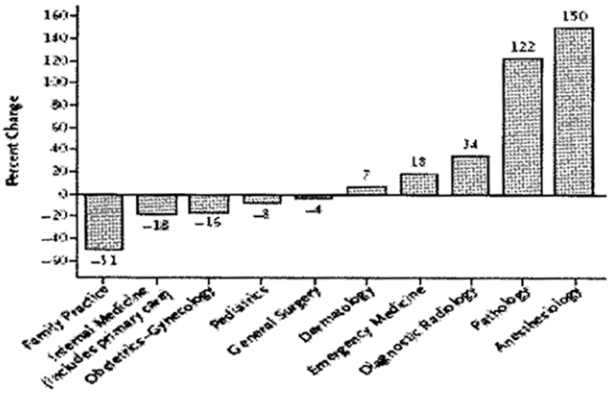
Primary Care Is Losing Ground

Proportions of Third-year Internal Medical Residents Choosing Careers as Generalists, Subspecialists, and Hospitalists



Shifting Career Choices: Winners And Losers

Percent Change between 1998 and 2006 of US Medical School Graduates Filling Residency Positions in Various Subspecialities



Data from the National Resident Matching Program. *N Engl J Med* 355:9; www.nejm.org; August 31, 2006

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It is important to underscore that the impact of shortages in primary care physicians is exacerbated in terms of their impact on community health centers. Like most health care providers, Massachusetts' community health centers are facing staffing shortages of primary care physicians and non-clinical staff. The Massachusetts League of Community Health Centers estimates that a total of 100 physicians will be required in the current year to meet the needs of existing patients as well as newly insured patients seeking care at community health centers under health care reform. That number is expected to be the same in each of the next 2 years. At the national level a 2006 JAMA Article, Shortages of Medical Personnel at Community Health Centers, concluded that while primary care physicians constituted 89 percent of physicians working in Community Health Centers, there were 428 vacant funded full-time equivalent for family physicians and 376 vacant FTEs for registered nurses. There were vacancies for 13.3 percent of family physicians positions, 20.8 percent of obstetrician's gynecologist's positions and 22.6 percent for psychiatrists. Of particular note, the study concluded that physician recruitment in CHS was heavily dependent on National Health Service Corps scholarships, loan repayment programs and international medical gradates with J–1 visa waivers.

While a number of factors contribute to the primary care shortages, most agree that rising medical student debt is particularly formidable to those interested in practicing primary care. The AAMC reports that in 2006 medical school graduates owed on average about $130,000, with estimates for Massachusetts medical schools estimated to be about 10 percent higher. This figure is expected to increase as both private and public institutions face increasing costs in all areas, and accordingly, must raise tuitions. Median tuition and fees for the school year ending in 2004 increased 5.7 percent at private schools over the previous year, and 17.7 percent at public institutions. The burden of medical school debt, coupled with undergraduate debt, compounded by interest rates is a significant detriment to primary care where predicted revenues are 30 percent lower than the mean.

The Massachusetts Medical Society is working on a number of initiatives to address the primary care shortage and to better understand factors influencing medical student's decision as to career choice. The previously referenced NEJM article also noted that it is generally believed that lifestyle concerns also play a role, as primary care physicians often experience heavy loads of after hours call with little or no reimbursement. Furthermore it notes that primary care physicians typically receive less reimbursement both in terms of resources and prestige when compared to specialists. On the global level, it is clear that reimbursement reform for primary care physicians will be necessary to allow for financial stability for these practices. In addition to increasing reimbursement, payment methodology should reflect the nature and value of primary care practices which are based on cognitive skills, longitudinal management and prevention.

At the State level, the Massachusetts Medical Society is currently surveying medical students to determine the factors which most influence their decision in choosing a specialty or primary care. The Massachusetts Medical Society is also working closely with the State Commission on Workforce, Secretary of Heath and Human Services Bigby, and Mayor of the City of Boston Thomas Menino on various task forces and commission to develop recommendations to address the primary care problems. The Massachusetts Medical Society supports legislation that was recently reported out of committee (House Bill 4514) which will provide loan forgiveness for physicians choosing to practice primary care. The Medical Society has proposed amendments which are referenced in my attached testimony (*Appendix III*). Internally the Medical Society has convened several internal workgroups to focus on physician's shortages, primary care shortages and medical student debt relief.

II. TITLE VII: HEALTH PROFESSIONS EDUCATION ASSISTANCE ACT

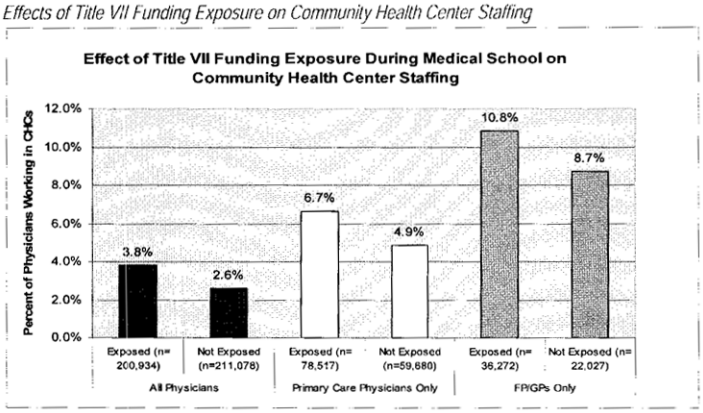
Since 1978, the Bureau of Health Professions, via section 747 of title VII, has been a critical source of support for medical education in primary care. In fact, given the absence of a Center for Primary Care at the NIH, relatively small and static funding at AHRQ, and ongoing decreases in Medicare GME reimbursement, Title VII is one of the only outside sources of funding to stimulate medical education, residency education, faculty development, and academic development in Primary Care. Title VII funds are often currently linked to training physicians to work in underserved communities. Several programs in Massachusetts are recognized as leaders in the training of medical students and residents within federally funded Community Health Centers—an important goal of title VII programs. These include: (1) the Family Medicine Residency at Boston University Medical Center which utilizes Community Health Centers to train residents, (2) University of Massachusetts Medical School in Worcester which enjoys a national reputation for its development

of education/service models within federally funded CHC's; and (3) the Greater Lawrence Family Health Center which is the only Community Health Center in the country that serves as the primary sponsor of a Family Medicine Residency Program.

Community Health Centers play a vital role in ensuring access to health care and are a priority for health care reform initiatives. There are 52 non-profit community health centers in Massachusetts which serve one out of nine (700,000) State residents. In 2006, these health centers provided more than 3 million outpatient visits. Massachusetts health centers care for patients of all ages and racial and ethnic backgrounds, and represent a major source of care for medically underserved women and children. Health center patients are disproportionately low-income, publicly insured or uninsured, and are at higher risk for contracting chronic and complex diseases. There are dozens of national studies which document the cost effectiveness and quality of care provided by community health centers.

While the Federal Government has made significant investments in the growth of Community Health Centers, as noted previously, it has not made a companion investment in the training of physicians who work in these health centers (Rosenblatt et al., *Shortages of Medical Personnel at Community Health Centers*). There are significant data to show that title VII funding has a direct impact on Community Health Center staffing. As the following chart details, medical schools and primary care residency programs funded by title VII, section 747 disproportionately serve as the medical education pipeline that produces physicians who go on to work in CHCs and participate in NHSC. This finding is particularly true among family physicians.

Effects of Title VII Funding Exposure on Community Health Center Staffing



All are significant at p<0.001 for comparisons between exposed and non-exposed physicians, using chi square tests.

The authors of this study concluded that exposure to Title VII, Section 747, funds during medical school is strongly associated with subsequent work in community health centers. Almost 4,000 family physicians and general practitioners were exposed to title VII funding during medical school and subsequently chose to work in a CHC. If these physicians had not been exposed to title VII funds the authors anticipate over 750 fewer family physicians would have been working in a CHC in 2003. A recent JAMA article (March 1, 2006) shows currently 600 vacancies for family physicians in CHCs. Without title VII dollars we would expect there to be twice as many vacancies. These are conservative estimates: data are from Medicare so pediatrics is underrepresented.

The same finding applied to the impact of title VII funds during medical school on participation in the National Health Service Corps. This association is true for all physicians, but it is even stronger among primary care physicians, family physicians and general practitioners. As the following chart details, almost 2,500 family physicians were exposed to title VII funding during medical school and subsequently participated in the National Health Service Corps. Without title VII funding, it is expected that only 350 physicians have served in the NHSC.

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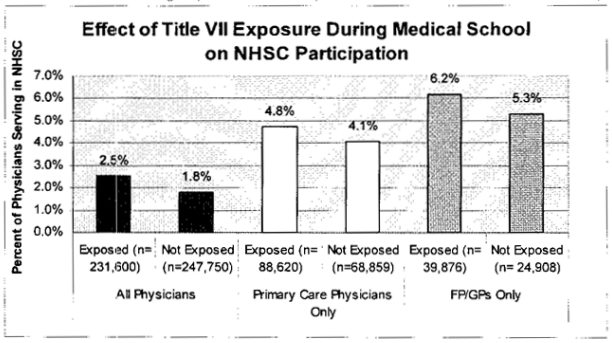
Effect of Title VII Funding Exposure on Participation in the National Health Service Corps



All are significant at p<0.001 for comparisons between exposed and non-exposed physicians, using chi square tests.

MASSACHUSETTS MODELS

As noted previously, several primary care training programs in Massachusetts receive title VII funds. The successes of the Massachusetts programs in training family physicians who demonstrate a long-term commitment to practicing in a community health setting are significant and dramatic. The impact of these programs coupled with the national data should dispel any debate as to the efficacy and import of title VII funds.

University of Massachusetts Medical School (Worcester)

Learning contract: Since graduating its first class in 1974, the University of Massachusetts Medical School has maintained a Learning Contract that provides for partial tuition waivers for medical students who agree to: (1) return to Massachusetts to practice a Primary Care specialty, or (2) return to Massachusetts to practice a specialty with a focus on providing care for vulnerable populations. Failure to do so triggers a payback.

Training in underserved communities produces physicians who practice in underserved communities: In 1976, Umass established the State's first Family Medicine training program, which graduated 454 Family Physicians through 2005, training in four tracks—a Community Health Center (Family Health Center of Worcester), a rural health center (Barre Family Health), an urban site (Hahnemann Family Health Center), and a small urban area (Fitchburg Family Practice). The results from the program are impressive.

- 50 percent of graduates have remained to practice in Massachusetts; 65 percent practice in New England;
- 44 percent of graduates from the CHC track went on to practice in a Health Professions Shortage Area (HPSA); and
- Graduates from the rural training site are more likely to practice in a rural area.

Recent approach.—Establishment of an Office for Primary Care: In 2007, UMass Medical School and UMass Memorial Health Care established an Office for Primary Care. This office is charged with ensuring that the hospital system and the medical school will maintain a robust primary care network. Strategies include:

- Program development to stimulate student interest in primary care careers;
- Working with payers to Develop new models for primary care practice that enhance quality while improving both patient and physician satisfaction;
- Developing a longitudinal curriculum devoted to quality improvement in patient safety (funded through title VII). This first-of-a-kind project will impact curricula across all 4 years of the medical school, the residency programs at the three primary care disciplines, and will provide training programs for primary care attendings, physicians, and faculty who interact with students and residents on a regular basis.

Greater Lawrence Family Health Center

Using title VII funds, the Greater Lawrence Community Health Center teamed up with Lawrence General Hospital to sponsor the first community health center residency program in the country. At the time Lawrence was considered one of the most underserved communities in the State with a severe shortage of primary care

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physicians. At that time the Community Health Center took care of about 10,000 to 12,000 patients out of community of 75,000. Using title VII primary care funds, the Community Health Center partnered with Lawrence General Hospital for a unique residency program. As a result of their partnership the Community Heath Center sees about 45,000 patients and is no longer considered an acutely underserved area. The infant mortality rate in Lawrence, once in the high teens, has now been dramatically reduced to single digits, even though the risk factors for infant mortality continue. In terms of workforce issues, about half of the physicians from the program have continued to work at the Community Health Center, while the other half have continued their work for the underserved in other areas. The success of the program and the collaboration between the Hospital and Community Health Center was cited by then-Secretary of HHS Donna Shalala as a national model.

Family Medicine Residency at Boston University Medical Center

The Family Medicine Residency at Boston University Medical was established in 1997 with funding from title VII grants which have been critical to its success. By establishing and maintaining a strong link between the residency programs, hospital and community health canter, this program has significantly increased the number of family physicians who practice in the community health centers, while improving coordination and access to care between the hospital and centers. The BU program currently provides inpatient services for 12 of the 15 Health Net community centers with each attending providing care to about 40 to 50 patients at any one time. Their physicians provide inpatient services for about half of the ob-gyn and nursery where overall deliveries have increased from about 1,600 to 28,000, mostly from community health center patients. In one center, these physicians also serve as hospitalists throughout the year, thus allowing the physicians to continue to care for their patients during their hospitalization. Although the acuity of these patients' illness is generally more severe, the length of stay for their patients is about a 3.4 day shorter. The advantage of this approach is significant—two thirds of the graduates who have trained in this program either practice in a community health center in Massachusetts or elsewhere. By linking the community health centers with the hospital, the program has arguably improved the quality of care provided while increasing the physician's satisfaction that care for their patients throughout the continuum. From a policy perspective it is significant, that these programs graduate family physicians that stay committed to primary care and choose to practice in needed areas.

III. RECOMMENDATIONS

As noted previously there are a number of barriers to increasing the number of primary care physicians. These recommendations focus on efforts specific to title VII and boarder policy areas.

1. Reauthorize Title VII With Significant Increases

Absent reauthorization in the past several years, title VII programs have experienced a decrease in funding. For example, in fiscal year 2005 Massachusetts received $3,558,576 in Section 747 Primary Care Grants. In fiscal year 2006, funding was reduced by $1,992,863 for a total of $1,565,713. Given data to show the positive impact of these programs, and the growing shortage of primary care providers, we recommend that Congress reauthorize the title VII programs with increases commensurate with the projected needs.

2. Improved Methodology To Determine Number and Location of Practicing Physicians

Surprisingly one of our biggest challenges continues to be the creation of a national data base that records the number of practicing physicians in each State and location of their practice. It is our understanding that current Federal data bases which are used for these designations count the number of physicians with medical licenses. These figures do not accurately reflect those physicians who actively practice medicine on a full-time basis and the true number of hours devoted to patient care. Thus, in areas such as Massachusetts with a significant number of academicians and researchers, the data base is grossly misleading. An additional flaw is that the information may reflect a physicians' homes address, as opposed to where he/she practices medicine, further compounding the problem of accurately defining underserved areas. Reliable data bases will require better coordination with State and county medical societies to ensure accuracy and timeliness of the information.

While Medicare has created a number of shortage designations we believe eligible counties are not being recognized given the faulty data base. When the Medicare Modernization Act created new categories for physicians' shortages, compared to the

number of Medicare beneficiaries, we were stunned that several counties in Massachusetts did not qualify. One area was on the Cape, where the percentage of Medicare beneficiaries to physicians is very high and waiting times to see a physician were becoming legendary. In our experience, the national data base was seriously outdated and based on the licensed, as opposed to practicing physicians, in the area. It was only after several attempts and a great deal of grassroots work by the Massachusetts Department of Public Health and the local hospital—literally calling physicians to determine how many hours they practiced and where their office was located—did the region qualify for national shortage dollars. Our experience suggested this problem was not unique.

3. New Approach To Defining Shortage Areas

Given the growing shortages of primary care physicians across the board, we would encourage a creative look at the definitions of shortage areas. Historic definitions have not kept pace with the increasing shortages in primary care physicians nationally. This being said, it is not our intent to disrupt or divert funding from those areas and programs which are historically considered health professional shortages. These localities must continue to receive additional funds to address acute problems. However, we do believe Congress should develop additional funding programs to help those areas which are also experiencing significant problems but have not qualified under historic definitions. While the concept of new dollars may seem irresponsible against soaring budget deficits, we would encourage you to consider the cost savings that will accrue from primary care.

4. Medical Student Debt Relief And Other Financial Incentives For Medical Students Who Pursue Primary Care

Given the significant burden of medical school debt, we recommend funding a demonstration project for a new type of grant program to forgive federally funded medical student loans. Eligible physicians who commit to practicing primary care in the demonstration grant States would have a portion of their Federal loan forgiven. In order to encourage primary care physicians to practice in community health centers, consider forgiving a greater percentage or all of the debt for those who commit to practicing in a community health center.

The model differs from the current National Health Service Corps program in several respects. The demonstration project program would allocate funds to post-medical school pre-residency physicians who have chosen to practice primary care in the demonstration grant State for a determined period of time. The NHSC focuses on medical students who, at times, have changed their preference for primary care during medical school. According to testimony presented at the State by the University of Massachusetts, "national data have consistently indicated that most physicians will establish their practice within 50 miles of where they complete their residency regardless of where they attended medical school. Furthermore, residents are nearer to the completion of their training, and so investments in individual residents will yield measurable results, in terms of the numbers of practicing primary care physicians much sooner than investments in incoming first year medical schools." In addition, this program would not be tied to current definitions of underserved areas. As noted previously, the current Federal definitions of shortage designation are extremely narrow thus preventing otherwise qualified counties from participating. The Medical Society is pursing a similar strategy at the State level suggesting that a Federal-State partnership for the grants might be advisable.

5. Overall Payment Reform

There is no question that ultimately Congress will need to address comprehensive payment reform for all physicians and health care providers. While not under the jurisdiction of this hearing, it is important to underscore that we believe the above recommendations will address temporarily acute problem areas in primary care. At a minimum, reform for primary care physicians should focus on increased value for cognitive and preventive services, comprehensive longitudinal management of patients and proposals to incent quality and the medical home. While it would be impossible here to detail all the provisions necessary for such a systemic change, one thing is clear—without a sound financial model that incents quality care and a robust physician workforce, our efforts to improve access to health care and to reduce costs, will fail.

On behalf of the Massachusetts Medical Society, I want to thank you for holding this hearing on an extremely important issue. We look forward to working closely with you on this and other health care issues facing our Nation.

Senator SANDERS. Thank you very much, Dr. Auerbach.

Beth Landon is an M.H.A., M.B.A., Director of the Alaska Center for Rural Health, University of Alaska in Anchorage. Thank you very much for being with us.

STATEMENT OF BETH LANDON, M.H.A., M.B.A., DIRECTOR, ALASKA CENTER FOR RURAL HEALTH, UNIVERSITY OF ALASKA, ANCHORAGE, AK

Ms. LANDON. Thank you, Senator Sanders.

Rural America faces a growing crisis. In Alaska, since this committee's field hearing, we have learned that at least 15 percent of our primary care positions are vacant, often for up to 3 years. Projections indicate this will only get worse.

On behalf of the Alaska Center for Rural Health, the National Rural Health Association, national AHEC organization, and others, I ask Congress to work with us in developing our future health workforce. Addressing the projected health workforce shortages requires a multifaceted approach through sustained and collaborative efforts. It is good for the economy. It is good for the community.

It starts with recruitment of young people into the health professions, beginning as young as elementary school. It continues through clinical education and then programs to retain our health professionals. What I have just described for you is what area health education centers do every day and do well.

In Alaska, I have seen how our very new, 2-year-old program is already successful. Youth are choosing careers in healthcare, and clinical students are selecting employment in our frontier communities.

Senator Sanders, Senator Murkowski, other distinguished members of this committee, I thank you for your continued commitment to the health workforce needs of rural America and efforts to address this crisis.

[The prepared statement of Ms. Landon follows:]

PREPARED STATEMENT OF BETH LANDON, M.H.A., M.B.A.

SUMMARY

Rural America faces a looming health professions workforce crisis. Already in my State of Alaska, rural primary care positions have vacancy rates of almost 15 percent. Surveys show that many of these vacancies last up to 3 years. The crisis is only going to get worse as the baby boomer generation gets older and a large percentage of current health professionals begin to retire. Rural America cannot wait; we must begin to train the future health care workforce today.

We know how this can be accomplished. Studies show that students from rural areas and/or those who were exposed to rural practice while in school are more likely to pick sub-specialties in communities that are in the most need. Programs such as Area Health Education Centers and other programs within the title VII and VIII lines are essential in providing rural students the skills they need to go to medical school. Other programs such as the National Health Service Corps have been and should continue to be used to help pay for the education of these students that are considering practicing in underserved communities. Finally, graduate medical education should be reoriented so that more students are exposed to rural training and residency programs.

We can and must meet the needs of rural America by providing a health workforce of tomorrow that is stronger, more diverse and better geographically dispersed. We need Congress to act to remove some of the many barriers to the realization of this goal.

On behalf of the National Rural Health Association (NRHA) and as the director of the Alaska Center for Rural Health, Alaska's Area Health Education Center (AHEC) in Anchorage, AK, thank you for this opportunity to testify before the committee on the looming health workforce crisis unfolding in rural America. The NRHA is a national, non-profit membership organization whose mission is to improve the health of rural Americans. The NRHA provides leadership on rural health issues through advocacy, communications, education and research.

Although my comments will specifically address the looming shortages in my home State of Alaska, interactions with my colleagues across the country and the data included in my testimony make clear that similar trends are occurring throughout our Nation. In short, while over 62 million Americans call rural home (slightly over 20 percent of the Nation's population), less than 10 percent of the Nation's physicians practice there. Other health professions have similar, if not higher disparities. Studies show that rural areas consistently had the largest gap between predicted need for nurses and numbers employed. This will grow worse, the Bureau of Labor Statistics estimates, within 15 years there will be over a million nurse openings, most will be in rural areas. Frontier States, those with the most rural of populations like my own, are in even worse shape. Taken together, rural Americans cannot continue to expect access to health care without a concerted effort of all stake holders to address workforce shortages.

As will be clear throughout my testimony, the Federal Government is not the only stakeholder addressing this situation. However, the Federal Government is a very important one. Without the efforts of a number of government agencies and programs, States like my own cannot expect to continue to provide basic levels of health care for our citizens, leaving our economic future to the hopes of miracle cures or a post-illness society. Our concern is primarily that without a large Federal investment in our future, we cannot assume that our children will have access to health care in rural America.

INTRODUCTION—THE HEALTH WORKFORCE CRISIS

This committee is well acquainted with the health workforce crisis and the unique challenges of rural Alaska due to the field hearing that you held in Alaska in 2007. I would like to thank Chairman Kennedy, Ranking Member Enzi and Senator Murkowski for this commitment to our State and to the workforce challenges throughout the Nation. As was made clear during that hearing, the health workforce crisis faced by Alaska and the rest of rural America is growing and acute. Twenty percent of the U.S. population lives in rural America, yet only 9 percent of the Nation's physicians are practicing in these areas. This is not a new problem, shortage of physicians, in rural areas of the country, represents one of the most intractable health policy problems in the past century. As a result of these deficiencies, rural patients are often denied both access to care and high quality care. All told, over 50 million Americans, many of them rural, live in areas that have a shortage of physicians to meet their basic needs.

This will only get worse. Experts predict that by 2030, when over a fifth of our Nation's population is over 65 years of age and needing increasing levels of care, the Nation will have shortages of at least 100,000 physicians and perhaps as many as 200,000. With demands for health care increasing rapidly, our Nation is producing the same number of medical school graduates as we did 25 years ago. Yet, we are slated to see a huge number of retirements in the coming years. A third of the Nation's active physicians are older than 55 and likely to begin retiring in the next few years. In fact, by 2020, physicians are expected to hang up their stethoscopes at a rate nearly 2½ times the retirement rate of today.

It is no wonder then that States like my own are beginning to show major cracks. Last year, my center, the Alaska Center for Rural Health—Alaska's AHEC, conducted a statewide survey of workforce vacancies across the State. We found that in all types of health providing agencies—hospitals, private and non-profit clinics, dental offices, physician offices, imaging centers, mental health centers, school districts and across 119 different health occupations, that 1 out of 10 positions were unfilled. For key primary care occupations, vacancy rates were much higher. Over 15 percent for family physicians, 20 percent for general internists, nearly 25 percent for pharmacists and around 19 percent for family nurse practitioners (FNPs) and physician assistants (PAs). All of these numbers were higher in rural and frontier areas—PAs over one-quarter of positions and for FNPs over 36 percent. Looking at our tribal health organizations, which serve an extremely vulnerable and primarily remote population, the average vacancy rate climbed to 16.5 percent, with notable spikes of 42 percent for pharmacists and over 50 percent for dentists. Further, the

survey revealed that it was not uncommon for a position to go unfilled for 3 or more years.

Similar to national trends, the "Last Frontier" State will face growing challenges in the years to come. While it may seem odd for such a frontier State to complain about a growing population, ours will cause major challenges in the years to come. Alaska has the second fastest increasing elderly population in the Nation behind only Nevada. Each of these seniors will place increasing demands on the Alaska health care system, especially the rural underserved system. This is worrisome because the study found that one of the top reasons for vacancies was population growth and an increased need/burden for health services were the reasons for causing strain for the few practicing physicians Alaska has.

In rural Alaska this is of particular concern as there is not an option of simply driving elsewhere in the State for these services. Despite an area larger than the combined sizes of California, Texas and Montana, Alaska has fewer miles of road than any other State. This means that even in the best weather conditions, over 150,000 people in 230 communities, including our State capital of Juneau, can only access services outside their area by air or water transportation. A health care workforce that is able to provide all aspects of basic care is necessary in these communities that cannot reach urban areas in a timely or cost-effective manner. Unfortunately, this is not currently the case as rural Alaska has the worst physician to population ration in the Nation. But even in the rest of the Nation, rural citizens deserve the ability to access care in their own communities. And Alaska is not unique in the challenges of weather and distance that would make such travel impractical and dangerous.

Our partners in the Washington, Wyoming, Alaska, Montana and Idaho (WWAMI) region are also facing major challenges. Since we share a medical school, this means that we are all in it together to generate enough health care providers. But none of us are. For instance, the State of Washington with the largest population in the region has entire counties with not a single physician. Ferry County, population of over 7,300 people, has a single doctor. This leaves the State's population without access to even basic care. Statewide, Washington lags behind even my own State of Alaska in the percentage of pediatricians, family practitioners, obstetric providers and surgeons to the population. Similarly the State is experiencing nurse vacancies of up to 10 percent of all positions. The workforce crisis is throughout the northwest and we must work together to deal with it.

MEETING THE CHALLENGE—GROWING OUR OWN WORKFORCE

Despite the gathering crisis, we know how we can get ourselves out of this hole—we must train our own workforce in rural and frontier America. One reason that we must train our own professionals is the value they provide to our rural communities. Health care is a vital segment of the rural economy, usually the second largest employer in the community. Quality health care in rural America not only provides for the health of the community, but creates jobs, infuses capital into the local economy, attracts businesses and encourages families and seniors to maintain residency within the community. The health folks call this "ensuring access to culturally competent care" and the business folks call it "economic development."

Health professionals who live, train and work in rural areas feel appreciated by the communities in which they serve and know that they are making a difference in people's lives. The difficulty is in getting health professionals to give rural areas a try. Studies have consistently shown that providers who are most willing to practice in rural and underserved areas come from those same areas. In addition, evidence shows that rural residency rotations, brief perceptorships in rural areas, and graduation from residency programs that emphasize rural, underserved health care have the most promise in preparing physicians for rural practice and in lengthening the time that they serve in rural communities.

We acknowledge that as rural communities we have a role in this. In Alaska, we have reviewed the literature and found that in addition to training our own health professions, we must commit ourselves to making our communities more attractive to other health professionals. This simply has to do with numbers. Our State recently expanded from 10 to 20 medical slots a year at a jointly sponsored WWAMI Medical School and another 12 residency spots; compared to the nearly 100 physicians we would need to train annually just to keep pace with our current insufficient supply of health professionals. Some key recruitment strategies we employ include considering the needs of the entire family, being willing as a community to open up and accept health professionals that have "outsider" status and finding creative ways to provide clinical, professional and financial support. Once the right person is found, there needs to be continual work to retain that person through commu-

nity inclusion and support. Otherwise, the high costs of recruitment and training will be spent again with turnover.

Finally, nationwide, there is a body of evidence that family practice and osteopathic physicians, which constitute a majority of rural primary care physicians, are more likely to distribute themselves in proportion to the population compared to specialists as long as payment methodology is fair for rural and underserved areas. Unfortunately, payment methodology is not fair and medical school students are growing more unlikely to choose general practice compared with subspecialties. While there are a variety of theories for these choices, including following the higher pay, less emphasis on primary care during school, and lack of perceived prestige, it is unclear to what extent each of these play in the individual choices of medical students. What is needed is for Congress to place a priority in public policy to encourage medical students to make the choice to serve their communities and country by serving rural and underserved areas.

PUBLIC POLICY PRIORITY ONE: TITLE VII AND VIII REAUTHORIZATION AND EXPANSION

As stated, the workforce shortages faced by my State and the Nation are the direct result of the individual choices made by medical students. However, policymakers and educators cannot simply walk away and say that it is an individual's choice. Too many factors play a major role in whether a rural student even has the option to serve their community as a health professional. By the time a student enters medical school, they must have years of math and science training. Many rural schools are economically disadvantaged when it comes recruiting these teachers making it difficult for even an eager student to take the classes required for admission to advance programs. Further, many students that may want to become health professionals do not have the mentorship of people from their community to explain the necessity of math and science. Rural communities therefore at an early age often have a large gap between the desire to serve their community and the ability to do so.

At the Federal level, a group of 40 programs have been developed to help fill this niche. They are known collectively as the Title VII and Title VIII Health Professions and Nursing Education Training Programs. These programs each focus on different facets of the challenge of training health professionals who will serve rural and underserved communities, and minority populations. Like many collective groups of programs, there are some issues of overlap and missing links, but as a whole, the title VII and VIII programs provide support to students, programs, departments and institutions to improve racial and ethnic diversity, accessibility especially to rural areas and the quality of the health care workforce.

While each of the 40 programs deserve your full attention, I would like to focus my remarks on the Area Health Education Centers (AHECs) that I know best. **AHECs are the workforce development, training and education machine for the Nation's health care safety-net programs.** In my own experience, I have seen firsthand how our new program, just over 2 years old, is already making a difference in Alaska. We are successfully encouraging youth to pursue careers in health care, and health professions students who participate in our frontier clinical rotations are selecting employment in those communities. Nationwide, AHECs develop and support the community-based training of health professions students, particularly in rural and underserved areas. They recruit a diverse and broad range of students into health careers, and provide continuing education, and other learning resources that improve the quality of community-based healthcare for underserved populations and areas.

The Area Health Education Center program is effective and provides vital services and national infrastructure. Nationwide, in 2006, AHECs introduced over 308,000 students to health career opportunities, and over 41,000 mostly minority and disadvantaged high school students received more than 20 hours each of health career programs and academic enhancement. AHECs support health professional training in over 19,000 community-based practice settings, and over 111,000 health professional students received training at these sites. Further, over 368,000 health professionals received continuing education through AHECs.

Together with the other title VII and VIII programs, AHECs have proven their effectiveness. Congress, together with this Administration, has shown a commitment to the Community Health Center program to provide safety-net care. This has been a noble approach which the NRHA supports to provide resources to provide care for our Nation's most vulnerable populations. But while these resources have facilitated an expansion in CHC facilities, there is a huge shortage of professionals to actually work in them. In fact, it has been shown that CHCs have over 400 physician shortages today for the current health center, not to mention further expansion or retire-

ments in the years to come. In the past, these professionals would have been trained in title VII and VIII programs. Today, over 60 percent of CHC physicians were exposed to title VII funding during their time in medical school. Likewise, over 57 percent of National Health Service Corp physicians (detailed in the next section of this testimony) were exposed to this funding during school. Where will our Nation's safety net physicians come from if Congress continues recent trends of underfunding and defunding title VII and VIII programs?

One more word is needed on the effectiveness of the title VII and VIII programs. The Bush administration, using their Program Assessment Rating Tool (PART), has labeled these collective programs as ineffective. This is both deceptive and unfair. While each of the 40 individual programs has their own program goals and objectives, they were lumped together for a single evaluation. Programs like AHECs were not considered on their own merits. In fact, the PART assessment even singled out AHECs as a program that may be working if they had their own assessment. Second, the long-term measures that the programs were asked to meet were blatantly unfair. The PART measure selected was the "proportion of persons who have a specific source of reliable, continuing healthcare." This measure is impacted by a myriad of factors including insurance coverage, income, geographic location and a host of other factors. Surely, Congress does not expect training programs to be able to cover all of these separate policy considerations. Compare this, as the Administration did, with the National Health Service Corp measures that evaluate the number of patients served by NHSC physicians and the placement and retention into underserved areas. These are factors that the NHSC has control over. Title VII and VIII programs also deserve to have measures relevant to the program goals, so that our proven effectiveness is demonstrated to the Administration and Congress.

Recommendations: Reauthorize and expand Title VII and VIII Training Programs including Area Health Education Centers that have been proven to be highly effective in training health professionals who will practice in rural and underserved areas. This reauthorization should be for at least 5 years. Further, these programs have been underfunded and cut since at least fiscal year 2005. Congress must appropriate adequate funding levels for these programs to continue success in training the future rural health workforce. Finally, the PART assessment of these programs should look at each program individually in a way that will actually measure the mission and goals of the individual program.

PUBLIC POLICY PRIORITY TWO: REAUTHORIZATION OF THE NHSC

For more than 35 years, the National Health Service Corps (NHSC) has been recruiting health professionals to serve in communities where needs are greatest. We thank this committee in acknowledging this important program this past fall and urge that the reauthorization is quickly taken up by the full Senate. The communities served by the program include both rural areas, where the nearest clinic may be miles away, and in inner-city neighborhoods, where economic and cultural barriers prevent people from seeking and receiving the health care they deserve. To qualify for a NHSC physician or other health professional, the community must be located in a primary care health professional shortage area (HPSA). Currently, 4,000 NHSC clinicians provide care to nearly 6 million people nationwide. Tragically, this leaves some 50 million Americans residing in a primary care HPSA without access to the care they need. While the NHSC has been essential in making sure that some of these communities are and will continue to be served in the years to come, more help is needed.

The program was originally created as a scholarship program for those in medical school. For a year of scholarship support, a NHSC scholar agreed to dedicate a year working in an underserved area. The experience with this has been that many of the scholars go on to serve underserved communities their entire careers. More recently, more emphasis has been placed in a loan repayment program. This has been effective in introducing medical school graduates to underserved communities and allowed more participation at a lower cost to the Federal Government. However, our experience with the two programs shows us that the scholarship program is more likely to generate longer terms of service due to an upfront commitment than the loan repayment programs.

But no matter which portion of the program a student takes advantage of, rural communities need this program to be reauthorized, expanded and slightly modified. Currently, over 80 percent of NHSC applicants are turned down in a given year. The current appropriations of approximately $130 million is not enough. Senator Murkowski introduced a bill last year that would have expanded authorization to $400 million annually. The NRHA strongly endorses these efforts.

In terms of modifications, the rural experience with primary health care shows that not all primary care disciplines are included in the NHSC program. For instance, pharmacists and optometrists are often front line workers on primary care issues in our communities. In Alaska, pharmacy services are often mentioned in our survey as one of the most difficult provider types to recruit with a quarter of all positions vacant. The list of primary care providers should be expanded. Second, the most rural of communities, frontier, are often at a disadvantage in acquiring and keeping a HPSA score that would allow them to recruit NHSC providers. This has to do with the population size being served factored into the equation. Due to the lack of population in rural and frontier communities, our scores often lag behind urban areas. Further, in communities that are able to acquire a single NHSC provider, they often lose their HPSA designation since the number of providers now exceeds the number that would make sense in an urban area. This means many frontier communities can only have one provider to be a HPSA, leaving that person with no coverage if they take a week off. This can be disastrous if that provider leaves the community as they are unable to immediately recruit a provider that will receive loan assistance. Frontier communities must have automatic HPSAs that protect them from these formulaic mistakes.

In addition, when the Senate considers reauthorization of the NHSC and other programs like Community Health Centers, the 330A Outreach and Network grant programs should be included. These grant programs have a track record of improving quality and access to care in rural communities by allowing communities to tackle unique health challenges in their own community. These grants have been used for a variety of health challenges, including health information technology networks, diabetes prevention, school-based health care and workforce challenges. Despite the variety of uses for the program, a quarter of the grants are used annually on workforce projects. This is clearly relevant to the work of this committee. These programs should be reauthorized as they have been very effective as 85 percent of the recipients continue the project after grant funding has run out.

Recommendations: The NHSC is an essential program in providing health professionals to underserved communities. It needs to be expanded, fully funded and slightly modified to allow a more appropriate list of primary care providers and communities that are in most need of the program to participate despite flaws in formula. In addition, 330A Grant Programs (Outreach and Network Grants) should be reauthorized.

OTHER PRIORITIES: RURAL GRADUATE MEDICAL EDUCATION

This next two topics may be outside the scope of both this hearing and this committee's jurisdiction, so I will be brief, but no workforce discussion is complete without at least mentioning the problems with our graduate medical education and reimbursement structures in this country. First, medical education in the United States has become specialized, centralized and urban, embracing uniform standards of patient care, education and research. While this has led to a higher quality of care than in the old apprentice style system, it has led to a sharp decrease in the availability of health care in some parts of the country. As has been outlined previously, rural students are more likely to practice in rural communities. In fact, studies show that over half of medical students will practice within 100 miles of their medical school, and usually in a similar practice environment to where they trained. Public policy necessitates that medical schools do training in rural communities and recruit from across their States to make sure they have a diverse workforce that serves all communities. However, urban medical schools often favor continuing high quality research and cutting edge procedures at the expense of training a workforce for their State that will practice throughout their State.

Alaska is largely impacted by this trend. We have no medical school in the State. We have recently increased to 20 slots annually through a joint project with WWAMI Medical School that enables Alaskans to study three out of the four medical school years in Alaska. In addition, we have 12 residency slots a year in the Anchorage area. Thankfully this has been extraordinarily successful as 75 percent of the graduates of the Alaska Family Residency Program have remained in Alaska, with the vast majority working in underserved communities or with underserved populations. Unfortunately, the program is too small to meet the growing needs of rural Alaska. And our State is not alone.

Policies must change to encourage medical schools to train more health professionals who will practice in rural communities. At the Federal level, you have two levers that you can easily pull to help make this change a reality. First, Congress has already placed in statute a waiver to Graduate Medical Education (GME) payment caps to those programs that included integrated rural training tracks (IRTT).

Unfortunately, since Congress never defined IRTT, CMS has not implemented this waiver. Congress needs to go back and define what they meant by IRTT so students that are exposed to rural practice and are trained in primary care, obstetrics, pediatrics, emergency medicine and community health are not held to the same cap as Congress implemented for specialty training. Second, Congress should take advantage of the relatively small number of medical schools in this country that operate rural residencies to streamline reporting and payment so that rural residencies get the money directly from Medicare. This would increase efficiency and accountability and make it more likely that rural sites could and would participate in residency training programs.

To compound the difficulty in training a rural health workforce, the cost of going to medical school continues to rise. Even in public medical schools, the cost has risen 900 percent in the last 25 years. Rural students and those that will go into rural medicine cannot afford these levels of debt as they will get paid less than subspecialists and those that choose to practice in urban settings. Congress should continue to examine ways to reduce this debt burden either through the previously mentioned NHSC program, more GME payments to reduce tuition or other tax incentives. These should be predicated on a commitment to practicing in rural, underserved areas.

Recommendations: Graduate medical education in this country has become specialized, centralized and urban. Congress should work to make sure that medical education continues to train rural practitioners by defining IRTT and encouraging more rural residency programs. Finally, the debt level of medical school graduates is out of control and needs to be reigned in for students that choose to practice in underserved areas.

OTHER PRIORITIES: FAIR REIMBURSEMENT STRUCTURE

Finally, without fair payment for rural health professionals, many will choose to either reduce or eliminate the number of Medicare patients they see, relocate their practices to areas of the country where they are paid better, retire earlier than they intended, or a combination of all three. These inequalities must be addressed.

While payment structures are complicated and diverse, there is one element of the Sustainable Growth Rate for physicians that further complicates the ability to recruit and retain rural physicians—the Work Geographic Practice Cost Index. There are a number of indices that factor in different costs of operating a practice in different areas including the extra costs of rent in urban areas. But the index that adjusts for work costs is both imprecise and unfair. Physicians have the choice of practicing all across this Nation. Pay must be comparable in a rural community for them to even consider these facilities. It is the same work. It should be paid the same. It is unfair and bad public policy to pay better served communities more. Due to these unfair payment structures, in Alaska, Medicare payments only reflect about 40 percent of serving a Medicare patient. This is both not sustainable, nor is it fair for our rural communities.

We would have a better understanding of how these decisions have impacted rural America if the Medicare Payment Advisory Commission (MedPAC) had proportional rural representation. Current law states that the Commission must be "balanced" between urban and rural commissioners, yet only 2 of the 17 commissioners have rural credentials. With one rural commissioner departing this spring, we face having only one rural commissioner on MedPAC when 27 percent of the Medicare population resides in rural America.

In addition to Medicare, rural communities disproportionately rely on the Medicaid and State Children's Health Insurance Programs. While the stereotype of those covered by these public programs may be the urban poor, 32 percent of rural kids were on one of these public programs, compared with only 26 percent of those in urban America. Any Federal changes to Medicaid and SCHIP need to take this into consideration, so that rural providers continue to accept these payment rates to take care of our most vulnerable kids.

Recommendations: Enact legislation that fixes the Medicare physician payment system so that it realistically reflects physician practice costs and does not unfairly pay less to those providers that serve these communities that need their help the most. Second, ensure proportional representation on MedPAC. Finally, protect payments to Medicaid and SCHIP that cover rural children.

CONCLUSION

Over the next 20 years, this Nation's health professions workforce shortage will reach the crisis proportions being experienced today in rural, frontier, and other underserved areas. My State of Alaska is already in the midst of it. We know from

experience that this will force us to try new things—we have already heavily invested in health information technology both as a means of training our health professionals and to monitor patients from a distance. But this will not solve all of our problems.

We must have culturally competent health professionals in our communities. We must have more providers in our CHCs so that the most vulnerable population is served. We want to make sure that our grandparents are able to receive the care they deserve in the community that they have spent their lives. We also want to make sure that our children are able to receive the checkups early in life that they need to be productive citizens. But this will not happen if we do not begin training the future rural health workforce today.

In rural and frontier States all across this Nation, including my own of Alaska, we are willing and able to begin to make the changes necessary to train and recruit this workforce. But a number of barriers are in our way. Congress must act appropriately and eliminate the barriers at a Federal level, and invest in our future. Without these efforts and funding for title VII and VIII programs, the National Health Services Corp, graduate medical education and a fair reimbursement structure, we will not be able to train the professionals we know we need. We look forward to working with you to make sure that the predicted crisis does not come to pass.

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National Rural Health Association, Issue Paper, "Recruitment and Retention of a Quality Health Workforce in Rural Areas," March 2005.

National Rural Health Association, Policy Brief, "Health Professions: Title VII of the Public Health Service Act Reauthorization," January 2004.

United States Senate, Health, Education, Labor and Pensions Committee Field Hearing, February 20, 2007 in Alaska.

Senator SANDERS. Thank you very much.

Jennifer Laurent is an M.S., FNP–BC, President of the Vermont Nurse Practitioner Association. She is a family nurse practitioner in Cambridge, VT. Thanks for being with us.

Turn the mike on and hold it close to your mouth.

STATEMENT OF JENNIFER LAURENT, M.S., FNP–BC, PRESIDENT, VERMONT NURSE PRACTITIONER ASSOCIATION, FAMILY NURSE PRACTITIONER, CAMBRIDGE, VT

Ms. LAURENT. Closer, there we go. Thank you, Senator Sanders, committee members, for asking me, inviting me to be here.

As Senator Sanders said, I am a nurse practitioner, and I consider myself on the front lines of primary care, where I work seeing patients. I would like to acknowledge the importance that nurse practitioners play in answering a lot of the primary care shortage. Sixty-three percent of nurse practitioners are in a primary care setting, and there is room for many more nurse practitioners to be added to the primary care workforce, except for barriers such as title VIII cuts that are anticipated.

My recommendation is that it is vital that we have that title VIII funding and increase that funding. There are three reasons for

that. One is, we all know that there is a nursing shortage. As there is a nursing shortage, there is going to be a nurse practitioner shortage, which means that we are going to really have a crunch in many ways. We are not going to have access to primary care, and there is also not going to be enough nurses out there.

The title VIII funding, especially in Vermont, is vital to answering the primary care crisis. From my standpoint, we are in a crisis. There are several people who call my practice on a regular basis, almost daily, that are turned away because they are two counties away from us, and they can't get primary care in their counties. They are looking for primary care in my county. We are a very small, rural practice, and that is pretty consistent with most of Vermont, except for Burlington.

That would be one recommendation that I would have. The other one is, and it is actually not in my testimony, but it is a bill that I came across. It is Senate bill 2112, looking at nurse-run managed health centers and funding to add to current nurse managed health centers to allow them to continue to serve the underserved. These people are serving the majority of people who don't have insurance and are self-pay.

Those are two recommendations that I have. In closing, I would just like to say that there are actually nurse practitioners out there who would like to be primary care providers, but cannot find a job even given the primary care shortage.

Thank you.

[The prepared statement of Ms. Laurent follows:]

PREPARED STATEMENT OF JENNIFER S. LAURENT, M.S., FNP–BC

SUMMARY

Thank you for inviting me to participate in this hearing on healthcare workforce issues, its impact on access to primary care services for the United States, and the role of the nurse practitioner in meeting this need.

Nurse practitioners are primary care and specialty clinicians who practice in ambulatory, acute and long-term care settings. According to their practice specialty they provide nursing and medical services to individuals, families and groups. In addition to diagnosis and management of acute episodic and chronic illness, NPs emphasize health promotion and disease prevention. Services include but are not limited to ordering and interpreting diagnostic tests, prescribing therapeutic medications and non-medication therapies. Teaching and counseling are a major part of nurse practitioner care.

Nurse practitioners *currently* practice autonomously and collaboratively with other health care professionals, under their own license and with their own provider number. They serve as healthcare researchers, interdisciplinary consultants and patient advocates.

Research indicates that when nurse practitioners (NPs) practice within their areas of expertise, there are no important differences between NPs and primary care physicians regarding quality of care, number of visits per patient, use of the emergency room, and prescribing practices. Furthermore it is well-documented in the literature through randomized clinical trials and meta-analyses that there is no major difference in patient outcomes and some research indicates higher patient satisfaction with NP over physician (M.D.) care.

Outcome studies consistently demonstrate increased satisfaction, comparable outcomes to physician-provided care, and both direct and indirect cost savings. National databases demonstrate patient safety with NP directed and managed care in all States including those currently practicing autonomously.

In my home State of Vermont, available and accessible primary care services are inadequate. Eight of Vermont's 14 counties fall below Federal standards for the ratio of primary care physicians to area residents. Nineteen percent of family physicians and 27 percent of internists are not accepting new patients. In Washington County this percentage rises to 54 percent. As fewer medical students seek primary

care residencies and the population of the elderly grows disproportionately, accessible healthcare services will decline. Vermont NPs are a stable workforce, providing care for a primarily rural population.

The obvious need for accessible quality healthcare, healthcare cost control, and provisions for health promotion presents an optimal opportunity for nurse practitioners meet the critical demand. The following recommendations are made:

1. Reauthorization and increased funding of title VIII to encourage an increase in the number of faculty that will be required to support the demand for nurse practitioners in primary care. This is the only Federal funding source for these programs since they have no access to graduate medical (GME) funds.
2. Support S. 1795 to improve access to workers' compensation programs for injured Federal employees by adding nurse practitioners to the list of providers authorized to provide services under this statute.
3. Federal support at State levels to increase access and reimbursement to nurse practitioner services for all individuals.

I welcome the opportunity to provide further information should you have questions. Please do not hesitate to contact me if the need arises.

(*Jennifer S. Laurent, M.S., FNP–C, 281 Shelburne Street, Burlington, Vermont 05401, jenniferslaurent@yahoo.com* (802) 644–5114.)

Thank you for inviting me to participate in this hearing on healthcare workforce issues, its impact on access to primary care services for the United States, and the role of nurse practitioner in meeting this need.

Nurse practitioners are playing a critical role in meeting the workforce needs of the Nation's primary care healthcare providers. My comments are organized into the following areas:

1. The Professional Role of Nurse Practitioners
2. Quality of Nurse Practitioner Care
3. Nurse Practitioner Care and Patient Safety
4. Nurse Practitioner Cost Effectiveness
5. Barriers to Accessing Primary Care Services: An Example from the Rural State of Vermont
6. Recommendations

PROFESSIONAL ROLE

Nurse practitioners are primary care and specialty clinicians who practice in ambulatory, acute and long-term care settings. According to their practice specialty they provide nursing and medical services to individuals, families and groups. In addition to diagnosis and management of acute episodic and chronic illness, NPs emphasize health promotion and disease prevention. Services include but are not limited to ordering and interpreting diagnostic tests, prescribing therapeutic medications and non-medication therapies. Teaching and counseling are a major part of nurse practitioner care.

Nurse practitioners *currently* practice autonomously and collaboratively with other health care professionals, under their own license and with their own provider number. They serve as healthcare researchers, interdisciplinary consultants and patient advocates.

QUALITY OF NURSE PRACTITIONER CARE

Research indicates that when nurse practitioners (NPs) practice within their areas of expertise, there are no important differences between NPs and primary care physicians regarding quality of care, number of visits per patient, use of the emergency room, and prescribing practices.[1] Furthermore it is well documented in the literature through randomized clinical trials and meta-analyses that there is no major difference in patient outcomes and some research indicates higher patient satisfaction with NP over physician (M.D.) care. This is true in European studies as well.

- Studies show that NPs rate high in consumer satisfaction.[2 3 4]

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[1] Phillips, R.L., Jr., Harper, D.C., Wakefield, M., Green, L.A., & Fryer, G.E., Jr. (2002). Can Nurse Practitioners And Physicians Beat Parochialism Into Plowshares? *Health Aff*, 21(5), 133–142.

[2] Horrocks, S., Anderson, E., & Salisbury, C. (2002). Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *BMJ*, 324(6), 819–823.

• The congressional OTA reviewed studies comparing NPs and M.D.'s: NPs appear to have more effective communication, counseling, and interviewing skills than M.D.'s.[5]

• NPs score higher in areas such as depth of discussion regarding preventive health and wellness and child health care; amount of advice, therapeutic listening and support offered; completeness of history and follow-up on history findings; completeness of physical exam and interviewing skills; and patient knowledge and comprehension regarding the plan of care given to them by the NP.[6]

• 80 percent to 90 percent of adult primary care and up to 90 percent of pediatric primary care can be provided by NPs. Large randomized studies show that these services were provided as safely and effectively as when provided by M.D.'s.[7]

• In regards to measurement of diagnosis, treatment, and patient outcomes, several studies show that the quality of care provided by NPs is equal to that of physicians.[8 9 10 11]

• NPs tend to provide a more relaxed atmosphere where patients feel more comfortable to ask questions that they regard as too trivial for physicians.[12]

• A large randomized study found that NPs made appropriate referrals when further intervention was necessary.[13]

NURSE PRACTITIONER CARE AND PATIENT SAFETY

Outcome studies consistently demonstrate increased satisfaction, comparable outcomes to physician provided care, and both direct and indirect cost savings. National databases demonstrate patient safety with NP directed and managed care in all States including those currently practicing autonomously.

• The National Practitioner Data Bank (NPDB) and the Healthcare Integrity and Protection Data Bank (HIPDB), were established to protect the public from and increase awareness of potentially harmful healthcare providers. the NPDB assists in preventing incompetent practitioners from moving State to State without disclosure or discovery of previous damaging or incompetent performance. This data provides total accumulated reports of malpractice and adverse actions of healthcare providers in the United States.[14] Reports accessed from the NPDB, August 1996 through September 2005, demonstrate the safety of NP-provided care independent of autonomous practice level. Filings for physicians are far higher than 8:1, the average ratio of physicians to NPs in the United States.[15 16] Autonomous practice States demonstrate very low rates of NPDB filings nationally compared to other States with practice agreements.

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[3] Kinnersley, P., Anderson, E., Parry, K., Clement, J., Archard, L., Turton, P., et al. (2000). Randomised controlled trial of nurse practitioner versus general practitioner care for patients requesting "same day" consultations in primary care. *BMJ*, 320(7241), 1043–1048.

[4] Hooker, R.S., & McCaig, L.F. (2001). Use of physician assistants and nurse practitioners in primary care, 1995–1999. *Health Aff*, 20(4), 231–238.

[5] Congressional Budget Office (1979). Physician extenders: Their current and future role in medical care delivery. Washington, DC: U.S. Government Printing Office.

[6] Prescott, P.A. & Driscoll, L. (1980). Evaluating nurse practitioner performance. *Nurse Practitioner*, 1 (1), 28–32.

[7] Mundinger, M.O., Kane, R.L., Lenz, E.R., Totten, A.M., Tsai, W.Y., Cleary, P.D., Friedewald, W.T., Siu, A.L., & Shelanski, M.L. (2000). Primary care outcomes in patients treated by nurse practitioners or physicians: A randomized trial. *JAMA*, 283 (1), 59–68.

[8] Roblin, D.W., Becker, R., Adams, E.K., Howard, D.H., & Roberts, M.H. (2004). Patient satisfaction with primary care: Does type of practitioner matter? *Medical Care*, 42 (6).

[9] Horrocks, S., Anderson, E., Salisbury, C. (2002). Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *BMJ*, 324, 819–823.

[10] Laurant, M., Reeves, D., Hermens, R., Braspenning, J., Grol, R., & Sibbald, B. (2006). Substitution of doctors by nurses in primary care. *Cochrane Database of Systematic Reviews*. 2006, Issue 1.

[11] Lenz, E.R., Mundinger, M.O., Kane, R.L., Hopkins, S.C., & Lin, S.X. (2004). Primary care outcomes in patients treated by practitioners or physicians: Two-year follow-up. *Medical Care Research and Review* 61 (3), 332–351.

[12] Robyn, D. & Hadley, J. (1980). National health insurance and the new health occupations: Nurse practitioners and physicians. *J Health Polit Policy Law*.

[13] Spitzer, W.O., Sackett, D.L., Sibley, J.C., Roberts, R.S., Gent, M., Kergin, D.J., et al. (1990). 1965–1990: 25th anniversary of nurse practitioners: The Burlington randomized trial of the nurse practitioner *Journal of the American Academy of Nurse Practitioners*, 2(3), 93–99.

[14] National Practitioner Data Bank (2004). NPDB 2004 annual report. Retrieved March 16, 2006, from *http://www.npdbhipdb.com/pubs/stats/2004*_NPDB_Annual_Report.pdf.

[15] National Practitioner Data Bank (2006). Healthcare integrity and protection data bank. Retrieved April 15, 2006, from *http://www.npdbhipdb.com/hipdb.html*.

[16] Pearson, L. (2006). The Pearson report. *The American Journal for Nurse Practitioners 10*(1), 1–163.

• The HIPDB reports total number(s) of accumulated adverse action reports, civil judgments, and criminal conviction reports for NPs, physicians, and Doctors of Osteopathic Medicine in the United States. This includes licensure actions and any other adverse actions, findings, or adjudicated actions.[17] Reported filings of NP misconduct are extremely low and consistent with the NPDB reports for all States.

• In 1990, the Canadian Burlington Randomized Trial demonstrated NPs safely and effectively manage 67 percent of their patient visits without physician consultation, the remaining 33 percent of patients were referred appropriately to other providers for care.[18]

NURSE PRACTITIONER COST EFFECTIVENESS

NPs are a proven response to the evolving trend towards wellness and preventative health care driven by consumer demand. For over four decades, NPs have been proven to be cost-effective providers of high-quality care.

Over 25 years ago, the Office of Technology Assessment [19] conducted an extensive case analysis of NP practice and reported that NPs provided equivalent or improved medical care at a lower total cost than physicians. The authors determined that NPs could manage up to 80 percent of adult primary care and 90 percent of pediatric primary care needs at that time. NPs in a physician-practice were found to have the potential to decrease the cost per patient visit by as much as one-third, particularly when seeing patients in an independent, rather than complementary manner. Since that time, continued reports have supported ongoing cost-effectiveness of NP practice. When OTA later re-examined the role of NP practice, the positive analysis was confirmed.[20]

• In 1981, the OTA reported that the hourly cost of an NP was one-third to one-half the cost of a physician. The median total compensation for primary care physicians in 2004 ranged from $130,000 to $208,700, depending on type and size of practice.[21] The median 2004 salary for NPs across all specialties who practiced full-time was $71,000, with a mean of $73,630.[22] NP preparation currently costs 20–25 percent that of physician preparation.[23] When productivity measures, salaries, and costs of education are considered, NPs are cost-effective providers of health services.

• A recent study of 26 capitated primary care practices with approximately two million visits by 206 providers determined that the practitioner labor costs per visit and total labor costs per visit were lower in practices where NPs and physician assistants (PA) were used to a greater extent.[24]

• A cost analysis comparing the cost of providing services at an NP managed center for homeless clients with other community alternatives showed earlier and less costly interventions by the NP-managed center.[25] NPs delivering care in Tennessee's State-managed MCO, TennCare, delivered health care at 23 percent below the average cost of other primary care providers with a 21 percent reduction in hospital inpatient rates and 24 percent lower lab utilization rates compared to physicians.[26] Jenkins & Torrisi performed a 1-year study comparing a family practice physician-managed practice with an NP-managed practice within the same managed care organization.[27] The NP managed practice had 43 percent of the total emergency de-

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[17] National Practitioner Data Bank (2006). Healthcare integrity and protection data bank. Retrieved April 15, 2006, from *http://www.npdbhipdb.com/hipdb.html*.

[18] Spitzer, W.O., Sackett, D.L., Sibley, J.C., Roberts, R.S., Gent, M., Kergin, D.J., et al. (1990). 1965–1990: 25th anniversary of nurse practitioners: The Burlington randomized trial of the nurse practitioner. *Journal of the American Academy of Nurse Practitioners*, 2(3), 93–99.

[19] Office of Technology Assessment (1981). The Cost and Effectiveness of Nurse Practitioners. Washington, DC: U.S. Government Printing Office.

[20] Office of Technology Assessment (1986). Nurse Practitioners, Physician Assistants, and Certified Nurse Midwives: A policy analysis. Washington, D.C.: U.S. Government Printing Office.

[21] Lowes, R. (2005). Exclusive survey: The earnings freeze—now it's everybody's problem. *Medical Economics*, Sept 16, 2005.

[22] AANP (2004). 2004 national NP sample survey, Part III: NP income and benefits. *JAANP*, 18 (1), 2–5.

[23] AACN (2000). Nurse Practitioners: The growing solution in health care delivery. Accessed online at: *http://www.aacn.nche.edu/Media/FactSheets/npfact.htm*.

[24] Roblin, D.W., Howard, D.H., Becker, E.R., Adams, E., & Roberts, M.H. (2004). Use of midlevel practitioners to achieve labor cost savings in the primary care practice of an MCO. *Health Services Research*, 39 (3), 607–26.

[25] Hunter, J., Ventura, M., & Kearns, P. (1999). Cost analysis of a nursing center for the homeless. *Nursing Economics*, 17 (1), 20–8.

[26] Spitzer, R. (1997). The Vanderbilt experience. *Nursing Management*, 28 (3), 38–40.

[27] Jenkins, M. & Torrisi, D. (1995). NPs, community nursing centers and contracting for managed care. *Journal of the American Academy of Nurse Practitioners*, 7 (3), 119–23.

partment visits, 38 percent of the inpatient days, and a total annualized per member monthly cost that was 50 percent that of the physician practice.

A study conducted in a large HMO setting found that adding an NP to the practice could virtually double the typical panel of patients seen by a physician. The projected increase in revenue was $1.28 per member per month, or approximately $1.65 million per 100,000 enrollees per year.[28]

• Chenowith *et al.* analyzed the health care costs associated with an innovative on-site NP practice for over 4,000 employees and their dependents.[29] Compared with claims from earlier years, the NP care resulted in significant savings of $.8 to $1.5 million, with a benefit-to-cost ratio of up to 15 to 1. Paez and Allen compared NP and physician management of hypercholesterolemia following revascularization. Patients in the NP-managed group were more likely to achieve their goals and comply with prescribed regimen, with decreased drug costs.[30]

When comparing the cost of physician-only teams with the cost of a physician-NP team in a long-term care facility, the physician-NP team's cost were 42 percent lower for the intermediate and skilled care residents and 26 percent lower for those with long-term stays. The physician-NP teams also had significantly lower rates of emergency department transfers, shorter hospital lengths of stays, and fewer specialty visits.[31]

A collaborative NP/physician team was associated with decreased length of stay and costs and higher hospital profit, with similar readmission and mortality rates.[32] [33] Larkin cites a number of studies supporting decreased costs, complication rates, and lengths of stay associated with NP-managed care.[34] For instance, he cites University of Virginia Health System's 1999 introduction of an NP model in the area of neuroscience, resulting in over $2.4 million savings the first year and a return on investment of 1,600 percent. The NP model has been expanded in this system, with similar savings and improved outcomes documented. Another example cited includes an NP model introduced at Loyola University Health System's cardiovascular area, with a decrease in mortality from 3.7 percent to 0.6 percent and over 9 percent decreased cost per case (from $27,037 to $24,511).

Direct-cost savings estimated by the Department of Health and Human Services of an office visit with an NP was 10–40 percent less than comparable services provided by physicians.[35] According to the American College of Nurse Practitioners, nurse practitioners cost 40 cent less per U.S. dollar than physicians and provide value-added effects. Advanced practice nurses are particularly cost-effective with their expertise in counseling, education and case management in administering preventive care.[36] Some estimates suggest that up to 8.75-billion U.S. dollars could be saved in long-term costs by fully utilizing nurse practitioners.[37]

BARRIERS TO ACCESSING PRIMARY CARE SERVICES: AN EXAMPLE FROM THE RURAL STATE OF VERMONT

Available and accessible primary care services in Vermont are inadequate. Eight of Vermont's 14 counties fall below Federal standards for the ratio of primary care physicians to area residents. Nineteen percent of family physicians and 27 percent

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[28] Burl, J., Bonner, A., Rao, M. (1994). Demonstration of the cost-effectiveness of a nurse practitioner/physician team in primary care teams. *HMO Practice*, 8 (4), 156–7.

[29] Chenowith, D., Martin, N., Pankowski, J., & Raymond, L.W. (2005). A benefit-cost analysis of a worksite nurse practitioner program: First impressions. *Journal of Occupational and Environmental Medicine*, 47 (11), 1110–6.

[30] Paez, K. & Allen, J. (2006). Cost-effectiveness of nurse practitioner management of hypercholesterolemia following coronary revascularization, *Journal of the American Academy of Nurse Practitioners*, 18 (9), 436–444.

[31] Hummel, J., Pirzada, S. (1994). Estimating the cost of using non-physician providers in an HMO: Where would the savings begin? *HMO Practice*, 8 (4), 162–4.

[32] Cowan, M.J., Shapiro, M., Hays, R.D., Afifi, A., Vazirani, S., Ward, C.R., et al. (2006). The effect of a multidisciplinary hospitalist/physician and advanced practice nurse collaboration on hospital costs. *The Journal of Nursing Administration*, 36 (2), 79–85.

[33] Ettner, S.L., Kotlerman, J., Abdemonem, A., Vazirani, S., Hays, R.D., Shapiro, M., et al. (2006). An alternative approach to reducing the costs of patient care? A controlled trial of the multi-disciplinary doctor-nurse practitioner (MDNP) model. *Medical Decision Making*, 26, 9–17.

[34] Larkin, H. (2003). The case for nurse practitioners. *Hospitals and Health Networks*. Aug. 2003, 54–59.

[35] Fitzgerald, M., Jones, E., Lazar, B., McHugh, M., & Wang, C. (1995). The Mid-level Provider: Colleague or Competitor? *Patient Care*, 23–37.

[36] Appleby, C. (1995). Boxed in? *Hospitals and Health Networks*, 28–34.

[37] Canadian Nurses Association. (2002). Cost effectiveness of the nurse practitioner role: Fact sheet. Retrieved April 15, 2006, from *http://72.14.203.104/search?q=cache:Ubt5MfCIeV0J:www.cna-nurses.ca/CNA/documents/pdf/publications/FS10*__Cost__effectiveness__Nurse__Practitioner.

of internists are not accepting new patients. In Washington County this percentage rises to 54 percent. As fewer medical students seek primary care residencies and the population of the elderly grows disproportionately, accessible healthcare services will decline.[38] Vermont NPs are a stable workforce, providing care for a primarily rural population. Removing the restrictive language linking NP workforce to physician involvement will provide the citizens of Vermont access to necessary, high quality healthcare. Increased access to preventative services will greatly reduce morbidity and mortality of Vermont's highest ranking health problems: diabetes-related death, colorectal cancer, obesity, and hypertension.[39]

In 2002 there were 451 practicing NPs in the State of Vermont. Of that number 63 percent were in a primary care setting. Sixty-five percent of NP workforce has been in practice for 5 or more years and 93 percent possess prescriptive authority. Seventy-three percent of NPs hold a masters degree or higher. Most NPs work in a physician/NP group setting (34 percent), a hospital-based setting (33 percent), or a community health center (17 percent).[40] Pearson reports Vermont NPs are among the lowest in the Nation for reported misconduct, reflecting their safety in providing healthcare.[41] Vermont advanced practice nurses may apply for hospital privileges and are recognized as primary care providers for Vermont Medicaid.

The current language of the Administrative Rules obligates a professionally educated, trained, and nationally board certified NP to sign a practice agreement with a physician prior to being endorsed by the Board of Nursing as a nurse practitioner in the State of Vermont.[42] This has created barriers to practice, which could be interpreted as barriers to accessing care for the people of Vermont. Examples of this include:

- NPs are having difficulty locating physicians willing to enter into and maintain collaborative agreements. NPs who wish to practice in areas such as Franklin County, a rural federally designated underserved area, and are unable to open their own practice due to inability to find a physician to sign a practice agreement;
- Certified nurse mid-wives (CMNs) and NPs who must pay up to $8,000.00 annually to a physician for a written practice agreement which makes practicing economically unfeasible for the NP;
- Perpetuates confusion for insurers who continue to resist recognizing NPs as primary care providers, therefore refusing to reimburse for delivered services;
- Physicians are fearful that they will be held liable if they sign an agreement with an NP.
- Physicians can at anytime sever an agreement.
- NPs cannot abandon patients when a collaborative agreement is severed, yet cannot legally under the current statute continue to provide care to patients.
- NPs will continue to be seen as "extenders" of the medical model and remain virtually invisible at the policy reform table;
- NPs who are comfortable in their current practice arrangements are not aware of the implications that this outdated language has on provision and reimbursement of health services and the vulnerability of NP reliance on M.D.'s choice to support or not support NP practice.[43] It is important to recognize ultimately that the language change does not affect scope of practice, including the ability to collaborate.

"Given that no health care professional practices independently any longer, statutory language, professional organization policies, and even separate ethical principles may be outdated for both professions [NPs and M.D.'s]."[44] As a better understanding evolves as to how to reconfigure the health care system to address the changing needs of our society, legislated barriers to collaboration should be removed and replaced by cooperative model practice acts.[45]

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[38] Dritschilo, G & Palmer, R. (2006). Patients struggling to find local physicians. Retrieved on April 2, 2006 from *http://www.rutlandherald.com/apps/pbcs.dll/article?AID=/20060305/NEWS/603050377/1024*.

[39] Pearson, L. (2006). The Pearson report. *The American Journal for Nurse Practitioners,* 10(1), 1–163.

[40] Vermont Department of Health (2004). Advanced practice registered nurses: 2002 statistical report and survey. In Vermont Department of Health (Ed.): State of Vermont.

[41] *Ibid.*

[42] Vermont State Board of Nursing (2004). Board of nursing administrative rules (March 4 ed., pp. 55 0957): State of Vermont.

[43] Edmunds, M. (2000). NPs face systematic opposition from physicians. *The Nurse Practitioner*, 25(12), 65 0968.

[44] Phillips, R.L., Jr., Harper, D.C., Wakefield, M., Green, L.A., & Fryer, G.E., Jr. (2002). Can nurse practitioners and physicians beat parochialism into plowshares? *Health Aff*, 21(5), 133–142, p. 139.

[45] *Ibid.*

RECOMMENDATIONS

While the healthcare system appears in dire straits, the identification of problems as central and urgent as the frail U.S. healthcare system is not enough to warrant a place on the healthcare policy agenda. Problems which drive policy formation depend on "public salience and the degree of group conflict surrounding it"[46] and the feasibility of such solutions. Potential solutions to identifiable problems must be available. The Clinton Health Security Act of 1993 proposed to reform healthcare through cost control and provision of universal healthcare. This proposal was never enacted.[47] Other possible solutions may be targeted towards increasing the population of primary care physicians through incentives. This does not address either healthcare cost control or the current need for services.

Since the birth of the NP, a wealth of literature exits in support of NP-provided care. A recent study concluded NPs could safely provide 75 percent of primary care, 90 percent of pediatric primary care, 65 percent of routine anesthesia care, 85 percent of rural anesthesia care, and 98 percent of routine obstetrical care if the appropriate workforce was available.[48]

The obvious need for accessible quality healthcare, healthcare cost control, and provisions for health promotion presents an optimal opportunity for nurse practitioners to meet the critical demand. The following recommendations are made:

Reauthorization and Increased Funding of Title VIII

In the presence of spiraling medical care costs and the shortage of professional nurses and primary care providers, the need to prepare quality, cost effective clinicians such as nurse practitioners continues to be acute. The need for primary care providers to serve vulnerable populations, increase the public health infrastructure and serve as first responders in the presence of national disasters has been clearly articulated by both Congress and the Administration. Nurse practitioners are primary care providers who can meet all of these national needs.

Nurse practitioners have been demonstrated to provide high quality, cost-effective care in whatever environment they practice. It is important that the proper preparation of enough of these providers is maintained to meet health care needs identified in these current national priorities. This cannot be accomplished if educational programs are unable to be funded at higher levels. Only a limited number of programs are able to be funded each year at the current funding levels. Increases are needed for nurse practitioner educational programs and traineeships to work toward this need. *This is the only Federal funding source for these programs since they have no access to graduate medical (GME) funds.*

Nurse practitioners want to help meet the growing health needs of the Nation, but they will need assistance to do it. This means that nurse practitioner educational programs and scholarship funding needed to be maintained and increased in the Federal budget. Reauthorizing and increasing funding for title VIII will improve the workforce of primary care nurse practitioners by providing and educating the faculty that will be needed to accomplish this goal.

Support S. 1795 To Improve Access To Workers Compensation Programs for Injured Federal Employees by Adding Nurse Practitioners to the List of Providers Authorized to Provide Services Under This Statute

While nurse practitioners have been recognized and reimbursable providers in the Federal Employees Health Insurance Program for nearly 20 years, they have not been identified as authorized providers in the Federal Employee Workers Compensations Program.

Nurse practitioners diagnose and treat injuries and illnesses currently covered by the Federal Employees Workers Compensation Program. Because nurse practitioners are not listed as covered providers, patients must seek care from other providers, often in more costly practice sites such as emergency rooms, adding cost and lapsed time prior to appropriate and necessary treatment. Nurse practitioners have long been demonstrated to provide safe and responsible care to the patients they serve. They have expert knowledge and skills that allow them to provide high quality care to patients needing care under the provisions of this statute. Yet they are not among the list of providers (often with more limited scopes of practice) authorized under this legislation. Nurse practitioners have been recognized as a cost-effec-

[46] Longest, B. (2002). *Health Policymaking in the United States (3rd ed.).* Chicago: Health Administration Press, p. 131.

[47] *Ibid.*

[48] Brooten, D., Youngblut, J., Kutcher, J., & Bobo, C. (2004). Quality and the nursing workforce: APNs, patient outcomes and healthcare costs. *Nursing Outlook*, 52, 45 0952.

tive source of high quality care that should be authorized to provide care under the provisions of this statute.

Currently nurse practitioners provide reimbursable services to Federal employees under the Federal employees health plan. Likewise in approximately half of all States, nurse practitioners are authorized to sign for and provide workers compensation services. This bill will provide consistency with both Federal health care insurance laws and State workers compensation laws.

Federal Support at State Levels to Increase Access and Reimbursement to Nurse Practitioner Services for all Individuals

Nurse practitioners face similar barriers to those of physician primary care providers such as increasing administrative demands, sicker patients, growing patient panels, and decreasing reimbursement. Exacerbating the growing burden of providing primary care for NPs is the restrictive practice guidelines set forth decades ago limiting patient access to available high quality primary care providers.

Nursing has been and remains a distinct, self-regulating profession like law and medicine. As a profession, nursing has the authority and responsibility to define its standards of practice. NPs are not "junior physicians" or "underlings" of the physician. NPs will increase access to cost-effective, high quality primary healthcare by removing workforce dependency on physician collaboration, practice agreements, and/or physician oversite.

Given that only one out of four medical school graduates select residencies in the primary care specialties,[49] NPs present an available, stable, and high quality workforce to address the health care needs of the Nation.

SUMMARY

I would like to thank Senators Sanders, Kennedy, Enzi, and their staff for this opportunity to discuss how nurse practitioners are vital in solving the primary care shortage in the United States. Nurse practitioners provide different healthcare services and products than that of physicians. NPs place emphasis on health promotion, disease prevention, self-management of chronic disease, education, and health for the individual, family, and/or community. We are skilled at improving the knowledge base and the level of physical functioning of individuals, families, and their communities. We provide comfort and assist in adapting to loss or change. Nurse practitioner care is holistic. The "value-added" NP effects result in indirect cost savings, increased satisfaction, and improved outcomes for our patients and society. With your support and assistance, nurse practitioners will go a long way in addressing the primary care shortage for the Nation.

Note: For more information please contact author.[50]

Senator SANDERS. Thank you very much.

Dr. John Maupin, D.D.S, M.B.A., is the President of the Morehouse School of Medicine in Atlanta. Dr. Maupin, thanks very much for being with us.

STATEMENT OF JOHN E. MAUPIN, JR., D.D.S, M.B.A., PRESIDENT, MOREHOUSE SCHOOL OF MEDICINE, ATLANTA, GA

Mr. MAUPIN. Thank you for allowing me to be here today. First, I represent one of four historically black medical schools, also the Association of Minority Health Professions Schools, which represents 12 historically black institutions that train physicians, dentists, veterinarians, pharmacists, and nurses.

Collectively, we have trained over 50 percent of all African-Americans or black health professionals in this country. Much of our success has come from the support of the title VII programs and particularly the diversity programs. Our success has always been demonstrated by our graduates. Over 70 percent practice in underserved communities. They work in federally qualified community

[49] Dritschilo, G. & Palmer, R. (2006). Patients struggling to find local physicians. Retrieved on April 2, 2006 from*http://www. rutlandherald.com/apps/pbcs.dll/article?AID=/20060305/NEWS/603050377/1024*.

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health centers, public health departments. They work in their own private practices in areas where there are predominantly uninsured and underinsured individuals.

This is the front line of the safety net group that continues to serve this country in many ways. It is because of those programs that the institutions have been successful, and much of that has to do with their mission.

When your mission is about training primary care, when your mission is serving a disproportionate share of uninsured, when your mission is not on research focus, and when you have patients who will not become your wealthy donors, then you are forced, in many ways, to depend on these programs to survive in today's environments that are capital intense and very competitive.

The diversity programs in particular, and title VII in general, have allowed us to connect with AHECs, to work with federally qualified community health centers, to provide training experience. This success rate is not by accident. It is by design.

I am one of those. I came to Meharry Medical College in 1968. I was exposed to a federally qualified community health center in Los Angeles, Watts Community Health Center. I was there. In 1970, I was allowed to go to Baltimore and train in an externship in the hospital. Across the street was a federally qualified community health center. That community health center led me to believe that should be my career.

We talked about it back in Nashville in my training. We were exposed to it, both my medical colleagues, my dental colleagues, and others. It is where you train and how you train that determines where you go to serve. These institutions can carry that mission out and make a great contribution, but right now, quite frankly, they are faced with a daunting future.

When you cut back on Medicaid, when you reduce GME, when you want to talk about eliminating DSH funding, and all of those things that support any institution, and then you zero out title VII, you are asking for them to close and not participate at all in the future.

Thank you, sir.

[The prepared statement of Dr. Maupin follows:]

PREPARED STATEMENT OF JOHN E. MAUPIN, JR., D.D.S., M.B.A.

Mr. Chairman and members of the committee, thank you for the opportunity to discuss the critical importance of diversity in the health professions, and specifically the health professions training programs at the Health Resources and Services Administration (HRSA).

I am Dr. John E. Maupin, President of the Morehouse School of Medicine (MSM) in Atlanta, GA, MSM is one of only four historically Black medical schools in the country, and one of twelve (12) Historically Black health professions institutions that compromise the Association of Minority Health Professions Schools (AMHPS). Historically, the small number of schools have collectively trained 50 percent of the African-American physicians and dentists in this country. Sixty percent of African-American pharmacists, and 75 percent of African-American veterinarians. Many have called our institutions a national resource, and they are correct. These schools go a long way in making the healthcare workforce look like America. I want you to know that it is not lost on me that I am making this statement to your committee in February, Black History Month. I think this is as appropriate a time as any to have a discussion about health disparities in America, and hopefully we can agree on a legislative solution. Mr. Chairman, I understand that the historically Black institutions are not the only ones who are combating health disparities. I have provided the committee with a list of all institutions which were able to compete well

for the key programs which support the training of minority health professionals, when those programs were funded more robustly.

In 1997, then as President of Meharry Medical College (MMC) in Nashville, TN, I testified before this committee, and discussed the challenges of health disparities in America. There have been some improvements, thanks to the work this committee did to reauthorize, restructure, and empower certain programs that created and strengthened a pipeline of minority health professionals. Those health professionals have dedicated themselves to serving in the areas where they are most needed—rural and urban medically and underserved communities. The diversity cluster of the title VII health professions training programs: Minority Centers of Excellence (COE), Health Careers Opportunity Program (HCOP), Scholarships for Disadvantaged Students (SDS), and Faculty Loan Repayment Program are the programs that made the training of a diverse healthcare workforce possible, and they are the lifeblood of institutions like Morehouse School of Medicine, Meharry, and our sister institutions at AMHPS. Unfortunately, the funding for these programs was dramatically cut in fiscal year 2006, and the programs have struggled to regain that funding. Shortly, I will explain the unique mission of our small set of institutions, the reason why the aforementioned programs are so important, and what this committee can do to make sure we continue to produce quality primary care health professionals.

THE HEALTH STATUS OF MINORITIES

Mr. Chairman, in 2005 the Centers for Disease Control and Prevention (CDC) still claimed that "non-Hispanic blacks bear a disproportionate burden of disease, injury, death, and disability." It is still fair to say that African-Americans and other minorities suffer a disproportionately low health status when compared to their non-minority counterparts in our country. In a 1985 landmark study conducted by the U.S. Department of Health and Human Services, *The HHS Secretary's Task Force Report on Black and Minority Health*, confirmed this national problem. Allow me to share updates on some of the highlights from that report:

- African-American infants are nearly 2½ times more likely to die before their first birthday than white infants.
- African-Americans are twice as likely to die from a stroke as Caucasians. The rate of first strokes in African-Americans is almost double that of Caucasians.
- African-Americans who died from HIV–AIDS had approximately 11 times as many age-adjusted years of potential life lost before age 75 years per 100,000 population as non-Hispanic whites. African-Americans also had substantially more years of potential life lost than non-Hispanic whites for homicide (nine times as many), stroke (three times as many), prenatal diseases (three times as many) and diabetes (three times as many).
- Cancer is the second leading cause of death for African-Americans.
- Only 56 percent of African-Americans have private health insurance coverage. Medicaid covers an additional 21 percent, but almost one quarter (23 percent) are uninsured. The uninsured rate for African-Americans is more than 1½ times the rate for white Americans.
- Of African-American families, 24.7 percent lived below the poverty level, including 46 percent of African-American children.

Mr. Chairman, if improving upon these health disparities is a national priority, the need for an aggressive Federal commitment to address these problems still very much exists.

THE NEED FOR STRENGTHENING AND FUNDING FEDERAL HEALTH PROFESSIONS TRAINING PROGRAMS

The national priority to improve the health status of minorities, by doing so all Americans, rests in large part on our ability to train competent and dedicated individuals to serve our Nation's underserved and disadvantaged areas. Currently, Mr. Chairman, eventhough African-Americans represent about 13 percent of the U.S. population, only 2–3 percent of all physicians, dentists, pharmacists, veterinarians, and allied health professional are African-Americans. There is also a wide body of research demonstrating that language, communication patterns, socioeconomics barriers, and diverse health/disease belief systems play a major role in eliciting history, establishing diagnoses, obtaining the help and cooperation of family and friends, and influencing the patients' compliance with a recommended course of treatment. There are also ethnic and racial differences in response to drugs and how diseases manifest themselves. Therefore, Federal health professions training programs support targeted to institutions that significantly influence the number of under rep-

resented minorities practicing in these areas is critical not only to addressing issues of access to care but to the quality of healthcare provided as well.

Every credible study ever conducted demonstrates that an individual who comes from a disadvantaged background or underserved area is much more likely to serve in underserved areas as a health professional. Increasing the numbers of health professionals that serve in an underserved areas can and does improve health status. Many of the health professions training and institutional support programs being reviewed today have, and continue to have a dramatically positive impact on the ability of our schools to train the health professions workforce that will serve in underserved areas and improve the health status of disadvantaged and minority populations. Those programs have a positive impact when they are well-funded.

THE ROLE OF HISTORICALLY MINORITY INSTITUTIONS IN TRAINING AFRICAN-AMERICAN HEALTH PROFESSIONALS

Collectively, the goal of historically minority institutions has been to train African-Americans to serve in medically underserved areas. As demonstrated by the figures outlined in the opening part of my statement, this small contingent of schools has been hugely successful in accomplishing this mission. Yet, in spite of our proven success in training minority health professionals, our institutions endure a financial struggle that is inherent in our mission to train disadvantaged individuals to serve in underserved areas. That is why we say that MSM, like Meharry and our other sister institutions, is a private institution with a public mission.

The financial plight of the majority of our students has affected our schools in numerous ways such that we are not able to depend on more traditional means of support such as annual gifts and generous endowment contributions. Additionally, the patient populations served by the AMHPS institutions have historically been poor, uninsured and under-insured, therefore our institutions have not generated revenue from the process of much more lucrative patient care at the 40–50 percent level achieved by majority schools. In other words, as a colleague of mine says, our schools have grateful patients, but not wealthy, grateful patients.

With regard to student financial assistance, there is a desperate need for this committee to understand that scholarship support is the only way to a health professions education for severely disadvantaged students. Student aid officers tell us time and time again that poor students will not agree to incur debt for tuition cost that is about twice the level of their family's annual household income. The effect of wiping out scholarship support is to ensure that poor people do not become health professionals. Further, that almost guarantees that the poor will not be well.

The very nature of our mission directs us to admit students that do not come from affluent backgrounds. In fact, at MSM, 72 percent of entering MSM are classified as disadvantaged. Because of the lack of a sizable financial base at most historically minority institutions, we are unable to provide scholarship assistance to our students at the same level of other institutions. For example, at MSM:

- Only 25 percent of the scholarships awarded annually are from endowment funds.
- The remaining 75 percent are non-endowed scholarships and are funded by sources that are cyclical in nature so that the numbers and amounts of scholarships fluctuate annually and are therefore less stable sources of funding.
- The average annual scholarship award is $9,480, which comprises only one-third of the College's tuition and fees for medical students. More significantly, this average award represents only one-fourth of the total cost of a medical education at MSM.
- Because MSM's scholarships only cover 25 percent of the educational costs, the students must secure the remaining 75 percent of the funding from loans. When they graduate, the students have often amassed debt which exceeds the national averages for students entering similar professions.

Therefore, targeted Federal scholarship support is crucial to the fulfillment of our missions. Scholarship support is the most important way to assist the health professions education of severely disadvantaged students. The program that accomplishes this is the Scholarships for Disadvantaged Students (SDS).

Health professions training grants, targeted towards our institutions and authorized by this committee, have helped our schools level the playing field by a small measure. They have also allowed us to continue to address the critical disparity needs. Make no mistake, without such programs as the Minority Centers of Excellence (COE), MSM would be a much different place. Health professions training programs represent life blood for our institutions.

However, that life blood, like the pipeline of health professionals, has been choked off. In fiscal year 2006, the Congress passed a Labor-Health and Human Services

(HHS)-Education Appropriations bill that severely cut the funding stream for the programs that fund our institutions' core activities. The programs cut were COE (funded in fiscal year 2005 at $33.6 million, funded in fiscal year 2008 at $12.773 million), HCOP (funded in fiscal year 2005 at $35.647 million, funded in fiscal year 2008 at $9.825 million), Faculty Loan Repayment Program (funded in fiscal year 2005 at $1.302 million, funded in fiscal year 2008 at $1.266 million), and Scholarships for Disadvantaged Students (funded in fiscal year 2005 at $47.128 million, funded in fiscal year 2008 at $45.842 million). I appreciate the fact that the HELP Committee is an authorizer, but the negative impact of this low level of funding for these programs cannot be understated. In terms of the COE program, the funding level is so low that MSM cannot compete for a grant. MSM is adversely affected by our inability to compete for COE and the low level of HCOP funding which inhibits our outreach efforts towards students in primary education, especially the poor, to show them which math and science courses to take to begin the road to the health professions. Secondly, MSM boasts the No. 1 rated program in the Nation for producing minority medical school faculty. That program, previously funded by our COE grant, is in serious jeopardy of closing. Like MSM, that program is a national and State treasure. It is fair to say that if these programs continue to be funded at these low levels, many of the minority health professions institutions may not exist in their current form, furthering the disparity of minority health professionals. These are the kinds of ramifications that occur when the core funding stream for our programs and institutions are drastically reduced.

This has occurred at a particularly sensitive time for the minority health training community. Our institutions face the threat of loss of Graduate Medical Education (GME) funding, financing our residency programs, withdrawn unless the moratorium on the CMS rule is extended.

No matter the vehicle this committee chooses to reauthorize the diversity cluster of the title VII health professions training programs—either as a portion of Senator Kennedy's *Minority Health Improvement and Health Disparities Elimination Act* (S. 1576) or a title VII reauthorization bill—our institutions are in favor of adding an evaluation component to each program. Some criticize these programs for not having enough evidence of effectiveness. Mr. Chairman, our students disproportionately dedicate themselves to practicing in the medically underserved areas. That is a direct result of the programs I mentioned above. Morehouse School of Medicine and its sister HBCU health professions schools, only 12 in all, have historically trained about half of the black health professionals in the country. I don't know how much more evidence anyone needs to appreciate the impact of these institutions and the importance of these Federal programs in responding to their needs.

RECOMMENDATIONS FOR THE REAUTHORIZATION OF THE HEALTH PROFESSIONS TRAINING PROGRAMS

Mr. Chairman, we urge that the committee move quickly to reauthorize the Centers of Excellence, Health Careers Opportunities Program, Scholarships for Disadvantaged Students, and Minority Faculty Loan Repayment Program to respond to the unwarranted criticism that it is difficult to link the effectiveness of these programs. Please do incorporate a strong evaluation and data collection component into the reauthorization.

We also encourage each member of this committee to advocate for the full restoration of funding for COE, HCOP, Faculty Loan Repayment, and Scholarships for Disadvantaged Students in the fiscal year 2009 L–HHS Appropriations bill. The full funding of these programs gives institutions like MSM the opportunity to compete and invest in the education of the Nation's future health professionals that will actively combat racial and ethnic health disparities in the United States.

Mr. Chairman, I hope these suggestions are helpful to the committee. Thank you for the opportunity to present views of the Association of Minority Health Professions Schools and Morehouse School of Medicine.

Senator SANDERS. Thank you very much.

Why don't we begin? Let me start off with a question, and then we will go to the other Senators. Everybody jump in, and Senators jump in, and we will go where we will go and keep this moving.

Let me start off with what is a fairly dumb-bunny question, I must confess. This is the richest country in the history of the world, and people all over the world would find it hard to understand why, in this Nation, we are not educating and sending forth the number of primary care medical professionals that we should.

The result being that tens of millions of people lack access to primary healthcare.

This is the simple question. Why is this? Very briefly, how do we resolve that crisis? Who wants to begin, okay, Dr. Grumbach?

Dr. GRUMBACH. You know, there is a saying that every system is perfectly designed to achieve the outcomes it is achieving. We have a perfect system to provide all the incentives for physicians, for nurses, for others to practice in highly specialized, highly centralized areas. Again, Mr. Steinwald showed you can make four times more per hour doing procedural work than you can working in a primary care area, and that is not lost on people going into the field.

Unless you look at the incentives, drawing people into where they are not as needed as they might otherwise be, you'll never tackle the problem. It is not a lack of money, as you point out. It is ultimately not even a lack, truly, that we have a shortage overall of personnel. It is just all the incentives are to not have somebody practice in a community health center in rural Alaska. It is to do specialized medicine in Beverly Hills, in downtown San Francisco.

Unless you address that, you will just keep seeing the same patterns.

Mr. STEINWALD. Let me add to that, if I may, Senator? It is absolutely true that the incentives are paramount, and we have this paradox of plenty existing side by side with shortage. The incentives are our payment systems—not just Medicare, but most private insurances—to do more and do more complex procedures. That, in turn, generates revenue.

As has been pointed out, medical students are not blind to that. Those that have substantial debt can see the difference in earning potential between primary care and specialty care. The paradox is extended when you consider that the systems that do exist in this country that emphasize primary care tend to get better outcomes at lower cost. That includes not only closed systems like our staff model HMOs, it also includes certain areas of the country where there are fewer specialists, more primary care doctors tend to deliver quality services at a lower cost.

Senator SANDERS. Other thoughts?

Dr. Maupin.

Mr. MAUPIN. I would say that not only the payment system to the individual physician or provider, whether it be a dentist or other, but also the reimbursement or the payment system for graduate medical education, which comes through Medicare and sometimes Medicaid.

When you look at a hospital with a high number of subspecialty services and a high number of Medicare patients, you will find that they are reimbursed at a higher rate than you will find a public hospital trying to serve the underserved. There is just no way that they can survive in today's environment under the current payment system and reimbursement system.

Senator SANDERS. Dr. Auerbach.

Dr. AUERBACH. Yes, in addition to these issues, which have been brought up repeatedly by people, the issue of medical student debt, is a very significant factor. In most of the rest of the world, stu-

dents that graduate from medical school graduate with virtually no debt.

I actually was in medical school in France for a couple of years, and it cost me $100 a year as a non-national to go to medical school, let alone, it was $20 a year for the French medical students. It is a huge difference between getting your schooling for free, essentially, and getting your schooling for $40,000, $50,000 a year, which, as Senator Kennedy indicated, students are graduating with $140,000 to $160,000 worth of debt.

At the Mass Medical Society, we have actually been going to the medical schools and interviewing the medical students around the issue of primary care. When we asked them the question how many of you are going to be choosing your specialty because of the amount of debt you are leaving medical school with, more than 50 percent of the hands go up. It is a very clear equation when you think about the relative difference in reimbursement.

Senator SANDERS. Dr. Swift.

Mr. SWIFT. In the dental environment, there actually is a preponderance of primary care people educated through the educational system. Of the dental school graduates, 80 percent go into general dental practice, and a few more go into pediatric dental practice, which is a primary care type of situation.

The challenge, however, is the disregard for oral health or dental health as a component of overall general health. It has existed for decades. As a result, it is difficult for anyone to get reimbursement for any type of dental treatment procedure, whether it be the Medicaid program.

We attempted to get a dental benefit, dental guarantee in the SCHIP, and as you all know, SCHIP didn't go. We were hopeful that that would be something that would be passed. That was the first time, that we are aware of, that dentistry was carved out as a specific area in any bill that addressed the issues related to oral healthcare.

It is a relative problem that is related to reimbursement rates, access to care, and the identity that oral health and the oral systemic connection is an important feature of overall general health.

Senator SANDERS. Mr. Salsberg.

Mr. SALSBERG. One of the problems, we think, is again we are not producing enough U.S.-medical school graduates. We graduate about 16,000 physicians each year, but we have 25,000 first-year residency positions. And then comes into play the system's incentives, which say they can get higher rewards and benefits going into other specialties.

Increasing the number of U.S.-medical school graduates would be one step. Obviously, having the system rewards and incentives in the right place is also critical. And then having a delivery system that is well designed, that is interesting and challenging for the primary care physician is critical. We think we need to do more in terms of interdisciplinary care and treatment and education. A physician should learn through the education process that they work with nurse practitioners, P.A.'s, and others, and we deliver care in a team setting.

Senator SANDERS. OK. Yes, Doctor?

Mr. MAUPIN. I want to take this opportunity to highlight something, an experience I had. I served in Desert Shield and Desert Storm, and one of my assignments during Desert Shield, as a dentist, was to prepare the National Guard for their service. The No. 1 issue of calling them noncombat ready was their oral health status, their oral health status. It is so widespread that the access to care for people who work in jobs and don't have insurance and the ability to find practitioners willing to serve in Medicaid, high Medicaid areas and uninsured areas is so great that it is not only a shame for the country, but it is a challenge for our military issues and strengths across this country.

Senator SANDERS. Ms. Laurent.

Ms. LAURENT. I just wanted to acknowledge the under utilization of nurse practitioners as primary care providers in the Nation. I am happy to say in the State of Vermont, nurse practitioners are recognized as primary care providers by Medicaid. But, that is not really true for the Nation as a whole.

Nurse practitioners are educated with pretty much the sole purpose of health promotion, disease prevention, in a cost-effective, high-quality role. The barriers that presents to the Nation by not reimbursing these primary care providers by Medicaid really is a significant barrier to access and quality of care.

As we all are now learning, health promotion is really where it needs to be. It doesn't need to be in treating people after they have had their third or fourth MI or heart attack. It needs to be, you know, diet and exercise and counseling, and really, that is where nurses and nurse practitioners excel.

Utilizing those providers to their maximum extent really has far-reaching consequences in the Nation, as we all get older and the healthcare crisis continues.

Thank you.

Senator SANDERS. Let me move on now to Senator——

Senator ALLARD. Mr. Chairman?

Senator SANDERS. Yes? Sure.

Senator ALLARD. While we are on this subject, I would like to ask a question if I might. Scientific programs are generally finding it more difficult to recruit good quality students. Are we seeing that in medicine, where we have maybe not as much interest in going to the healthcare sciences as you maybe had 20, 30 years ago? Anybody want to respond to that?

Senator SANDERS. Mr. Salsberg.

Mr. SALSBERG. The AAMC tracks this for medical schools, and we work closely with the osteopathic community. Actually, the last 5 years, applications to medical schools has been up. It was down from the mid-1990s to about 5 years ago, but it has been up over the last several years. We believe we are getting very well-qualified students applying for medical school and osteopathic schools.

Senator ALLARD. It is about two applicants for every one slot, right?

Mr. SALSBERG. Yes.

Mr. HOOKER. It is now more difficult to get into P.A. school than it is to medical school. Our challenge is reaching out to underrepresented minorities and other disadvantaged populations because our experience in some States, especially in Alaska, where we can

bring those people from the community, train them as P.A.'s, they tend to go back to those communities and stay in those communities.

The big challenge for us is not the quality of the applicants, which is as good as it gets. These applicants can go into medical school, law school, any school that they want. It is trying to get the people that the communities really need, the rural underserved areas, and getting people like that to get into P.A. school.

Senator SANDERS. Ms. Landon.

Ms. LANDON. To echo Dr. Hooker, it is the title VII programs that are exposing youth, especially youth of minority and disadvantaged backgrounds, to the health professions. The area health education centers, the AHEC and the HCOPs, really take the lead in that. They are really the Federal programs in the country that are exposing these youth to health career opportunities.

Not just exposure, but structured programming. Last year, the area health education centers supported, over 300,000 youth, exposed them to health careers, and 41,000 of those youth had 20 hours or more of structured programming to expose them and get them interested in health careers.

It doesn't stop there. They have got to be academically prepared. They need ongoing mentoring support to get in, to matriculate into and continue through.

Senator SANDERS. Dr. Swift.

Mr. SWIFT. With the dental school environment, it is approximately three to one for application for a position at the time, which is a high for us compared to what it was about a decade ago. The challenge, however, is the underrepresented minority. That is the issue.

We have about 6 percent or 7 percent of the dental workforce a underrepresented minorities. We have been able to get that up to about 12 percent first-year enrollment now in dental schools, underrepresented minorities, through a couple of programs that the American Dental Education Association has supported.

One is called Pipeline Profession and Practice. It is sponsored by the Robert Wood Johnson Foundation, W.K. Kellogg, and the California Endowment. It is a 5-year initiative that was started in 2003, limited to 15 dental schools across the country. What they did was establish—or increase the numbers of underrepresented minorities and low-income students within the environment. As a result of that, they provided care to over 237 community-based clinics. This program was so popular and efficacious that the California Endowment agreed to fund it again for this next phase.

In addition, we have the Summer Dental Education Program, a collaborative effort with the AAMC, and this has been running for approximately 3 years. It is an academic enrichment program for disadvantaged undergrad freshmen and sophomores, where they get classes in courses like organic chemistry and calculus, physics, biology, and then they have improvement of their communication skills and exposure to the health professions.

We, at the current time, have run this program through for 1,900 students. Sixteen hundred that are anticipating going into medical school, 300 into dental school. Seventy-one percent of this group are females. Forty-eight percent are black or African American.

Twenty-one Hispanic or Latino, and 2 percent American Indian. There will be some success with that.

Senator SANDERS. Senator Murray, did you want to jump in and ask a question?

Senator MURRAY. I am curious, we talked a lot about primary care physicians and nurses that we all know there is a shortage on. When I did the roundtables in Washington State, I heard a lot about the support professions—lab technicians, dental hygienists, people that are almost sort of behind the scenes. Very real shortage, particularly in rural areas. Could anybody comment on that?

Mr. HOOKER. As I go around visiting rural areas, this is really a critical area, regardless of what State that you go in. All of the allied health disciplines are suffering to some extent. I don't know to what extent, but they all are.

Senator SANDERS. Mr. Salsberg.

Mr. SALSBERG. Yes, what we are seeing has really been a significant increase over the past two decades in the demand for health services, a lot of it driven by the aging of the population and the shortages we are beginning to feel across a whole wide range of professions.

Perhaps in ways medicine and dentistry have an advantage. We certainly have no shortage of applicants. We have to look at expanding our educational capacity. There is a lot of interest in a whole wide range of professions, and there have been some good programs developed to try and build pipelines for individuals into a wide range of programs.

One of the benefits of title VII is that it has tended to look across professions and not be focused on just any one profession.

Senator SANDERS. Ms. Landon.

Ms. LANDON. Senator Murray, in Alaska, last year we looked at vacancy rates for 119 health occupations. It definitely delved quite far into the allied health professions. Overall, the vacancy rate across those 119 occupations across the State was a little over 10 percent.

I have the data on the specific allied health occupations, any one you would like to know about. Anecdotally, I recall that for the therapy programs—PT, OT, speech path—the vacancy rates were between 25 and 30 percent. If that isn't staggering enough, those vacancies can endure 3 years, if you can imagine that?

Senator SANDERS. Yes, Dr. Maupin.

Mr. MAUPIN. While our poor applicant pool has gone up slightly, I want to reiterate the issue of the minority applicant, qualified applicant. What I am concerned about most is the recent reductions in title VII support for many of our outreach programs. We are beginning to see where that is taking its toll on our ability to go out and reach out, participate in summer programs, reach out to counseling in the undergraduate programs.

We are going to continue to be very challenged. We have had to cut, lay off people in certain areas, which means that we really won't be able to continue the kind of success we have had in the past with the outreach for minority students in the health professions. That is across all of our schools.

The other point I would make is that if we had an increase in the number of applicants, we brought all this together, and there

is a challenge for us to add, expand our class size so we can increase the numbers of people and to address the looming shortages. One of the concerns is the residency training programs won't be available.

I may be able to increase the class size, but I won't have a place for them to train in the residency training programs. That is extremely concerning, and especially the support for the primary care programs that need expansion and need special attention.

Senator SANDERS. Let me turn to Senator Murkowski now.

Senator MURRAY. Could we have Dr. Swift answer that? I want to hear from the dental side.

Senator SANDERS. Sure.

Mr. SWIFT. Yes, there are a couple of novel programs that have been proposed by the American Dental Hygiene Association, a workforce model in that particular situation or environment, and also by the American Dental Association. They are, at the current time, in the process of funding trials, pilot projects to determine how those particular—what the roles of those individuals will be and how they might integrate into the community.

Senator SANDERS. Senator Murkowski.

Senator MURKOWSKI. Thank you. Dr. Hooker, you have mentioned the role that P.A.s, certainly the role that they play in the State. Ms. Laurent, certainly in the State of Vermont the role of the nurse practitioner there. Mr. Steinwald, this actually came from your report about the statistics on the per capita supply of primary care physicians rising at about an average of 1 percent a year, but while for the P.A.s they are rising at about 4 percent, nurse practitioners at about 9 percent.

The question to you all is do you see that investing in the P.A. programs, the N.P. programs is a more rewarding benefit, if you will, than investing in recruiting the physicians? In Alaska and Idaho, Montana, Wyoming, we don't have medical schools, but we do have the mid-level programs. Is this where we should be focusing more of our attention?

If we can speak to it from the medical school perspective, too, is it more effective to expand the residency slots, or do we build more medical schools? I am going in two different directions there, but I know everyone is going to be raising their hands, and I won't be able to interject here. Dr. Hooker, why don't we start with you?

Mr. HOOKER. Well, first of all, let me just also touch on the experiments that are underway. Alaska is a very good example of where they have introduced dental therapists, and this is a very exciting thing for Alaska to have this sort of experiment and seeing if some other service other than a dentist can deliver some aspect of healthcare service.

The idea of introducing nurse practitioners and P.A.s into the American landscape was a good one, and we don't really know how far we can extend that. It is still new territory. We do know, after 40 years of examination, that when there is team-based approach to care, when the doctor and the P.A., the doctor and M.P.E., or all three of them, and in group model HMOs, like Group Health Cooperative of Puget Sound or Kaiser Permanente, where you have modules working together, you find that the healthcare of those populations really improve substantially.

There are opportunities to enhance that team approach. I don't know what the right formula is. It is one of the questions that Professor Grumbach and Mr. Salsberg and I get asked all the time. What is the right ratio of doctor to P.A. to M.P.E. to population?

Well, it is one of those "it depends," and it depends on many, many things; and how rural or healthy the population is. Elderly people tend to be in higher concentrations in rural areas. There is ample room—ample, ample room to embark on many, many experiments in this area and that we should open our opportunities to try to look at them.

Senator MURKOWSKI. Dr. Grumbach.

Dr. GRUMBACH. I would echo a lot of what Dr. Hooker said. It is all about team care. I wouldn't see it as an either/or question. It is time we can say, well, if the docs are bailing out of primary care, if we could just get some more nurse practitioners, physician assistants, they all need each other, and you need a whole team working in concert.

What we are also seeing is the same incentives are drawing nurse practitioners and physician assistants away from primary care. I don't know if Dr. Hooker wants to comment, but the data I have seen show a plummeting number of P.A.s that are working in the primary care sector because they can get, again, much more attractive jobs doing orthopedic physician assistant work in hospitals.

You all really have to look at the whole picture of primary care and think of how do we assemble a cadre of workers that are physician assistants, nurse practitioners, allied health workers, physicians to really address this problem. There is not going to be an easy fix of, well, if one group is dropping out, we can just rely on another group because it is the same endemic problems they are facing.

In terms of residency and medical schools, what we have right now is about 25 percent more first-year residency positions than the number of U.S. medical school graduates every year, and that is what is being filled largely by international medical school graduates. Many of us who aren't—I'm not sure we necessarily need an overall output increase in physicians in the United States. We could certainly close the gap by training more of our own.

That gets into some of these issues around domestic production, particularly if we focused on underrepresented groups in medicine. Really, if we coupled that with an expansion of medical school size, that would close the gap and lessen our reliance on foreign-trained physicians to come in.

What many of us have emphasized, ultimately, it is about distribution, not just about total numbers. It is not just about how many residency positions, but it is in what fields. Because you could train a whole lot more physicians, and they would all practice in the same areas that are being overserviced, high cost, poor outcomes, and isn't going to address the fundamental problem.

Many of us think it is not so much counting the numbers as how do we align the incentives, how do we restructure primary care and really build that infrastructure so critical to our Nation's health?

Senator MURKOWSKI. Mr. Salsberg.

Mr. SALSBERG. I would agree that it is not an either/or. Nurse practitioners and physician assistants and other health professionals have a major role to play. If you are a State that does not have a medical school, then adding educational capacity for an N.P. or P.A. program can be a good viable strategy.

We actually know we have an excellent program at the University of Washington, the WAMI program, which links the medical school there, the academic medical center there with several States, and that is an excellent model to look at the branch campuses of medical schools that can be located in a more rural or less populated area.

I agree with what Dr. Grumbach said about graduate medical education. You do want to look at undergraduate and graduate medical education together. Adding more residency slots without adding more medical school capacity will probably be an incentive to recruit more international medical school graduates.

We are increasing U.S. medical school capacity. We should be clear that we called for a 30 percent increase. The osteopathic community is also increasing. We do forecast at this point that medical school graduates will be up 20 percent by 2012. We will have them. We will need more residency training positions.

The ability to train physicians in ambulatory settings and settings outside of the major academic medical centers are an important part of the strategy. It may be that for a State like Alaska or Vermont, getting more training programs in primary care in those underserved communities may be one way of introducing primary care physicians to those communities.

Senator MURKOWSKI. Mr. Swift, in Alaska, we have instituted the dental health therapist program. It has been successful, and it is an effort to get to that mid level. Is the American Dentistry Association considering mid-level practitioners, if you will, within that area to help address some of the concerns that we have heard here today?

Mr. SWIFT. Yes, thank you for the question. The American Dental Education Association does not have a pilot or program for a mid-level provider. The American Dental Association does. Actually, two different types of providers. The American Dental Hygiene Association has one. Then the third model that has been discussed is the one that does exist in Alaska with the dental health aide therapist.

The concern is that can the dental health aide therapist provide services to the degree that they need to in their environment? That is the question that remains. As you know, there were a lot of concerns and issues related to that. We think that there are ways to integrate mid-level providers within an environment, provided the training programs are exceptionally good and provided that they are essentially embraced in the team concept as well. That has already been mentioned.

Also, potentially, unlike medicine, in the dental environment we actually have more applicants than we have positions in primary care or residency training programs, both the advanced education and general dentistry program and the general practice residency program. We could utilize the additional funding that originally provided some with the Dental Health Improvement Act, cham-

pioned by Senator Collins and Feingold. Also, other title VII programs would be a benefit as well.

Senator MURKOWSKI. Dr. Auerbach.

Dr. AUERBACH. Yes, again, to support the issues that have been raised about the team concept, where certainly the primary care, all the primary care specialties are pursuing the concept of the medical home, which is basically a team concept and is a physician working in concert with their physician assistants, nurse practitioners, and other allied health professionals is certainly something that we need to consider.

Again, these are all people, each individual and each entity has an appropriate place in the healthcare delivery system, but working together is the way that we are going to achieve the most gain for our population.

Certainly increasing the residency slots is not going to resolve the issue if we don't change the incentives for reimbursement around our system because as was included in our testimony from an article that was in the New England Journal of Medicine relatively recently, in 1998, more than 50 percent of the third-year internal medicine residents were choosing careers as specialists. In 2005, that number was about 18 percent.

Increasing the number of residency slots is not necessarily going to change the number of people that are actually going into practice primary care. In terms of utilizing services and resources, and particularly taking advantage of title VII resources in underserved areas, one of the examples that we have in Massachusetts is a community health center in the city of Lawrence, which is a heavily underserved area. In using title VII resources, they have really developed a robust program to the point where they are now the primary sponsor for a family medicine residency program.

That has really been a great boon to that community. We have seen a tremendous improvement in healthcare outcomes and drop in low birth weight infants and infant mortality and the like. It really has been a model program that has been done under the auspices of the title VII program.

Senator MURKOWSKI. Can I ask, those doctors who train in the community health centers, do they end up staying in those more rural communities?

Dr. AUERBACH. To a large degree. I can't remember exactly, but it is somewhere in the neighborhood of 80 percent of the physicians that have come up through the ranks, particularly through title VII programming. At least that has been the experience in Massachusetts with the three programs that we have at UMASS, BU medical school, and in Lawrence. About 80 percent of them are staying in community health center practice or practice in underserved areas, even if they leave the primary area where they trained.

Senator MURKOWSKI. So, providing residency training or hands-on job experience in those rural communities will help to get more?

Dr. AUERBACH. That is absolutely correct.

Mr. MAUPIN. That was more of what I was trying to focus on. We really are having trouble with the residencies in special areas, not just open up all residencies.

The other, I would say what is interesting here is the title VII, title VIII programs recognize the need to support and balance ev-

erything. The trouble has come from the appropriations side, not the authorization. The appropriation and zero funding then puts one against the other for who can have the most pressure to make something happen now.

We need to reauthorize and then focus heavily on making sure that the right level of appropriation is there because these programs work. They work to give balance, recognition of team, all the unique issues are put together through these programs, and they just have not been funded appropriately. We need to make sure they are reauthorized. The lack of reauthorization gives people strength to say, "well, why should we fund them?"

Senator SANDERS. I would like to throw out a question that comes from a slightly different direction. Many of us, including myself, have mentioned the fact that we are filling the gap in terms of the lack of primary care healthcare practitioners—doctors, nurses, and others—by bringing in people from other countries. Many of the people are coming from countries that are quite poor.

Do any of you have information as to what is the impact on those countries if we are bringing thousands of nurses in from the Philippines or physicians from India or other countries?

Now it seems to me that if you are a poor country and you are educating a medical practitioner—doctor or nurse or whatever—you are spending a lot of limited resources, you are probably not terribly enthusiastic that after education that person is leaving for the United States, and it is probably having a negative impact on the healthcare in that person's native country.

Do we have any information about the impact on those countries drawing primary healthcare professionals into this country?

Dr. Hooker.

Mr. HOOKER. We should be careful which continent we are talking about. If we are talking about Sub-Saharan Africa, It is a profound effect, and some of our colleagues are now doing a very good job of documenting the effect of that.

If we are talking about places like India that have schools purposely training doctors for export, or Philippines that are training nurses for export, or places like Taiwan that have surplus of nurses, then I don't think it is an issue. The English-speaking countries primarily have been the ones that have imported the most number of doctors from many of these areas, and we use the term "brain drain," of course, to describe this phenomenon.

Many of us wonder why we can't train our own? That is really the heart of the question.

Senator SANDERS. Other comments on that?

Dr. AUERBACH. Just to support what Dr. Hooker said, I know a number of years ago, my hospital was in a severe nursing shortage and got involved with an organization that was basically recruiting Filipino nurses that were coming out of schools that were specifically training nurses for export. It really was an export industry for the country.

Because the nurses, when they came over here, sent so much money back home that it was actually beneficial to the government. In an area like that, it was not necessarily strapping them from their resources. As was mentioned, there are other parts of the

country, where we are basically stealing their resources that they have spent their money training them.

Senator SANDERS. Other thoughts on that? Yes?

Mr. SALSBERG. Well, I will just note, unfortunately, that the number of international medical school graduates has been increasing over the past decade. It is up about 25 percent per year. It demonstrates the need that we need to continue to encourage an increase of U.S. medical school production.

I share the comments, in some countries it clearly is more likely to be having a major impact. The numbers, for instance, from Sub-Saharan Africa are not necessarily significant compared to the 25,000 new physicians we have each year. We bring in 300 to 400 from Africa. For those countries, they are very significant.

And so, there is growing concern. We are really just beginning to try and track that migration a little better. Some really good work done by Dr. Fitzhugh Mullen that has tracked the migration patterns, and the numbers are significant.

By the way, I should note a different perspective on this. The largest single source country is India, which we bring in about 1,500 physicians each year from India. While some of those may be coming from schools that are targeted for export, many are coming from across the spectrum of schools in India.

As India develops economically over the next 10 or 20 years, I begin to get concerned can we even count on the steady flow, as we know that India has about one-third as many physicians per population as we have. We know that there will be needs there, and as the country becomes wealthier, I am sure there will be more opportunities.

Again, that speaks for us doing more to educate our own supply. Especially when we know medicine is such a valuable career for young people and that many young people want to become physicians, it seems like we should be offering them that opportunity.

Senator SANDERS. Ms. Landon.

Ms. LANDON. I would like to speak to another part of the country that is losing its workers, and that is rural America. Our youth go off to the big city for college. They get their health professions training in an urban facility. They get their clinical rotations training at a teaching hospital across the street, and rural America, frontier America loses those minds.

By using the title VII programs, such as AHEC and HCOP, and supporting those youth to go into health careers and supporting clinical rotations, opportunities in those rural and other underserved areas, we are able to bridge the gap and keep the rural youth in those communities, getting them to go back to those communities.

Senator SANDERS. Yes, Dr. Grumbach.

Dr. GRUMBACH. I just want to pick up on Ms. Landon's comments because the parallels are profound if we are thinking about our own domestic problems. Because it is a search for policy solutions. When you look at the international migration issue, it is fundamentally about the infrastructure of healthcare in those countries and the lack of infrastructure to retain their own health professionals.

It is very challenging to try to regulate movement when the incentives are so strong to move out of the country and come here.

That is the same thing in rural America. It is the same thing in primary care. That is what I would like to emphasize. It is about the infrastructure. It is the infrastructure when you are talking about international migration and what our Nation will do to help support the infrastructure of developing nations to build a healthcare system that will retain their own workers.

It is about primary care. How do we invest in the primary care infrastructure so our graduates, no matter how many programs we have, don't flee away from that, but really serve where the need is greatest in the types of positions where the need is greatest? The same in how do we build the rural healthcare infrastructure to attract and retain the best of our health professionals?

It is a multidimensional question, which is, we need title VII. We need title VIII. We need these programs, but we need them to think much more comprehensively about how do we do what you alluded to, Senator Sanders. How do we change the whole thrust of our healthcare system so that it is not driven so much by where the opportunity is around technological imperatives, where the financial system provides so many incentives? It seems so contrary to an efficient, cost-effective health system that produces good health for all Americans.

That is going to take some serious deliberation about what are the incentives? How do we invest in electronic medical records that we can put into rural communities, that we can put into primary care offices? How do we look at medical education?

Maybe my caution is it, unfortunately, won't be just one program and one appropriation. It will be a fundamental rethinking of what is really the priority for reform of this healthcare system and——

Senator SANDERS. I fear not only serious deliberations, but heavy-duty political struggle on this issue as well.

Dr. Hooker.

Mr. HOOKER. I have heard a phenomenon that is being predicted. Of course, any prediction is as good as the people giving it. There are now Canadians who are recruiting and successfully recruiting family practice doctors to go to Canada for various reasons—lifestyle, salary, low bureaucracy, and 40-hour week. They can work as doctors. They don't have to worry about the insurance infrastructure.

Some people are saying that Generation Y may be part of this, that there will be more and more healthcare workers that now want to bring their careers to the global stage to be able to offer them to other countries instead of dealing with the bureaucracy of the United States because of all the administrative requirements.

Senator SANDERS. You are raising a whole other issue which I don't know that we have the time to get into and that is, in certain respects, not only the issue of financial incentives and the infrastructure, but the fact that physicians and nurses and people within the healthcare profession are pulling out their hair, sick and tired of filling out forms and dealing with bureaucracy.

They went to graduate school or whatever to practice medicine, to help people, not to be arguing with insurance adjusters. That is another issue, I guess.

Senator Murkowski.

Senator MURKOWSKI. Well, Senator Sanders, one of these days, I need to sit down with you. We have got a program in Alaska through the South Central Foundation that has taken a lot of these concepts that we are talking about, the delivery, how do you return a quality of life to the practitioner? How do you integrate the nurse practitioner, the P.A., the primary care guy, the guy that is dealing with the insurance? Allowing for a system that reduces costs as well as provide for real meaningful access to the patient.

It is an innovative model. Oregon has taken it up, I think it is called Care Oregon. They talked about it as a paradigm shift, if you will. If what we are going to be able to provide in this country is a level of healthcare that we all want for ourselves and for our family, and we want to encourage people to go into the profession for the right reasons, we are going to have to change how we are doing business.

It is kind of interesting listening to all of you around the table. In terms of those in Government programs that have proven effective, universally everyone is saying title VII is essential. Title VIII is essential. The graduate medical education, the ways that we can help move people in the right direction. The challenge for us then is how you get them to stay in these areas where that demand is so great?

Aside from these programs that we have talked about here today, does anybody have any really great new ideas, any wonderful brainstorm that you want to present here today that can help us? Mr. Steinwald, you haven't talked much beyond your initial comments about how we value the care that is provided. What else do we need to be doing?

Mr. STEINWALD. Since you addressed me, Senator, I will try to respond. I am an economist by training, and so you don't want me to provide any suggestions of a clinical nature.

[Laughter.]

Senator MURKOWSKI. OK. That is fair.

Mr. STEINWALD. I do spend most of my time looking at the numbers and about the financial incentives that underlie them. The technological imperative that someone, maybe it was Dr. Grumbach, mentioned earlier, is a fact of life in our healthcare system in the United States. It disadvantages primary care because of the way it promotes specialization and volume and complexity of care.

We waste an awful lot of money in this country on unnecessary tests. We see huge variability across the country, State by State or region by region, in how much we spend per capita with no evidence that the areas that are spending the most are, in any way, benefiting from it.

To me, that says that we have got enough money in our system. We would like to hold the rate of growth at a slower pace. We are increasing our healthcare spending per capita at GDP plus 2.5 percent, and we cannot sustain it.

There are a lot of advantages to primary care and to accomplishing a lot of the objectives that go with that, services in underserved areas, by the paradigm shift that has been mentioned here before. That takes away some of the rewards for increasing volume and complexity of services and rechannels those dollars to a more,

to me, rational way of providing healthcare that is team based, that emphasizes primary care.

You know, it has been pointed out that we have an aging society. The baby boomers are aging into entitlement for Medicare. There will be many, many more people with multiple chronic illnesses. That is where a lot of the money is spent, and that is where the benefits of a team approach to medicine can be realized.

A lot can be accomplished just by rechanneling the money that we spend in the direction that we believe it is most needed.

Senator MURKOWSKI. Who else?

Dr. Auerbach.

Dr. AUERBACH. Yes, we have been talking about this all afternoon, that the realignment of incentives is very clearly an extremely important issue. The whole concept of team-building, we probably need to understand more from the people that are currently practicing in those environments what they like about it and find a way to duplicate that.

The other thing that is important is that we need to take advantage of other technologies. We have talked about technologies that are helping to drive up the cost of healthcare with high-tech imaging studies and so on and so forth. There are other technologies that can bring a greater depth of practice and more enjoyment in being in a rural practice, like telemedicine.

Where you can have someone that doesn't have to feel—a lot of the reason that when we talk to students and when we talk to residents about going into underserved areas and going and practicing in rural areas, most of them don't like the isolation. They don't like the isolation from their colleagues.

Physicians tend to—like the rest of us are quite gregarious, and we like to be able to communicate. We like to be able to share with colleagues. Things that we can do to encourage the use of those kinds of technologies so that a physician practicing out in a rural setting still can feel like they are part of the academic center or the other training center where they developed their skill set, could be very helpful in getting people to go and stay in those areas.

Senator MURKOWSKI. Ms. Landon.

Ms. LANDON. I appreciated your suggestion for new ideas, thinking about it, it is a privilege to live in Alaska, where people are so open to innovation and always willing to try a new idea. In the context of this discussion, what we should talk about is increasing funding for title VII programs.

Looking at the GAO report from February 2006, title VII funding increased only 27 percent between 1999 and 2005, and AHEC was essentially flat-funded during that period. Increasing the funding is critical to meeting the need because these programs are effective.

Think about the community health center line item. That has been increasing. The number of sites are increasing. The JAMA report, Journal of the American Medical Association, from a little over a year ago documented the shortage of primary care providers in the community health centers. AHECs are the ones that are feeding the clinical rotations opportunities from the academic facilities to those centers.

We need to be strengthening the title VII programs to support that linkage. That is even before we talk about the aging of America.

Thank you.

Senator MURKOWSKI. Ms. Laurent.

Ms. LAURENT. I would have to echo the comments of Ms. Landon and really emphasize the importance of increasing spending where—in title VIII, where it matters in the health promotion area. As with the other panelists, I am in agreement that the reimbursement is misaligned, and we need to really kind of take a step back and think about how we can actually prevent things from happening.

With title VIII funding and increasing funding, we have no shortage of nursing applicants. We are turning away 33 percent of people who are applying for undergraduate nursing. We are turning away more for people who are trying to become nurse practitioners. We have no faculty to train these people. We have the access, but we do not have the faculty.

It is a trickle-down effect. If you don't have people focusing on health promotion, we can do everything in the world, but it is going to cost more and more money. If we can kind of look back to where the cost-saving is, it is all about preventing these things from happening and taking advantage of the collaborative practice between physicians, nurse practitioners, and nurses in primary care. It really is realigning and focusing our needs on training healthcare providers that are in primary care.

And title VIII is vital. I work at UVM as well, University of Vermont, and every semester the question is where are we going to find the faculty to teach these people? It is a scramble every semester.

Senator SANDERS. Let me just jump in and respond to that by saying that in the higher education bill, which is meandering its way around here, there is a provision that some of us worked on, which would provide $3,000 per pupil to nursing schools as they increase their student numbers. We think that is——

Ms. LAURENT. To encourage more faculty?

Senator SANDERS. Exactly. So the schools can hire more faculty because one of the problems is that faculty in nursing schools are now running to hospitals, where they can make a heck of a lot more money than they can as faculty in a nursing school.

Dr. Grumbach.

Dr. GRUMBACH. I really appreciate your challenge, Senator Murkowski, and I would echo everybody who said, I mean, attention to title VII and title VIII. Let me go ahead and push it to the next level because what there needs to be is more Federal attention to demonstration projects about the ideal medical home.

To put out those models that then can inspire everybody else and show how it can be done, which is to think much more creatively, and you are talking about the types of models in Alaska and other areas. It is about aims. It is about bringing in community health workers to teach self-management, being able to think about how to staff a primary care team. It is about how to then implement electronic technology, both for telemedicine, but also for patients. So patients can get access to their own test results or their medical

records. So they can e-mail with their clinician and communicate like that.

There are some demonstration projects under Medicare and Medicaid in sort of the modernized medical home, and I would really look at those because that is what we need. We need to say the Federal Government is helping to point the way toward what a modernized future patient-responsive primary care medical home will look like. And really come up with those experimental models that will then get away from some of the traditional reimbursement formulas.

There is talk about then you needing a care coordination fee, an additional fee-for-service. It is not always about just a lot more money. It is about reusing some of the money you have and getting out of some of the regulatory things that handicap the ability to work creatively.

For example, right now, you can't bill—if you are a health worker or a patient educator in the practice who sees a patient, but a nurse practitioner or a physician or a dentist doesn't—you can't bill Medicare, you can't bill Medicaid. It is getting out of that to the idea it is really the team having responsibility for care.

Maybe it is better that they see the health worker that can work with them to take care of their diabetes. If you do an electronic visit by e-mail or by phone, that is not reimbursable.

It is re-altering, maybe not changing the overall pool all the time, but how to allow more flexibility and really to work with the American College of Physicians, the American Academy of Family Physicians, the American Academy of Pediatrics, Nurse Practitioner Associations, the Osteopaths, all have put forward this idea that we are ready to leap forward into much more sophisticated models of the medical home that will really meet patients' need.

We just need a sense that the Government is there, seeing that they would like to look at these test models to point the way toward the future. And then that will excite people, whether it is nurses, physicians, to say, "boy, I see how this could be a satisfying career, that you could really do what you want to do as a health professional." There are models out there that really could be a fulfilling practice and allow us to do what we want to do. It would change the whole dynamic and some of the disincentives that are out there.

Senator MURKOWSKI. Mr. Salsberg.

Mr. SALSBERG. Yes, and I want to echo that Dr. Grumbach's ideas are really excellent. I would add not only demonstrations, but valuation and dissemination because there are some really good models—we mentioned the WAMI model—to understand how that works and what pieces could be replicated most easily.

It is in terms of new ideas, it is not really a new idea, but we are looking at how the academic medical centers can play a greater role in addressing distribution problems in underserved urban and rural areas, whether it is telemedicine, whether it is distance clinics, whether it is medical student rotations or residency training sites, that our major medical centers can play a role in helping address the distribution problem.

There are also some strategies—again, I fully appreciate the idea of what new ideas are out there. It is a little frustrating sometimes

when we know we have some good ideas about what works. You get something like the National Health Service Corps and many of the programs under the title VII, and particularly the diversity programs, we know that if you support the corps, you can get physicians and other practitioners in underserved areas.

We know that if we increase diversity, we will get physicians and practitioners going into underserved areas. We know some things that work, and we need to do more to support that, combine that with the valuation of new ideas and assessment of what is out there so that we can disseminate to the rest of the community the strategies that work.

Mr. SWIFT. We shouldn't forget the concept of the dental home as well. And not dissociated from the medical home, by any means, but there have been some successes along those lines in academic and dental institutions establishing clinics in outreach areas.

At my own institution, the University of Minnesota, we have seven current outreach sites. Eighty percent of the patients are public program patients or uninsureds that we manage in that environment, with the cooperation of the community practitioners in those areas that are wanting to have that type of opportunity or experience. So that does work.

In addition, another story about one of our dental schools, member institutions. The Arizona School of Dentistry and Oral Health is a relatively new dental school. In fact their first class, graduating this spring, was built on that model of doing outreach clinics as the clinical component of their training.

A large number of them, a majority of the class, has made a commitment to spend time managing patients in underserved areas and providing dental services for patients based upon that model through their educational training process. There are some things out there, obviously, the academic dental institutions can't meet the needs of all the dental patients that are underserved in the country. It is a way to go.

Senator MURKOWSKI. Dr. Hooker.

Mr. HOOKER. Title VII, in many aspects, has been met with success. The creators must surely be looking at many aspects of title VII with pride and said we have achieved what we set out to achieve. We now know that many of the experiments and demonstration projects have turned out to be successful. They need more funding.

One of the areas that I echo other people at this table, though, is that there has been a great lack of documentation. There has not been enough assessment. We don't exactly know how effective these programs are. We just know. Some of it is anecdotal that we have mentioned today from our own experience. Some of it has reached the public domain. Clearly, more needs to be done to be able to document just how successful it is.

Senator SANDERS. Let me jump in and ask another question. I know what the answer will be, but I want to ask it anyhow. Senator Murkowski and I are working on legislation to double the amount of money for the National Health Service Corps. Is that a good idea? What has been your experience with the National Health Service Corps?

Dr. Hooker.

Mr. HOOKER. I just read a dissertation on this, and the loan repayment seems to be highly successful. It does what it supposedly intends to do. The scholarship program takes a much longer time to repay. It is a yes/no. It is a binary answer that the loan repayment is highly motivating for people to go into those underserved areas and work off their loan.

Senator SANDERS. Dr. Auerbach.

Dr. AUERBACH. Yes, the National Health Service Corps is a wonderful program. I will go back to a comment that I made in my opening remarks, which is that we need to be sure that we have accurate data about the physicians that are actually in practice. In areas and States and in parts of the country where there are large academic centers, you have huge numbers of physicians that are still calculated based on their presence of a medical license that are involved in research and other activities and are not actually delivering patient care, potentially making it look like that area is overserved, rather than underserved with physicians.

That is a critical issue if we are going to be doing anything to increase funding to National Health Service Corps.

Senator SANDERS. Your concern is that the numbers may not be correct in terms of how we define an underserved area?

Dr. AUERBACH. That is correct.

Senator SANDERS. Ms. Landon.

Ms. LANDON. Several things to comment on. I agree that the National Health Service Corps is an extremely effective program. AHECs work arm-in-arm with them, works closely as part of the safety net with the community health centers.

There is a problem with the designation of underserved areas. Frontier areas are underrepresented because of the population to provider ratio requirement, which we can't meet. If we even came close to meeting it, the burnout from call coverage for 24–7, well, it is just killing the providers.

I did want to add also it is interesting that the State loan repayment program is perceived to be so effective. That is great. Alaska and Vermont do not participate in the State loan repayment program at this time. If you increase the funding, we will be more competitive to do so.

Senator SANDERS. Yes, Dr. Maupin?

Mr. MAUPIN. The National Service Corps program works. I would only comment that all of these programs work when they are in good partnership with each other. I was a community health center director, and I recruited a number of National Health Service Corps folks. The people that stayed after their commitment were the people that came out of many of the community-based medical schools across this country.

And so, there is this cycle. We have a group of schools that have done a great job. They are extraordinarily dependent upon many of these programs. I would say, to the question of can we do something different, they usually are dependent upon filling the gaps because there is an economic imbalance in their mission with a host of issues, whether it is research, the level of patient care, the extraordinary number of uninsured and Medicaid patients, lack of subspecialty, more generalist training, not part of a major medical center.

All of these community-based medical schools are challenged economically, and they end up surviving by the many different kinds of programs that they are dependent upon. Each of these individual programs kind of get picked off or flat funded.

Probably the next idea is to say we ought to figure out how to fully fund a community-based medical school, which is also one of the key components that partners with AHEC. They partner with National Health Service Corps. They partner with federally qualified community health centers. The Centers of Excellence program is one of the funded programs that if they are a participant in that program, they get endowment funding for research so they can participate in community-based participatory research with community health centers.

There are so many things that are connected around their mission focus that we haven't—and they are the ones that seem to be always left out and having to go to all these desperate programs to fill the gaps.

Senator SANDERS. Let me pick up on your comment and ask this. Medicare spends about $8 billion in graduate medical education.

Mr. MAUPIN. Mm-hmm.

Senator SANDERS. Do we make enough demands of those medical schools that, in fact, are going to be graduating physicians who are going to serve in underserved areas? No?

Mr. MAUPIN. Well, I would say no, but at the same time, I would say that that is a difficult way to go about it. In other words, to make a demand, I have a school that spends more—a lot of our resident time is spent in community health centers in the community, and we are connected to a public institution.

That institution, the Grady Hospital, is not receiving the same level of Medicare funding. There are others that will. Their focus is in subspecialty care. Their focus is different. It is the incentives from the manner in which it is paid. We have talked about it is how you align the incentives in any of these programs. I wouldn't say you have this amount of money. It really is how do you redistribute the incentives so that they go to the right places?

If I want to start a program in a rural community and want to be connected to a rural hospital and a rural community health center, how do they participate in a training program? How are they funded when they don't get the same level of funding, yet they have the same needs for housing for residents, for students, for all of the things, the complexities that go with it?

Again, I wouldn't put something against and demand on someone, I would look at are we missing out on how we fund residency programs and other training opportunities in the first place? The new model of medical education funding needs to be looked at. We are so connected in so many different unusual ways to get funding some place that it is easy for them to get distorted when one starts to talk about it.

I remember a conversation that said, that one government official, and I won't name where, but said, "You have other ways to get money. You don't need this money." Well, they really didn't understand the complexity of all the funding mechanisms that are tied up in so many odd ways that when we decouple them a little

bit and then really place them in the right purity, if you will, and with the right incentives, I think we have it.

I would be a little hesitant to say punish someone for not doing something when they said, "Look, we are here to do this in the first place." It really wasn't their fault that the funding came there. I don't blame my colleagues at Emory because there is more money in graduate medical education for Crawford Long Hospital, even though they also participate at Grady Hospital, and it is funded less per resident because of the severity and also the mix of Medicare patients.

Senator SANDERS. Senator Murkowski.

Senator MURKOWSKI. This is more a rhetorical question. Great agreement around the table here today in terms of some of the things that we can do, continue to do, and some new approaches about how we have been doing business.

In the State of Alaska, we talk about the urban/rural split in my State. I would imagine that in many rural States in this country, you have those same tensions over funding. You have got the population centers that get it all. They get the research. Everything goes to them, and the rural areas remain underserved.

In looking at the President's budget and what he is proposing with the programs that we have been discussing here today, we all seem to understand the situation that we are facing in rural America and our medically underserved areas. Do the rest of them just not get it, or what is happening?

I don't mean to be flip with that, but I look at this as an impending crisis. In some parts of the country, we can say is in crisis. What is causing this giant divide here? Is it nothing more than an urban/rural split that we are seeing around the country? Mr. Grumbach, you are shaking your head no?

Dr. GRUMBACH. No.

Senator MURKOWSKI. Do they not get it? Or do they not believe that it is as acute as you and I believe it is?

Dr. GRUMBACH. Yes, the crisis is just becoming adequately apparent. It is easy to marginalize it when it is a rural community or it is a minority inner city. Until it hits middle-class America, it doesn't become a problem that galvanizes political attention.

We see that. We see in 2006, 24 percent of Medicare beneficiaries said they had a problem finding a primary care physician. Last year, it was up to 29 percent. That is what is probably—that wave—the canary in the mine is rural Alaska.

Senator MURKOWSKI. Tell me.

Dr. GRUMBACH. It is Compton, L.A. It is Grady Memorial Hospital. That is just the warning signs of a problem that is starting to affect, middle America, and that is going to compel some attention. I can only wonder along with you why this crisis, as now unfolding in middle America, is not captivating some of our political leadership to really understand that action needs to be taken?

Senator MURKOWSKI. It is starting to come.

Senator SANDERS. They get it perfectly well. They get what they want to get, and this is a political issue. It is an issue of ideology, in my view. You have a President who, among other things, doesn't believe in government and would prefer to give tax breaks to bil-

lionaires than adequately fund programs that have been demonstrably successful year after year.

Senator Murkowski and I are trying to double, as I mentioned a moment ago, the National Health Service Corps. This is all of $125 million a year increase, $125 million a year increase. Compare that to the tax breaks that are going to billionaires. Do they get it? I think they get it just fine. It just is a philosophical divide in this country.

Mr. Steinwald.

Mr. STEINWALD. Yes, I would like to actually answer your earlier question. The $8 billion, it is not as big as the tax break that you just mentioned, but it is certainly a nice big number. I don't think there is sufficient accountability.

You are not going to achieve greater access in rural communities with that $8 billion and you are not going to achieve greater access on primary care services. There is very little accountability for how those dollars are spent.

The incentives that we talk about in a fee-for-service system drive right on down to, the medical education system, and I will let Ed comment on that as well. Because you have faculty practice plans, you have deans of medical schools trying to fund clinical areas. The fees from services go in the direction of funding those programs, in addition to providing positions for doctors in training, who are selecting among primary care versus specialty services and then seeing a difference in remuneration as a result.

The whole system plays in one direction against what we believe is our policy objectives toward primary care in underserved areas. The accountability for that $8 billion just isn't there.

Senator SANDERS. Dr. Auerbach.

Dr. AUERBACH. Yes, I don't know this for sure in terms of whether they get it or not, as you proposed, Senator Murkowski. It would be important to recognize that there is an industrial medical complex that puts a very significant spin on this as well. The specialists and subspecialists work with a huge industrial medical complex that generates a very significant amount of money in this country.

Not paying so much—primary care physicians don't really participate in that very much not only from a reimbursement perspective, but also from encouraging the continuation of that complex. Whereas, specialists and subspecialists are heavily invested in—not personally invested, but heavily invested in making that industrial medical complex grow. That certainly could be another factor in people not being willing to pay much attention to the primary care crisis.

I know we have been talking title VII, a critical issue. I would like to go back to another issue that I raised earlier and was mentioned in your opening statements, Senators, which does have the potential also to help with propagating primary care in rural America, which is the issue of medical student debt.

We are working both on the State level as well as working with some of our Federal partners around some potential demonstration projects for Federal loan and Federal debt forgiveness above and beyond that in the National Health Service Corps for not students,

but residents that are agreeing to go into primary care and working in areas where the need is the greatest.

Senator SANDERS. Dr. Auerbach, I am sure that you are all aware that just recently one of the better pieces of legislation passed last year was the Higher Ed——

Dr. AUERBACH. Yes.

Senator SANDERS [continuing]. Reconciliation act, which will provide not only for people in the healthcare professionals, but for all people who work for Government or in public service. After 10 years, their debts will be forgiven.

Dr. AUERBACH. Yes.

Senator SANDERS. You see that as a step forward, I guess?

Dr. AUERBACH. Absolutely. Because—and again, if we get people to go and practice in those areas and they remain for that time period, when their debt is repaid, even though they still may have the opportunity to earn more in another area, they are probably not going to leave because they are going to be hooked into the community.

Senator SANDERS. Yes?

Mr. MAUPIN. One, I want to echo support for that comment and to talk really that we do need to look at debt forgiveness and the issues around the students and the residents that decide to stay in these communities. I wanted to, before we get off—I don't want to miss one item.

As we look through all of what we do, I am also aware that there are some critical specialties that we are having real problems with in various States. You talk about healthcare is always local. Looking at the State of Georgia, for example, the lack of general surgeons is becoming extremely critical. We are going to have to look at how all of these programs that we may want to support don't also hurt something that may, in fact, be a critical specialty that is needed in key areas. We don't want to forget that issue.

Senator MURKOWSKI. Ms. Landon, did you want to comment on that? Because I know that in Alaska, there is a concern about how we are able to provide for that surgical care.

Ms. LANDON. Yes, and in fact, Fairbanks Memorial Hospital just last month submitted an application to the University of Washington to have seats for residency for general surgeons. They will have 10 rotating up each year on rotation to start to meet that need.

Senator SANDERS. OK, Senator Murkowski.

Senator MURKOWSKI. I just wanted to make sure that Senator Enzi's statement was going to be entered into the record.

[The prepared statement of Senator Enzi follows:]

PREPARED STATEMENT OF SENATOR ENZI

Thank you for holding this hearing and for providing an important forum for the committee to work from to identify and address the healthcare workforce issues that confront us. Today's hearing will give us all an opportunity to highlight not only those issues that are unique to our States but also those that affect our Nation's healthcare system as a whole.

In my home State of Wyoming, one of our biggest challenges is providing timely access to healthcare providers. That kind of access

has been hampered because Wyoming is currently facing a shortage of health care professionals—and I am not referring only to specialists. Clearly, that is a problem that needs to be addressed on more than one level.

To begin with, to have access to more health care professionals, we need more than a new, more effective grant program to increase their numbers. We need real reform of our medical system as a whole. I have introduced a Ten Step bill that will, when it is adopted, greatly reduce the health professional crisis we are already seeing in States like Wyoming, Vermont, Alaska and Massachusetts.

We will be focusing on the training of health professionals, today, but I want to make it clear that work-force issues also include affordable medical insurance for patients, health information technology, better telehealth capabilities, and a liability environment for health care providers. Together, these foundations will help to make people feel more satisfied with their career choice, more fulfilled by the work they do, and ultimately attracted to not only begin, but pursue the call of medicine for many, many years.

That is necessary because Wyoming has a long list of health care needs. We do not have enough primary care physicians, dentists, physician assistants and nurse practitioners. That is in addition to our shortage of subspecialists.

Title VII of the Public Health Service Act is an important component of training our Nation's health care providers. Loan repayment, underrepresented minority programs, faculty training, and various other education programs are important programs that need to be continued. At the same time, we must coordinate the goals of the programs with the outcomes that we measure. We need to improve these programs and our health care delivery system. A few small tweaks are likely not sufficient. That would be like adding a new heel to an old shoe that we would be better off replacing with a new pair.

I appreciate the efforts of Senator Kennedy, Senator Sanders and Senator Murkowski for beginning this conversation. I look forward to examining many aspects of our health work force training including how we plan and pay for our pre and post graduate training. Before that, we need to encourage more individuals to consider a career in health care and serving in areas that are currently underrepresented. It seems to me it is also important that we may need to broaden training sites to include more ambulatory care sites in rural areas.

Recent experience in Wyoming shows that with concentrated effort almost 2/3 of the family practice physicians who train in Wyoming will stay in Wyoming.

I am interested in our witnesses' thoughts on establishing a National Health Work Force Commission so that we can start addressing the shortages identified today in a comprehensive and coordinated way.

Senator MURKOWSKI. He wasn't able to attend. Apparently, he has—I don't know whether there are several questions for you, Ms. Landon, but he did want to ask that we keep the record open for 5 days.

Senator SANDERS. Well, we are going to do it for 10 days.

Senator MURKOWSKI. All right. That is right, get more questions in here. I want to thank you for your leadership, for the discussion that we have had here today. There is good consensus in terms of those areas where we need to be doing more. We need to make sure that the funding is there. We need to make sure that the accountability is there. We need to make sure that we are counting things right.

I look forward to working with you, certainly, Senator Sanders, in making sure that we push on increasing funding for the National Health Service Corps. We have got to do that. The GME money for the training programs, the funding for the community health centers, so that we can get the residency training in there for this minimum period. We get people hooked into these areas where they will stay.

Good suggestions, good input. I appreciate all that you are doing throughout the country, and we will keep working on it. I would just thank you all.

Senator SANDERS. Well, let me just conclude by thanking you, Senator Murkowski, and all of you. I want to thank you for the work that you are doing back in your respective areas. This is an issue of significance to tens of millions of Americans. Your comments have been extraordinarily illuminating. We look forward to working with you, and thank you very much for being here today.

[Additional material follows.]

ADDITIONAL MATERIAL

PREPARED STATEMENT OF SENATOR BINGAMAN

Let me thank the Chairman for holding this important hearing on health professions supply. This deserves our serious attention.

In New Mexico, 30 of our 33 counties are federally designated as health professions shortage areas or medically underserved areas.

With a low per-capita income, and a high uninsured population, having a health provider in our towns can mean the difference between getting care while problems are manageable, or waiting until problems became so serious that they require hospitalization or worse.

In New Mexico, we have worked on creative interdisciplinary models of health delivery, such as the Health Commons models that provide an enhanced primary care home, including medical, behavioral, and oral health, to our most needy populations.

We train our health professionals in these venues, and they end up working in them at two to three times the rate of other trainees when they graduate. These programs work. Title VII funding supported their success. New Mexicans depend on these programs for health care.

These programs are under severe threat. The President proposed eliminating title VII funding, severely cutting title VIII funding, and unilaterally changing Medicaid rules through CMS that will devastate training programs and will unravel our tenuous safety net in New Mexico, and across our Nation.

We have witnessed the unprecedented growth of our uninsured under this Administration with 48 million Americans who are medically uninsured and over 100 million who lack oral health coverage.

This would be exactly the wrong time to cut funding, as the President has proposed. While I support the President's call to expand community health center funding, it is cynical, it is illogical, to cut the funding of the title VII programs that assure staffing of those centers.

While 21 percent of the U.S. population live in rural areas, only 10 percent of our physicians work in rural areas.

Our population will grow by 25 million per decade, and those over age 65 will double by year 2030. Those over age 65 have twice the number of doctor visits as younger individuals.

Our Nation faces physician shortages which will grow to over 200,000 by 2020, while nursing shortages may exceed 1 million. Currently, few dentists accept Medicaid and access is impossible for our uninsured.

Let us focus our legislative attention on our pipeline of health professionals and the distribution of these graduates into the areas they are most needed.

Let us support new interdisciplinary models of service and learning, with a balance of urban and community-based experience—addressing our Nation's most pressing health needs, while admitting health professions students more reflective of our Nation's diversity.

It is time for us to pass measures, using funding mechanisms like GME and IME through Medicare and Medicaid, to assure

training of health professions to address our current and future health workforce and access needs. CMS should not be cutting funding of these programs through rule changes that will blow up our pipeline supply when shortages are severe, and getting worse.

Americans deserve, and should expect, better health professions outcomes and return on our Federal investment. We should expand funding to programs that produce the types of health professionals most needed, and that succeed in placing them in the cities and towns where we most need them.

It is time for Congress to address these shortages, to support the hard-working health professionals both in our cities and in our small towns, and to fund programs that clearly and conclusively work, including title VII and title VIII physician, nurse and dental training, scholarship, diversity, and loan repayment programs.

PREPARED STATEMENT OF SENATOR CLINTON

I look forward to working with my colleagues on the HELP Committee to reauthorize the title VII health professions program. These programs have a great impact on New York, both as a State with multiple health professions schools, and as a State that has underserved communities who benefit from these programs. Our State has 15 medical schools with over 15,000 residents in training and 11 accredited nursing schools. Our rural and urban communities have critical needs for primary care physicians, dentists, nurses and other health professionals. Over 50 of New York's 62 counties have Medically Underserved Areas (MUA's) and many of those counties have multiple MUA designations, in both urban and rural areas. In some of our rural regions, there has been a significant decline in the number of health professionals filling demand, and at this point, we do not have enough primary care providers to meet the growing needs.

In addition to ensuring adequate workforce for both rural and urban underserved areas, I believe that the title VII programs are an important tool in addressing the growing diversity of the U.S. population, which is not yet reflected in our health workforce. New York State has a minority population of 36 percent, yet enrollment in our medical schools by minority students lags far behind at 10 percent. This under-representation is associated with poor health outcomes in minority communities, and I think that by improving the number of underrepresented minorities in the health professions, we can reduce health disparities. Title VII Health Professions Programs address these issues by providing educational pipelines that target minority students at all levels of education, helping them to gain interest in and pursue careers in health care.

The President's proposed budget for New York health professions' programs this year is $13 million, compared to $29 million only 5 years ago. Yet the shortage of primary care providers only continues to grow. If we are to meet the needs of underserved communities in New York and the Nation, we must increase our support for the title VII programs that are an essential component in improving access to care for all Americans.

I believe that the title VII programs should be re-authorized to a level that will make them effective in providing a pipeline to encourage a diverse range of participants to enter the health profes-

sions, retain a commitment, through years of training, and to serve in the urban and rural communities where they are most needed.

We need to assure that training programs are aligned with healthcare needs. These programs should be amended to improve data collection in order to track health professionals, identify shortage areas, and evaluate specific outcomes.

We need to address the primary care shortage by improving linkages between health professions schools to medically underserved areas.

PREPARED STATEMENT OF THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians (ACP) is the largest medical specialty society in the United States, representing 125,000 doctors of internal medicine, residents and medical students. ACP commends Chairman Edward Kennedy for addressing the challenges in the training and supply of the healthcare workforce. The College is extremely concerned about the looming crisis in the supply of primary care physicians, particularly the pending undersupply of general internists and the potential impact on the health care of the United States population.

There has been a steady decline of medical students and residents pursuing careers in primary care specialties and many areas of the country are already facing shortages. The College is very concerned that if current trends continue, there will not be an adequate supply of well-trained primary care physicians to treat an aging population—especially those 65 and older—many of whom will have multiple chronic illnesses. Numerous studies show that the availability of primary care is positively associated with lower rates of preventable mortality (preventable deaths per 100,000 people) and fewer preventable hospital admissions for chronic diseases like diabetes, lower overall utilization of health care resources, and lower overall per capita health care expenditures.

ACP is particularly concerned about the adequacy of the supply of general internists who provide care in outpatient settings. Many general internists are choosing to leave internal medicine, while others near retirement, are choosing to retire earlier than planned. Approximately 21 percent of physicians who were board certified in the early 1990s have left general internal medicine, compared to a 5 percent departure rate for internal medicine subspecialists.[1] Simultaneously, there has been a precipitous decline in the number of medical students and residents choosing to pursue careers in office-based general internal medicine.[2] If this trend continues, a shortage of primary care physicians will likely develop more rapidly than many now anticipate.

The College is in agreement with the GAO's findings submitted to the committee that primary care medicine is essential to better quality and lower costs. The College also agrees that the health care system's current financing mechanisms undervalue primary care services. However, the College believes that the GAO understates the developing shortage of primary care and feels that clarification is necessary on two issues:

1. THE NUMBER OF PRIMARY CARE PHYSICIANS PER 100,000 PEOPLE

The GAO study states that the number of primary care physicians has increased from 80 primary care physicians per 100,000 people in 1995 to 90 primary care physicians per 100,000 people in 2005. However, the Health Resources and Services Administration in its October 2006 report, *Physician Supply and Demand: Projections to 2020*, projects that the estimated *requirements* in 2005 were 95 primary care physicians per 100,000 people. In the same report HRSA estimates that the baseline primary care physician requirements per 100,000 people will increase to 100 by 2020.[3]

[1] Lipner RS, Bylsma WH, Arnold GK, Fortna GS, Tooker J, Cassel CK. Who is maintaining certification in internal medicine—and why? A national survey 10 years after initial certification. Ann Intern Med. 2005;144:29–36.

[2] Popkave, CG. Research Associate, Office of Research, Planning, and Evaluation, American College of Physicians. Personal communication. February 2006. ITE Exam Survey Data.

[3] Health Resources and Services Administration. Physician Supply and Demand: Projections to 2020. October 2006.

2. THE NUMBER OF RESIDENTS TRAINING IN PRIMARY CARE SPECIALTIES

The GAO Study states that there were 40,982 residents in primary care graduate medical training programs in 2006, based on data from the National GME Census that appears annually in the *Journal of the American Medical Association*. We believe that this number is misleading as this number represents all primary care residents on duty without regard to where they are in the training process. For example, while 22,099 of the 40,982 primary care residents reported were internal medicine residents, it is important to consider that 3 years of an internal medicine residency is a pre-requisite for subspecialty training in cardiology, endocrinology, gastroenterology, hematology, infectious disease, nephrology, oncology, pulmonary disease, rheumatology and sports medicine.[4] Many residents going on to careers in other specialties also first complete preliminary programs in internal medicine. It cannot be assumed that all 22,099 of those residents will go on to practice primary care. In fact, data from surveys of third-year internal medicine residents (chart below) suggests otherwise. In 2006, only 24 percent of third-year internal medicine residents surveyed stated that they intended to pursue careers in general internal medicine, down from 54 percent in 1998. The remainder indicated that they planned on pursuing careers in an internal medicine subspecialty or hospital medicine.

Trends in Career Plans of Third-Year Residents Enrolled in U.S. Categorical and Primary Care Internal Medicine Training Programs, 1998–2006

Year	No. of respondents	Career plan (in percent)					
		General internal medicine	Hospitalist	Sub-specialty	Other	Undecided	Missing
1998	4008	54	N/A	42	3	N/A	1
1999	4338	49	N/A	47	2	N/A	2
2000	4562	44	N/A	51	4	N/A	2
2001	4565	40	N/A	54	4	N/A	2
2002	3495	28	4	56	2	6	4
2003	4732	27	7	57	2	6	1
2004	4974	24	8	56	4	8	0
2005	4926	20	12	58	1	7	1
2006	4817	24	8	63	1	4	0

Source: Internal Medicine In-Training Examination Survey

With this in consideration and assuming that many of the 7,964 pediatric residents that were included in the 40,982 figure will also likely subspecialize, it is evident that the number of residents who choose to practice office-based primary care upon completion of training is actually far less than what the GAO study indicates.

The GAO study found that preventive care, coordinated care for the chronically ill, and continuity of care can achieve better health outcomes and cost savings. These are the fundamental characteristics of the care that general internists provide. The study also found that States with more primary care physicians per capita have better health outcomes than States with fewer primary care physicians and that States with a higher generalist-to-population ratio have lower per-beneficiary Medicare expenditures. The GAO study confirms that the Nation's uncoordinated system of care, which has an over reliance on specialty care services, has led to a less efficient health care system that undervalues primary care services and rewards expensive procedure-based services. The College strongly agrees with the GAO's findings and is a strong proponent of the medical home model the GAO cited in its study.

RECOMMENDATIONS

As the education and training of new physicians takes at least 10 years, immediate action is needed to assure access to care and to prevent a crisis in the future. The College feels strongly that special emphasis should be placed on increasing the supply of primary care physicians including general internists through modifications in Medicare GME funding, expansion of the National Health Service Corps, increased funding for primary care training and faculty development programs under title VII and expansion of program for student loan debt relief. According to the As-

[4] Brotherton S. and Etzel S. Graduate Medical Education 2006–2007. *JAMA*, 2005; 289 (9) 1081–1096.

sociation of American Medical Colleges, the average medical student debt in 2007 was $139,517. Those students with debt that exceed $150,000 are the least likely to select a primary care residency.[5] Medical school scholarships and loan repayment programs in exchange for service in underserved areas for those pursuing careers in primary care are essential for those that are interested in careers in these critical but less remunerative specialties.

The College also urges improving the payment and practice environment of existing primary care physicians and advocates reforming Medicare payment policies so that physicians engaging in primary care can receive reimbursement that is commensurate with the value of their contributions. The College was encouraged by the GAO's findings that payments for services and their value to the patient are misaligned and that payment system reforms are necessary. Reducing existing income disparities would make the field more attractive and increase the number of physicians entering and continuing practice in primary care specialties.

Additionally, the College strongly advocates adopting a patient-centered primary care model of health care delivery. Patient-centered primary care will facilitate the ability of physicians, working in partnership with their patients, to implement a systems-based approach to delivering patient-centered services that have been shown to result in better quality, lower costs, and higher patient satisfaction. It will also avert an impending collapse of primary care medicine by restructuring payment policies to support the value of care provided by a primary care physician. Moreover, patient-centered primary care will extend the benefits of a patient-centered health care system to all Americans by taking immediate steps toward making affordable coverage available to the uninsured and by giving them direct access to coordinated care through a medical home.

CONCLUSION

The American College of Physicians appreciates the opportunity to provide the Committee on Health, Education, Labor, and Pensions with this summary of our views on the primary care workforce crisis. Without general internal medicine, the health care system will become increasingly fragmented, over-specialized, and inefficient—leading to poorer quality care at higher costs. Unless steps are taken now, there will not be enough general internists to take care of an aging population with growing incidences of chronic diseases. An insufficient supply of primary care physicians will also contribute to higher health care costs and poorer outcomes, especially for patients with multiple chronic diseases. Additional information on ACP's analysis and proposals can be found on our Web site: Creating a New National Workforce for Internal Medicine *http://www.acponline.org/advocacy/where_we_*stand/policy/im_workforce.pdf; Medical Homes and Patient-Centered Care *http://www.acponline.org/advocacy/where_we_stand/medical_home/*.

RESPONSE TO QUESTIONS OF SENATORS KENNEDY, BINGAMAN, SANDERS, MIKULSKI, ENZI, AND MURKOWSKI BY BRUCE A. STEINWALD

QUESTIONS OF SENATOR KENNEDY

Question 1. In your testimony, you indicate that over the last 50 years, government and industry groups predicted a shortage of physicians, then a surplus, and now they are predicting a shortage again. With this knowledge, what steps should we take now to address this situation, and prevent shortages from reaching severe levels?

Answer 1. As we noted in our testimony, research in recent years has concluded that the Nation's over reliance on specialty care services at the expense of primary care leads to a health care system that is less efficient. We also note that the predominant form of payment to physicians—fee-for-service—and the conventional resource-based pricing of services undervalues primary care. Ideally, payment system reforms that address this undervaluing of primary care services should not strictly be about raising fees but rather about recalibrating the value of all services, both specialty and primary care. It is unclear, however, whether there is currently a shortage of primary care physicians.

Question 2. Your testimony indicates that the total supply of primary care professionals is going up, but that the supply of nonphysicians is increasing faster than the supply of physicians. To ensure adequate numbers of primary care providers,

[5] Rosenblatt RA and Andrilla CHA. The Impact of U.S. Medical Students' Debt on Their Choice of Primary Care Careers: An Analysis of Data from the 2002 Medical School Graduation Questionnaire. *Academic Medicine* (2005) 80: 815–819.

we will need to continue encouraging both physicians and non-physician providers to enter primary care specialties. What steps should we be taking now to encourage each of these groups to enter primary care specialties?

Answer 2. As we noted in our testimony, the health care system's financing mechanisms result in an uncoordinated system of care that rewards specialty services and undervalues primary care services. For example, primary care physicians, whose principal services are patient office visits, are not able to increase the volume of their services without reducing the time spent with patients, thereby compromising quality. Moreover, the resource-based pricing system used by most health care payers, including Medicare, results in higher fees for procedure-based services performed by specialty physicians than for "evaluation and management" services.

Some physician organizations are proposing a new health care delivery model that establishes a primary care provider as the central coordinator of a patient's medical care. This "medical home" model allows patients to select a clinical setting—such as their primary care physician's practice—to act as the coordinator of their medical needs, including specialty care. These "medical home" proposals call for the primary care provider to be appropriately compensated for performing coordination duties.

Question 3. Your testimony indicates that the conventional pricing of physician services undervalues primary care and appears to be counterproductive. Could you describe the system-wide financial benefit of investing in primary care?

Answer 3. The benefits of primary care services that we noted in our testimony include:

- Patients of primary care physicians are more likely to receive preventive services, to receive better management of chronic illness than other patients, and to be satisfied with their care.
- Areas with more specialists, or higher specialist-to-population ratios, have no advantages in meeting population health needs and may have ill effects when specialist care is unnecessary.
- States with more primary care physicians per capita have better health outcomes—as measured by total and disease-specific mortality rates and life expectancy—than States with fewer primary care physicians (even after adjusting for other factors, such as age and income).
- States with a higher generalist-to-population ratio have lower per-beneficiary Medicare expenditures and higher scores on 24 common performance measures than States with fewer generalist physicians and more specialists per capita.

QUESTIONS OF SENATOR BINGAMAN

Question 1. In reviewing the testimony you submitted in regard to Primary Care Professionals, and their valuation of services, you reported that fee for service payment provide no incentive for quality or outcomes, and also disadvantage primary care physicians. You also cite data that communities with higher generalist physician to population ratios have better outcomes. The number applying to family medicine and general internal medicine residencies has decreased when we need them most.

Can you tell the committee about how you might create payment mechanisms to coordinate care in a primary care home?

Answer 1. Some physician organizations are proposing the establishment of a medical home model for patients in which a single health professional coordinates all the services a patient needs, including specialty care. The medical home model would also include a refinement to current payment systems to ensure that the work involved in coordinating a patient's care is appropriately compensated.

More specifically, the proposed medical home model allows patients to select a single primary care provider to serve as the central coordinator of their care. The medical home model seeks to ensure continuity of care and guide patients and their families through the complex process of making decisions about their treatments and providers. The proposal includes a key modification to conventional physician payment systems so that physicians receive payment for the time spent coordinating care. These care coordination payments could be added to existing fee schedule payments or included in a comprehensive, per-patient monthly fee.

Question 2. Has MedPAC or the GAO made recommendations to institute payment to assure an adequate primary care workforce?

Answer 2. During its March 2008 public meetings, MedPAC discussed potential payment adjustments for primary care physicians under the current Medicare payment system. Based on this discussion, MedPAC may be making recommendations to the Congress on payment for primary care services in its June 2008 report.

The GAO, however, has not made recommendations about refining payment systems to ensure the adequacy of the primary care workforce.

QUESTIONS OF SENATOR SANDERS

Question 1. In your testimony, you point out that the total number of primary health care professionals has been increasing—yet the number of U.S.-trained medical graduates has decreased while the number of international medical graduates has increased. So in essence, the United States is not really increasing the number of primary care health professionals. Therefore, don't we have a shortage? What would it take for the United States to eliminate its reliance on international medical graduates?

Answer 1. Our testimony notes that in recent years, the supply of primary care physicians grew faster than the population, resulting in an increased supply of primary care professionals on a per capita basis. Between 1995 and 2006, the composition of primary care physician residents did change. A decline in the number of allopathic U.S. medical school graduates (USMDs) selecting primary care residencies was offset by increases in the numbers of international medical graduates (IMGs) and doctor of osteopathy (DO) graduates entering primary care residencies.

We did not evaluate the relative contributions of USMDs, IMGs, and DOs to the provision of primary care services in the United States.

Question 2. In your investigation, you note that few projections directly address the supply of primary care professionals and instead focus on the supply of all physicians combined. In my mind, if you don't measure it, it's an invisible problem. Who should be responsible for collecting this data?

Answer 2. The Health Resources and Services Administration (HRSA) collects and disseminates a significant amount of data on the health care professions. In our testimony, we relied on these data, as well as data from nongovernmental organizations that represent the health care professions.

Question 3. In your testimony, you highlighted the concept of a "medical home" as a means of reforming health care to reemphasize primary care. Would you provide specific suggestions for changes that Congress would need to enact to advance this medical home model?

Answer 3. We do not have specific recommendations for the Congress to enact the medical home model. Other organizations, including MedPAC, are addressing the issue and may make recommendations to the Congress.

During its March 2008 public meetings, MedPAC discussed a potential recommendation for the Congress to launch a medical home pilot project in Medicare. Under this draft recommendation, the medical homes would be required to meet "stringent criteria," such as providing primary care; using health information technology; conducting case management services to coordinate services; maintaining 24-hour patient communication and access; keeping up-to-date records of advance directives by patients about their wishes if they become medically incapacitated; and being accredited or certified by an external accrediting body. The draft recommendation also states that physicians who provide medical home services should receive a modest per-beneficiary payment.

Some physician organizations have advocated for increases to the Medicare resource-based fee schedule to account for time spent coordinating care for patients with multiple chronic illnesses. Supporters of the medical home model contend that it may be desirable to develop payment models that blend fee-for-service payments with per-patient payments to ensure that the system is appropriately reimbursing physicians for primary, specialty, episodic, and acute care.

QUESTION OF SENATOR MIKULSKI

Question. With the aging baby boomer generation and the shortage of geriatricians, what can be done to increase the number of geriatricians?

Answer. In our study, physicians in general practice, family medicine and general internal medicine were regarded as providers of primary care services. While we did not specifically examine geriatricians, we would expect that all providers of primary care services would benefit from a re-evaluation of such services in Medicare's payment system.

QUESTIONS OF SENATOR ENZI

Question 1. Recognizing that most resident physicians practice within a limited distance of their training site, and that the majority of current residency training

programs exist in or near the major metropolitan cities on the East Coast, West Coast and Great Lakes areas, what should be done to equalize the distribution of residency training sites in the United States?

Answer 1. We did not evaluate the distribution of residency training sites in the United States, or what effect the location of residency training sites have on where physicians choose to practice.

Question 2. As the number of primary care doctors in proportion to the population has actually risen, will you discuss the cause of the perceived shortage of these physicians?

Answer 2. We are not aware of any information that demonstrates a current shortage of primary care physicians.

HRSA issued a report projecting that the current supply of primary care physicians will be sufficient to meet anticipated need through about 2018, but it may fall short of the amount needed in 2020. HRSA based its physician supply projections on the size and demographics of the current physician workforce, expected number of new entrants, and rate of attrition due to retirement, death, and disability.

The American Academy of Family Physicians (AAFP) also issued a report projecting the number of family practitioners in 2020 could fall short of the number needed, depending on growth in family medicine residency programs.

QUESTIONS OF SENATOR MURKOWSKI

Question 1. I have heard concerns that HRSA's Healthcare work shortages designation in frontier areas are not accurately reflected by the area's HPSA scores. Do you think that HPSA scores accurately reflect shortage needs in frontier areas? Can you suggest ways to modify HPSA score formula or additional consideration that might be used to better measure shortages of health professionals in frontier areas?

Answer 1. The Department of Health and Human Services (HHS) published a notice of proposed rulemaking regarding the designation of medically undeserved populations (MUPs) and health professional shortage areas (HPSAs) on February 29, 2008 (Federal Register, Vol. 73, No. 41, pp. 11232–11281). The proposed rule would revise and consolidate the criteria and processes for designating MUPs and HPSAs, designations that are used in a wide variety of Federal Government programs. The Federal Register notice discussed the impact of the proposed rule on (1) the distribution of designations by Metropolitan/Non-Metropolitan and Frontier Status, and (2) the distribution of population of underserved area and underserved populations by Metropolitan/Non-Metropolitan and Frontier Status (see p. 11258).

We have not evaluated HHS's proposed changes to the HPSAs and MUPs, or how these changes would affect the measurement of shortages of health professionals in frontier areas.

Question 2. In discussing health care provider shortages in Wyoming, I have heard of health care providers who are always on call as they are the only health care provider in an area and I am concerned about this added stress. What is the best way to account for the strain of professional isolation on providers that geographic isolation causes in frontier areas?

Answer 2. We have not evaluated the effects of professional isolation on health care providers in frontier areas.

RESPONSE TO QUESTIONS OF SENATORS KENNEDY, MIKULSKI, BINGAMAN, CLINTON, SANDERS, ENZI, AND MURKOWSKI BY KEVIN GRUMBACH, M.D.

QUESTIONS OF SENATOR KENNEDY

Question 1. Dr. Grumbach, in your testimony you say that we should take an evidence-based approach to developing effective Federal policies in health care. How would you suggest we target title VII funding to strengthen our primary care infrastructure?

Answer 1. The primary care workforce goals for title VII funding should guide the targeting of title VII funds. In my view, reauthorization of title VII should make explicit the following two goals for the primary care components of this program: (1) preparing primary care physicians and physician assistants to transform the 21st Century primary care medical home into a modernized, high-quality, patient-centered practice model for all Americans, and (2) an additional special focus on preparing primary care physicians and physician assistants to care for underserved populations in the United States. The guidelines for targeting of title VII funds that logically follow from these goals are: (1) prioritize funding for training programs that demonstrate that they are preparing students and residents to lead innovative

models of primary care (e.g., are providing training in applications of the Chronic Care Model, open access scheduling methods, use of electronic medical records, group medical visits, innovative team-based care models, etc.), and (2) prioritize funding for training programs that demonstrate that they are teaching skills in the care of underserved populations (e.g., working with interpreters, culture competence, integrating oral health care into primary medical care), recruiting individuals from underserved backgrounds (underrepresented minority, socioeconomically disadvantaged, and rural backgrounds), and having significant numbers of their graduates practicing in underserved communities and caring for vulnerable populations.

Question 2. Dr. Grumbach, in your testimony you make the case that primary care is the foundation of a well-performing health system. Could you please tell us what the literature shows about the use of primary care in terms of quality, cost, and equity outcomes?

Answer 2. Research evidence makes it clear that health systems built on a solid foundation of primary care deliver more effective, efficient, and equitable care than systems that fail to invest adequately in primary care:

• *Costs:* Patients with a regular primary care physician have lower overall costs than those without.[1 2 3] Compared with specialty medicine, primary care provides comparable quality of care at lower cost for a variety of conditions such as diabetes, hypertension, and pneumonia.[4 5] In comparisons of regions and States in the United States, increased primary care physician to population ratios are associated with reduced hospitalization rates and lower overall health care costs.[6 7]

• *Quality:* Counties and States with more primary care physicians per capita—but not specialists—have better population health indicators such as total mortality, heart disease and cancer mortality, and neonatal mortality.[8 9 10] Medicare patients in these regions also receive better quality of care, including more appropriate care for heart attacks, diabetes, and pneumonia.[7] Patients with a primary care home are more likely to receive appropriate preventive services such as cancer screening and flu shots.[11 12]

• *Equity:* Racial disparities are reduced when patients receive care from a well-functioning medical home. The Commonwealth Fund 2006 Health Care Quality Survey found that when adults have a health care setting that provides timely, well-organized care and enhanced access to the range of health providers, racial and ethnic disparities in access and quality are reduced or eliminated. With a medical home, minority patients are just as likely as whites to have care when needed, receive preventive screening, and have chronic conditions managed appropriately.[13]

QUESTION OF SENATOR MIKULSKI

Question. With the aging baby boomer generation and the shortage of geriatricians, what can be done to increase the number of geriatricians?

Answer. The forces discouraging physicians from entering the field of geriatrics are the same forces discouraging physicians from entering primary care fields in general:

• inadequate promotion of geriatrics in institutions of medical education,

• inadequate reimbursement for the practice of geriatrics, which almost exclusively involves under-valued evaluation and management (E&M) services, and

• inadequate reforms in practice models to create and reward more team-based, innovative models of care for patients with chronic illness.

Addressing any one of these problems in isolation is unlikely to solve the problem of the geriatrician workforce. For example, funding for title VII programs in geriatric training is a necessary, but insufficient, policy response. Such support must be coupled by reforms of Medicare physician payment to provide more incentive for physicians to practice geriatrics, such as by increasing fees for E&M services. In addition, Medicare should develop more creative approaches to supporting team-based primary care such as by adding a monthly care-coordination payment and directly subsidizing hiring of case managers, health "coaches" to assist patients in self-management of chronic illness, and related staff for the comprehensive primary care team. Such a payment scheme has been proposed by Gorol, et al. (Fundamental reform of payment for adult primary care: comprehensive payment for comprehensive care. J Gen Intern Med. 2007;22(3):410–5).

QUESTIONS OF SENATOR BINGAMAN

Question 1. Dr. Grumbach, thank you for your testimony, and for taking your valuable time to share your expert knowledge with the committee.

In reviewing and hearing your testimony, I note that you have data that demonstrate that title VII funding is correlated with getting doctors to practice in areas where they are most needed. Can you discuss the data demonstrating title VII effectiveness?

Answer 1. Our own study that I cited, led by Dr. Diane Rittenhouse and funded by the Bureau of Health Professions (HRSA), demonstrated that Title VII Section 747 Primary Care Training grants are significantly associated with physicians and physician assistants being more likely to work at federally funded Community Health Centers (CHCs) and join the National Health Service Corps. Ours was the most comprehensive study of title VII outcomes performed to date, utilizing comprehensive historical grant files from HRSA, a complete historical record of all NHSC participants, a national data base on all currently active U.S. physicians, and Medicare claims files.

The key findings for CHCs are displayed in the following table:

Number (%) of Physicians Exposed to Title VII Grants During Training That Worked in CHC (2001–2003)

	All specialties	[In percent]	PCPs only	[In percent]	FP/GPs only (6)	[In percent]
Medical School Exposure (3):						
Exposed During Medical School	5,934	3.0%	3,515	4.5%	2,258	6.2%
AAU grant	847	3.0	506	4.8	301	6.5
Pre-doctoral grant	1,624	2.7	914	4.1	574	5.7
Both grants	3,465	3.1	2,095	4.6	1,383	6.4
Not-exposed During Medical School	4,007	1.9	1,814	3.0	950	4.3
Residency Exposure (5,6):						
Exposed During Residency	N/A	N/A	3,130	4.4	1,698	6.8
Not-exposed During Residency	N/A	N/A	3,629	3.5	1,710	5.0

All are significant at $p<0.001$ for comparisons between exposed and non-exposed physicians, using chi square tests.

(1) Includes all U.S. physicians who completed residency in 1977 or later.
(2) International and Canadian medical school graduates were excluded because they are not eligible for the NHSC.
(3) International and Canadian medical school graduates were excluded because they could not be exposed to title VII during medical school.
(4) Includes all U.S. physicians who completed residency in 1987 or later.
(5) Osteopathic physicians were excluded from residency analyses due to insufficient osteopathic residency data in the AMA Masterfile.
(6) General practitioners were excluded from residency analyses because they generally do not undergo full residency training.

Primary care = family medicine, general practice, general internal medicine, and general pediatrics.
Data source: 2004 AMA Physician Masterfile & Health Resources and Services Administration Title VII Training Program Grantee Database; CMS Outpatient Claims File, 2001, 2002, 2003; & HRSA Bureau of the Health Professions NHSC Participant Database.

Prior published research has demonstrated an association between title VII grants to medical schools and increased production of primary care physicians (PCPs)[14 15 16 17] and a greater likelihood that graduates will practice in underserved areas.[17 18] The only published study to examine title VII grants to residency programs was limited to family physicians (FPs) in 9 States, and found that FPs who were exposed to title VII grants during residency training were more likely to practice in rural and low-income areas than other FPs.[18]

I have also performed research on title VII programs focused on health professions diversity. I led a study, funded by the Bureau of Health Professions (HRSA) and completed in 2002, that reviewed all the research evidence on the effectiveness of educational pipeline interventions designed to increase the number of underrepresented minorities entering health and health science careers. This critical review concluded that while there had been a relative paucity of high quality, rigorous evaluations of pipeline programs conducted to date, those studies which had been conducted did consistently demonstrate a significant, positive effect of these interventions.

Question 2. Can you tell the committee when you submitted these data or reports to HRSA, and how long it was before that data was released to the public?

Answer 2. Our final report on our Title VII—Community Health Center—NHSC study was submitted to HRSA in April, 2006. To our knowledge, HRSA has not to date taken any action on this report. We have not received any formal comments from HRSA about our report, and the report has never been published by HRSA or released to the public.

My report to HRSA on diversity pipeline programs was reviewed by staff in the Bureau of Health Professions in 2002, and we revised the report in response to this review. HRSA accepted our revised report and planned to publish the report as a government document, but a final review by the Office of the Secretary of Health

and Human Services deemed the report inappropriate for publication and the report was never released by the Federal Government. A revised version of the report was published in 2003 under the sponsorship of a private foundation, The California Endowment.

QUESTION OF SENATOR CLINTON

Question. In your testimony, you noted that the Title VII Primary Care Training Grants are "more likely to produce graduates who enter primary care fields, work at Community Health Centers, and participate in National Health Service Corps." Given that the National Health Service Corps is having trouble filling all available positions, and that we are seeing fewer and fewer medical school graduates entering primary care, it is imperative that we work to support efforts to increase the supply of primary care professionals.

Title VII programs have contributed to training thousands of New York students. Multiple experts and the research literature stress the importance of the programs, yet the Administration has criticized the effectiveness of these programs.

The basis for such criticism is the use of the Program Assessment Rating Tool (PART), which does not accurately reflect the multiple goals of title VII programs.

Given the success of these programs in increasing the number of primary care physicians, what outcome measures would you recommend as appropriate in evaluating the true impact of these valuable training programs?

Answer. In my response above to the first question from Senator Kennedy, I alluded to goals and performance targets for title VII programs. More specifically, in terms of outcomes measures, I believe that many of the outcomes measures being collected by the Bureau of Health Professions as part of its Comprehensive Performance Monitoring System are very appropriate for evaluation of these programs. Among the valuable outcomes measures currently collected by BHPr are:

- The number of graduates of funded institutions entering careers in primary care fields,
- The number of students and residents from underrepresented minority and socioeconomically disadvantaged backgrounds enrolling and graduating from funded programs, and
- The number of program graduates entering practice in underserved communities and settings.

In a report our research team recently submitted to BHPr for a contract examining approaches to evaluating BHPr programs (K Grumbach, et al., *Pipeline Programs to Improve Racial and Ethnic Diversity in the Health Professions: An Inventory of Federal Programs, Assessment of Evaluation Approaches, and Critical Review of the Research Literature*; submitted November 2008), we pointed out the need to invest resources to create more capacity in BHPr to perform more centralized and systematic evaluation of its programs, such as by enhancing BHPr capacity for matching program enrollee and graduate data bases with centralized data bases such as the AAMC files on national matriculation data for U.S. medical schools. In addition, when interpreting outcomes measures, it is important to not only examine outcomes in reference to some desired benchmark or target for performance, but to also give credit to programs and institutions that demonstrate improvement over time towards meeting such benchmarks, even if they still fall short of the actual benchmark.

QUESTIONS OF SENATOR SANDERS

Question 1. Over the years, projections regarding future physician supply and adequacy have proven to be less than accurate. I have a couple of basic questions about what goes into computing the need for physicians. What is the presumed optimal population to physician ratio on which projections are based? What factors are involved in determining an appropriate population to physician ratio? Have we got it right?

Answer 1. Senator Sander's question cuts to the heart of how policy analysts define the adequacy of physician supply. First, I would respectfully suggest that the assertion "projections regarding future physician supply and adequacy have proven to be less than accurate" is only half true. Past projections of physician supply have actually been pretty much on target. For example, the forecast of physician supply for 2000 made by the national Graduate Medical Education Advisory Commission in the 1980s turned out to be very close to the actual number in 2000. The problem, therefore, in determining the adequacy of physician supply has not so much been due to inaccuracies in forecasting supply, but rather to disagreement about how many physicians the Nation actually requires.

One approach to determining the adequacy of physician supply defines adequacy on the basis of "demand" for medical care. Adherents of this view point to the growing number of patient visits per capita and growth in the overall economy as signals that demand for physician services will significantly increase in coming years, and thus the Nation will need more physicians per capita. Critics of this demand-based approach argue that health care does not operate as a true free market and that physicians are able to create demand for their own services, even if these services do not necessarily benefit the health of the public. These critics of demand-based planning argue that requirements should be based on assessments of population "need" for physicians, and include considerations of quality, affordability, and prioritization of health care services. My own perspective tends to be one of a needs-based approach to assessing physician requirements.

When examining the question of whether more physicians are actually needed or the optimal supply of physicians, the research evidence shows a weak link between patient outcomes and physicians per capita, with the exception of studies of primary care physician supply. Health care regions are remarkably adaptable to 2- and 3-fold differences in overall physician supply across similar populations, achieving comparable outcomes despite large variation in supply.[19] The 10 percent "shortfall" in physicians per capita in 2020 predicted by the Council on Graduate Medical Education's demand-based models[20] is dwarfed by the current 200 percent difference in the supply of physicians across *Dartmouth Atlas of Health Care* Hospital Referral Regions, adjusted for differences in population age and sex.[21] Differences in patient needs do not explain variation in physician supply across locales. For example, the age-sex adjusted regional supply of cardiologists is unrelated to the incidence of acute myocardial infarction among Medicare beneficiaries.[22] Studies examining outcomes associated with higher supply demonstrate that while a very low supply of physicians is associated with higher mortality, once supply is even modestly greater, patients derive little further survival benefit.[23 24 25 26]

However, as noted above in response to Senator Kennedy's second question, research indicates that health systems with primary care as the foundation of care provide the best outcomes at the lowest costs. In these primary care-oriented systems and regions, Medicare beneficiaries have fewer specialists involved in an episode of care and more visits with primary care physicians, spend fewer hospital days in intensive care, and have lower health care costs. Such high performing health care systems include prepaid group practices, integrated delivery systems in fee-for-service payer environments, and other models organized around primary care.[27]

In conclusion, to answer the question "have we got it right?," the answer is definitely, "No!" We spend too much time preoccupied with counting the numbers of physicians on the head of a pin and conjecturing about the future demand for physicians, and not nearly enough time examining whether we are effectively deploying the existing physician workforce that we have in the United States. It is reasonable to set some floor for the minimum adequacy of physician supply. For example, current Federal policies consider a population-to-primary care clinician ratio of 3500-to-1 or greater to be one of the criteria for defining Health Professions Shortage Areas, which is a defensible policy. But research on the physician workforce makes it abundantly clear that there is wide variation in specialist physician supply across regions above such as minimum level of supply, with no evidence that regions with the highest supply have better health outcomes than those with more moderate levels—and may in fact have worse outcomes. What we do know is that having more of these physicians in primary care fields is associated with less costly and better quality care, and that incentives are needed to ensure that physicians are delivering the care that is most needed and delivering it with high quality and safety. As a health economist once commented about physician supply, "Let's make sure we are stirring up the sugar already in our cup of tea before adding another spoonful." Determining the optimal number of physicians has a lot to do with how well we stir up the "sugar already in the cup:" our existing supply.

Question 2. You noted that the National Health Service Corps is an effective strategy for increasing the number of primary care physicians. I strongly agree. What specific recommendations would you make to improve and expand the National Health Service Corps?

Answer 2. I recommend:

- Doubling the number of loan-repayment positions,
- Allowing more flexibility in determining prioritization for NHSC placement sites,
- Creating a leadership training program as part of the NHSC to assist NHSC clinicians to become change agents in their practice settings, for example by becom-

ing leaders of Bureau of Primary Health Care chronic care improvement collaboratives.

Question 3. In your expert opinion, do we need more U.S. medical students and/or schools or do we only need to get more U.S.-medical school graduates to fill the increasing number of primary care residency slots that are not filled by U.S. graduates?

Does it concern you that the increase in those pursuing primary care residencies is the result of international medical graduates? What are the implications of this?

Answer 3. I support increasing the number of students graduating from U.S. medical schools, but I do not advocate a similar major expansion of graduate medical education (residency) slots in the United States. What I recommend would result in more opportunity for qualified U.S. students to become physicians, and less reliance on foreign-educated physicians to fill U.S. residency training slots. Because the United States has about 25 percent more first-year residency positions than the number of annual U.S.-medical school graduates, there would be room to accommodate more U.S. graduates in the existing residency training slots. Over time, the increase in the number of U.S.-medical school graduates would reverse the trend of many primary care residency positions being filled by international medical school graduates, mitigating the "brain drain" of physicians from developing nations.

Question 4. To prevent under- or over-supply of primary care physicians in the future, what should we be monitoring and what adjustments should be made to avoid subsequent crises in access?

Answer 4. We should continue to monitor the overall supply of physicians in the United States. My own view is that we currently have a reasonable overall supply of physicians per capita, and should avoid either a large increase or decrease in this supply in the coming decades. We should also continue to assess the specialty distribution of the physician workforce, and implement policies to reverse what appears to be an impending substantial decrease in the proportion of physicians in primary care fields which has ominous implications for access to primary care and the overall functioning of the entire health system. We should also monitor the geographic distribution of physicians, and emphasize policies to promote more equitable distribution of physician supply for underserved rural and urban communities.

We should also monitor data on patient reports of their access to care, such as the information obtained from the regular Medicare Beneficiary Surveys conducted by CMS. Recent data from this survey indicate that Medicare beneficiaries are reporting more difficulty accessing primary care physicians. In 2007, 29 percent of Medicare beneficiaries reported a problem finding a primary care physician, up from 24 percent in 2006. However, one caveat needs to be mentioned about interpretations of patient reports on access to care. Regional physician supply is only one factor among many that influence patients' access to care. Among the strongest influences are whether the patient has insurance, and whether physicians accept the patient's insurance. If low payment rates leads some physicians to no longer accept Medicare beneficiaries into their practice, Medicare beneficiaries may report problems in access to care even when there is adequate physician supply. In the case of access to primary care physicians, Medicare beneficiary reports of deteriorating access to care appears to be correlated with the falling off of the supply of primary care physicians for adults, particularly the decrease in new physicians entering general adult internal medicine, and less a matter of fewer primary care physicians accepting Medicare beneficiaries because of payment issues. An example of the payment issue is the findings of a recent study of patients' access to dermatologists. The study found that it was much easier for a patient requesting cosmetic treatment to get an appointment with a dermatologist than a patient requesting evaluation of a skin lesion that was suspicious for skin cancer. This study revealed how the existing supply of physicians in a particular specialty may not be deployed in a way that prioritizes access to care for the most pressing health concerns of the population.

Question 5. In your testimony, you call for reform of how the Medicare Graduate Medical Education funding is directed. Are you able to provide specific language for the committee's consideration that would accomplish what you propose?

Answer 5. The recommendations for reform of Medicare GME policies that have been drafted by the Council of Graduate Medical Education and will appear in the Council's 19th Report to be released in early April 2008, provide an excellent template for legislative language in this regard. The draft recommendations published in the minutes of the Council's September 18–19, 2007 meeting (*http://www.cogme.gov/minutes09_07.htm*), are as follow:

Recommendation 1: Align GME with future healthcare needs.

a. Increase funded GME positions by a minimum of 15 percent, directing support to innovative training models which address community needs and which reflect emerging, evolving, and contemporary models of healthcare delivery.

Recommendation 2: Broaden the definition of "training venue" (beyond traditional training sites).

a. Decentralize training sites.
b. Create flexibility within the system of GME which allows for new training venues while enhancing the quality of training for residents.

Recommendation 3: Remove regulatory barriers limiting flexible GME training programs and training venues.

a. Revise current Centers for Medicare & Medicaid Services (CMS) rules that restrict the application of Medicare GME funds to limited sites of care.
b. Use CMS's demonstration authority to fund innovative GME projects with the goal of preparing the next generation of physicians to achieve identified quality and patient safety outcomes by promoting training venues that follow the Institute of Medicine's (IOM) model of care delivery.
c. Assess and rewrite statutes and regulations that constrain flexible GME policies to respond to emergency situations and situations involving institutional and program closure.

Recommendation 4: Make accountability for the public's health the driving force for graduate medical education (GME).

a. Develop mechanisms by which local, regional or national groups can determine workforce needs, assign accountability, allocate funding, and develop innovative models of training which meet the needs of the community and of trainees.
b. Link continued funding to meeting pre-determined performance goals.
c. Alter title VII in order to revitalize support for graduate medical education.

Question 6. Similarly, you echo much of what Mr. Steinwald of the GAO advocated in terms of a "medical home" model that would reemphasize primary care in terms of Medicare payment reform. Are you able to provide the committee with specific language that would accomplish this?

Answer 6. Two key payment reforms for Medicare to which I alluded in my testimony are (1) *splitting the Sustainable Growth Rate (SGR),* and (2) *adding a medical home care coordination payment*, in addition to fee-for-service payments for patient visits. The first proposal would begin to address what Mr. Steinwald refers to as the "undervaluing" of traditional fee-for-service Medicare payments to primary care physicians.

The legislative language for a splitting of the SGR would need to include the following elements:

- Separating Evaluation and Management (E&M) payments codes and non-E&M codes into separate "buckets,"
- Assigning SGR targets to each bucket,
- Calculating conversion factors for physician fees for each bucket based on the actual pattern of Medicare expenditures in each bucket relative to the SGR target for the bucket of services.

This policy could be implemented in a manner that would be cost-neutral for overall Medicare payments to physicians, while creating a more equitable distribution of payments between primary care and non-primary care services. More details about such a policy and its implications for revaluing or primary care payments may be found in our analysis at *http://www.ucsf.edu/cepc/__pdf/The%20Split%20SGR%20Proposal.pdf*.

The medical home care coordination payment would provide a mechanism for compensating primary care physicians for the work that they perform in comprehensively caring for patients beyond the time spent in face-to-face visits. This type of care coordination payment is particularly important for primary care physicians caring for patients such as Medicare beneficiaries who have chronic illnesses requiring considerable physician time to coordinate referral and ancillary services, provide patient education on self-management, monitor patients' status at home, and perform similar tasks. The Web site of the Patient Centered Primary Care Collaborative, led by large employers, primary care professional organizations, and other members, provides more details about care coordination payments at *http://www.pcpcc.net/content/physician-payment-reform*. The Centers for Medicare and Medicaid Services is considering this type of payment reform, in response to Section 204 of the Tax Relief and Health Care Act of 2006 which mandates that CMS establish a medical home demonstration to provide "targeted, accessible, continuous, and coordinated family-centered care to high-need populations." Options being considered by CMS

include a tiered coordination payment indexed to the level of illness of each patient, with monthly payments of $10, $20–25, and $54 for Tier I, II, and III patients, respectively. To receive these payments, physicians would have to document that their practice meets essential features of a well-functioning medical home, such as being able to produce registries of patients in the practice with chronic illnesses, generate reminders for services needed, provide coaching in patient self-management, assure accessibility when care is needed, etc.

North Carolina's Medicaid management program, known as *Community Care of North Carolina*, successfully implemented a care coordination payment for primary care. For a payment of $5.50 per Medicaid patient per month, primary care practices in this Medicaid network use evidence-based guidelines, track tests and referrals, and measure and report on clinical and service performance. The program spent $8.1 million between July 2002 and July 2003, but it saved more than $60 million over historic expenditures. In the second year of the program $10.2 million were spent but $124 million was saved. In 2005 the savings grew to $231 million.

QUESTIONS OF SENATOR ENZI

Question 1. Recognizing that most resident physicians practice within a limited distance of their training site, and that the majority of current residency training programs exist in or near the major metropolitan cities on the East Coast, West Coast and Great Lakes areas, what should be done to equalize the distribution of residency training sites in the United States?

Answer 1. Several models of decentralized residency training have been successfully implemented in the United States, featuring rural-based training sites linked to an academic hub at an urban medical school. Examples include the rural family medicine residency tracks affiliated with the University of Washington, University of Minnesota, and University of New Mexico. Rural health centers and Critical Access Rural Hospitals often serve as the training sites for these programs. Other family medicine residency programs have developed partnerships with federally funded community health centers to provide community-based residency training as an alternative to centralizing all training at large urban teaching hospitals. One of the most important actions that the Federal Government could take to support these types of decentralized residency training models would be to reform Medicare GME payment policies so that these payments are not so tightly linked to teaching hospitals and could be deployed to support training at rural and urban health centers. (See my response to question three from Senator Sanders for more information about suggested reforms of Medicare GME.)

Question 2. The committee recognizes that there are many factors that contribute to the waning interest in primary care, including student debt, long hours, the physician fee schedule, a perceived lack of prestige, and lack of exposure to primary care mentors. Of these factors and others that may be present, can you rank these factors as to the ones that have the greatest impact and that we should focus the most resources on addressing?

Answer 2. Factors may be classified as "pull factors" and "push factors." Pull factors are those aspects of the practice environment that either attract or deter medical students and physicians in training from pursuing careers in primary care; these include earning potential, lifestyle considerations, job opportunities, and the quality of the practice environment. Push factors are factors in medical education, such as prestige, role models, indebtedness, and the training environment, that encourage or discourage individuals from pursuing careers in primary care. Evidence suggests that pull factors are most influential. It is therefore vital that Federal policies address one of the most critical pull factors—the widening gap in earnings between primary care and non-primary care physicians. Public and private payers should also invest in improvements in the primary care practice environment, such as by investing in installation and maintenance of electronic medical records in primary care practices, supporting the hiring of key support personnel for the primary care team, and providing technical assistance for implementing innovative practice models. At the same time, research I cited in my responses to Senator Bingaman indicates that push factors also play a role and need to be addressed. Title VII is one key mechanism for addressing push factors. NHSC loan repayment programs that help to mitigate medical student indebtedness are another important strategy.

QUESTIONS OF SENATOR MURKOWSKI

Question 1. I have heard concerns that HRSA's Healthcare work shortages designation in frontier areas are not accurately reflected by the area's HPSA scores. Do you think that HPSA scores accurately reflect shortage needs in frontier areas?

Can you suggest ways to modify HPSA score formula or additional consideration that might be used to better measure shortages of health professionals in frontier areas?

Answer 1. HRSA is currently in the process of modifying its approach to designating Health Professions Shortage Areas. The proposed new rules, published in the February 29, 2008 Federal Register, were developed through a lengthy analytic process conducted by experts at the Cecil G. Sheps Center of the University of North Carolina under contract to HRSA, with input from many stakeholders in the designation process. These proposed new rules should be carefully reviewed to assess whether they will adequately reflect shortage needs in frontier areas.

Question 2. In discussing health care provider shortages in Wyoming, I have heard of health care providers who are always on call as they are the only health care provider in an area and I am concerned about this added stress. What is the best way to account for the strain of professional isolation on providers that geographic isolation causes in frontier areas?

Answer 2. There are several ways to support providers who work in relative isolation in frontier communities. One way is to assist State rural health associations to coordinate locum tenens relief programs for rural providers, providing coverage for providers when they take much needed time off for vacations and professional development. Another way is to build virtual group practices through telemedicine. Telemedicine offers several ways to support frontier providers, such as by allowing specialists based at hub facilities to provide real-time, remote consultations for patients being seen in the frontier provider's office. Telemedicine can also provide a means to provide frontier providers access to continuing medical education programs hosted at urban sites through teleconferencing hook ups. The Federal Communications Commission is currently sponsoring a telemedicine initiative.

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RESPONSE TO QUESTIONS OF SENATORS MIKULSKI, SANDERS, ENZI, AND MURKOWSKI BY RODERICK S. HOOKER, PH.D., P.A.

QUESTION OF SENATOR MIKULSKI

Question 1. With the aging baby boomer generation and the shortage of geriatricians, what can be done to increase the number of geriatricians?

Answer 1. The role of the geriatrician in American healthcare is vital, producing a number of benefits. However, it is difficult for geriatricians to thrive in the current reimbursement structure. An ideal ratio of geriatricians could be determined, followed by a planned effort to produce this ratio.

When geriatricians team with physician assistants (PAs) and nurse practitioners (NPs), there is a significant effect in lowering hospitalization rates, lowering readmission rates, and improving satisfaction of patients and caregivers. A team of two geriatricians and five PAs/NP can be remarkably effective in cost containment and health outcomes. Vertically integrated prepaid health plans and the Veterans Health Administration are the proving grounds for the best use of geriatricians. The utility of geriatricians continues to be revealed by demonstration projects such as the Social HMO where the elderly are served in their homes instead of institutions.

QUESTIONS OF SENATOR SANDERS

Question 1. You made a compelling case for the role that Physician Assistants and Nurse Practitioners can play in improving access and overcoming shortages in the future supply of primary care professionals. Can you give me some idea about a substitution effect? For example, if we trained "x number" more PAs & NPs, we would need "y fewer" primary care physicians?

Answer 1. The ideal ratio of doctor to population is not yet known, outside of certain large health maintenance organizations and the military. A study performed 25 years ago determined that a PA can offset 85 percent of a primary care physician's workload. This type of study has not been repeated. What shapes this task transfer effect is multifactorial: an aging population, advancing technology, and the sustainability of chronic disease. Diabetes and rheumatoid arthritis are examples of diseases that benefit from tighter control, resulting in more office visits and laboratory

monitoring (work that can be done by a PA/NP). Also, the workweek of a doctor is shrinking, for various reasons but sometimes due to employing PAs/NPs to ease their workload. Up to 90 percent of a family medicine doctor's tasks can be delegated to a PA or NP without compromising patient safety, and achieving comparable outcomes of care and satisfaction.

Question 2. Are there any impediments or practice restrictions that limit the use of PAs and NPs? If so, what are they and how could they be overcome?

Answer 2. Forty years ago, an experiment was conducted by introducing PAs and NPs into American society. The experiment was successful in employing a team approach, thus expanding access to care. Practice restrictions and impediments are lessening as research results report the safety and capability are published. Many States have adopted beneficial legislation for PAs. Progress for NP independent practice has been slower. A national policy analysis on the utility of PAs and NPs would give States better guidance.

QUESTION OF SENATOR ENZI

Question. Recognizing that most resident physicians practice within a limited distance of their training site, and that the majority of current residency training programs exist in or near the major metropolitan cities on the East Coast, West Coast and Great Lakes areas, what should be done to equalize the distribution of residency training sites in the United States?

Answer. The WWAMI (Washington, Wyoming, Alaska, Montana and Idaho) program for Family Medicine residencies is a regional attempt to better disperse residents. The WWAMI site in Casper, WY, is a model aimed at sharing faculty development and family practice experience in less-centralized areas. Residency sites in non-metropolitan areas may be possible if leveraged with economic incentives. Creating areas of medical training excellence in family medicine, general pediatrics, and surgery in non-urban locations is possible through The National Area Health Education Center Organization. This organization supports and advances the Area Health Education Center (AHEC) network whose focus is improving the health of individuals and communities by transforming healthcare through education. Absent residency sites, PAs and NPs have found these to be prime locations for clinical training.

QUESTIONS OF SENATOR MURKOWSKI

Question 1. I have heard concerns that HRSA's Healthcare work shortages designation in frontier areas are not accurately reflected by the area's HPSA scores. Do you think that HPSA scores accurately reflect shortage needs in frontier areas? Can you suggest ways to modify HPSA score formula or additional consideration that might be used to better measure shortages of health professionals in frontier areas?

Answer 1. Health Professional Shortage Area (HPSA) scores do not always reflect the geographical barriers (or enhancements) to primary care. A gorge or mountain in Oregon may separate a population from a clinic by time and/or distance 5 times longer than the air miles yet the HPSA score may be low. Conversely being close to an Interstate in east Texas may make healthcare access only 30 minutes away although the distance is far and the HPSA score high. The Rural-Urban Commuting Area Codes (RUCAs) is a new classification scheme that utilizes the standard Bureau of Census Urbanized Area. Its value is it uses population cluster definitions in combination with travel information to characterize all of the Nation's Census tracts regarding their rural and urban status and relationships. Matching HPSA with RUCAs offers a refinement for understanding health professional shortages areas and medically underserved areas.

Question 2. In discussing health care provider shortages in Wyoming, I have heard of health care providers who are always on call as they are the only health care provider in an area and I am concerned about this added stress. What is the best way to account for the strain of professional isolation on providers that geographic isolation causes in frontier areas?

Answer 2. Role fatigue is one of the pitfalls for many healthcare providers. Burnout occurs when the physician is "on call" all the time. Rural doctors in the Far West may be at risk more than others due to their scarcity and isolation. Coupling PAs and/or NPs with remote and isolated physicians may relieve this role stress by providing collegiality, respite and sharing the work burden. Medical anthropological research is needed to better understand how scattered populations in medical catchments and their providers view each other in these circumstances.

Summary: Medical workforce research in the United States is only now emerging from a descriptive phase and poised to undertake large social experiments to improve care. Unfortunately innovative ideas and creative research in this area have not always been well funded. While the heterogeneity of the U.S. population present challenges for healthcare, successful models are emerging. Sharing and learning what works best under certain circumstances is critical. Finding the right balance between optimal care and cost (and sustaining the balance) is achievable. Flawed predictions were responsible for some of the shortages today. Fortunately improved methods of calculating labor supply and demands are now more reliable. Perhaps a central repository of knowledge and a national health workforce action plan could accomplish an improved understanding where emphasis is needed over different time periods.

RESPONSE TO QUESTIONS OF SENATORS MIKULSKI, BINGAMAN, CLINTON, SANDERS, ENZI, AND MURKOWSKI BY EDWARD S. SALSBERG, M.P.A.

QUESTIONS OF SENATOR MIKULSKI

Question 1. How can dental and medical schools be made more affordable for the middle class?

Answer 1. The AAMC and its members share your concern with the rising medical education debt. While we believe medicine is still an excellent career choice for Americans, we too worry that some well-qualified candidates may be discouraged from entering medicine and that some physicians may be less likely to go into practice in an underserved community. While we know of no easy solutions, the AAMC recommends three steps that can begin to help:

- Reinstate the 20/220 pathway of the Economic Hardship Deferment in the ongoing Higher Education Act reauthorization;
- Clarify that residency training qualifies as public service under the new loan forgiveness program established by P.L. 110–84 and that this is tax-exempt income; and
- Significantly increase the number of awards given by the National Health Service Corps.

The AAMC and its member institutions have for many years pursued a common commitment to increase diversity among students attending U.S. medical schools, based on a belief that including students from different backgrounds, experiences, and identities enhances the education of all medical students. While efforts have focused on achieving racial and ethnic diversity, there also is a concern that significant barriers confront students from all lower-income families. Over the last three decades, the distribution of medical students by family income has been remarkably consistent. The data suggests that approximately 70 percent of medical students have come from the highest two quintiles of family incomes (at least $57,660 in 2005).

In 2007, new medical school graduates reported an average indebtedness of $140,000 and 87.6 percent graduated with some debt. Under a typical 10-year repayment schedule at the current fixed 6.8 percent interest rate, the average medical resident can expect to have a monthly loan payment greater than $2,000. With an average first-year resident stipend of just over $3,700 a month, these sizeable loan payments pose a substantial burden on young physicians while they complete their medical training.

The Economic Hardship Deferment allows medical residents to postpone repayment of their Federal student loans without penalty if they meet the debt-to-income ratio requirement. Medical residents qualify under this pathway (the "20/220 pathway") if: (1) they have monthly loan repayments greater than 20 percent of their monthly income; and (2) their monthly income minus their monthly loan payment is less than 220 percent of a Federal poverty designation.

The recently enacted "College Cost Reduction and Access Act" (P.L. 110–84) eliminates this pathway requiring medical residents to enter forbearance or a new income-based repayment program. Unfortunately, the new income-based repayment program does not offer medical residents the option to postpone loan repayment during their initial years of residency. Rather, medical residents wishing to postpone repayment will be forced to enter forbearance, during which interest accrues on their entire Federal loan portfolio. On March 12, 2008, the AAMC and the American Medical Association urged the education committees to re-instate the 20/220 pathway in the ongoing Higher Education Act reauthorization.

P.L. 110–84 also creates a new public service loan forgiveness program. While it is unclear which physicians will qualify, we are pleased the program includes 501(c)(3) tax exempt organizations. It is our understanding that medical residency

training in teaching hospitals will qualify as public service. We also urge Congress to clarify that public service loan forgiveness should be tax-exempt income similar to awards from the National Health Service Corps (NHSC).

The NHSC has the potential to both help the economically disadvantaged and middle class medical students with the cost of medical school and it is a very effective strategy to address the needs of our most under-served communities through the service requirements. The NHSC provides scholarship and loan repayment awards in exchange for service in qualifying health professions shortage areas (HPSAs). Considering the average medical education indebtedness, the majority of physicians are able to forgive their entire educational debt after 5 years of service. Since its creation, the NHSC consistently has received significantly more applications for positions than it is able to support with the funding provided by Congress (approximately 10 applicants for every award). However, limited funding has reduced new NHSC awards from 1,570 in fiscal year 2003 to an estimated 947 in fiscal year 2008, a nearly 40 percent decrease. Funding for the NHSC has decreased by $47 million since fiscal year 2003, over 27 percent of its then $171 million budget. In its June 2006 Statement on the Physician Workforce, the AAMC recommended increasing annual NHSC awards to physicians by 1,500 to allow more graduates to practice in underserved areas.

Question 2. With the aging baby boomer generation and the shortage of geriatricians, what can be done to increase the number of geriatricians?

Answer 2. Increasing the number of geriatricians requires a multi-faceted approach, including changes to the delivery, financing, and education systems. Raising the visibility of geriatrics among medical students can be challenging given the current shortage of academic geriatric faculty, who serve as important role models for medical students. Further, emphasis on interdisciplinary learning as the health system shifts to team-based systems of care is critical, particularly in geriatrics. Interdisciplinary teams, in which health professionals from multiple disciplines apply their special skills, knowledge and values to achieve common goals, can enhance innovation, improve the quality of patient care, and strengthen academic-clinical ties and partnerships among institutions and settings.

Funding for the geriatrics programs under Title VII of the Public Health Service Act has been instrumental in confronting these challenges. The multidisciplinary geriatric education centers (GECs), geriatric training programs (GTPs), and Geriatric Academic Career Awards (GACAs) are effective in providing opportunities for health care personnel to develop skills for providing better, more cost-effective care for older Americans. Affiliated with educational institutions, hospitals, nursing homes, community-based centers for the aged, and veterans' hospitals, GECs include short-term faculty training, curriculum, and other educational resource development, and technical assistance and outreach. GTPs provide fellowships for medical and dental faculty and provide for curriculum development, faculty recruitment, and the first 3 months of fellowship training. GACAs support career development of geriatricians in junior faculty positions who are committed to academic careers teaching clinical geriatrics. In fiscal year 2008, funding for the title VII geriatrics training programs was $31 million, compared to $31.6 million in fiscal year 2005. The President's fiscal year 2009 budget request eliminates funding for these programs. Increased support is necessary to allow the programs to continue to prepare the health care workforce to care for an aging population.

The AAMC has been encouraging changes in the education of physicians to better prepare them to care for the elderly. Among other initiatives, from 1999–2004, the AAMC coordinated and managed a grants program for the John A. Hartford Foundation to enhance medical education in gerontology and geriatrics. Through the program, 40 U.S. medical schools received grants to develop and implement innovative curricula that re-inforce the relevance and importance of geriatrics throughout the 4 years of undergraduate medical education. The results of the development, implementation, and evaluation of the curricula were disseminated widely to all medical schools.

In July 2007, the AAMC hosted a consensus conference to develop competencies in geriatrics education. The ultimate purpose of the conference was to develop a consensus about the evidence that supports the need for geriatrics education and establish standards for assessing those outcomes. The competencies were defined and are available, and a report of the consensus conference is in development. The AAMC and its members continue to work to ensure that newly trained physicians are well-schooled in providing high quality care for our senior population.

QUESTION OF SENATOR BINGAMAN

Question. Mr. Salsberg—thank you for your testimony. In reviewing your written testimony and hearing your brief comments, you mention the importance of retaining diversity programs in title VII. The number of rural applicants to medical school has remained the same, but the number accepted has decreased 40 percent. In addition, the percentage of underrepresented minority medical school graduates has remained relatively stable at 13 percent, while the percentage of our underrepresented minority population in the United States has grown to 25 percent. Data suggest that underrepresented minorities and rural applicants are more likely to practice in rural and medically underserved areas.

Does the AAMC have recommendations as to what we can do to increase the percentage of underrepresented minority that graduate and rural applicants that are accepted to our medical schools?

Answer. While the AAMC and its members have undertaken a number of actions to address these issues, some of which are described below, we think the Federal Government has an essential role to play as well. Congress is at a critical juncture in terms of both rural residents and underrepresented minorities entering medicine and other health professions. As you know, the President has proposed eliminating all funding for the extremely valuable programs under title VII that were designed to address these issues. Assuring continued and adequate funding for such programs as Area Health Education Centers (AHECs), the Health Careers Opportunity Programs (HCOP) and Centers of Excellence (COE) should be a priority.

The AAMC and its members have a decades-long commitment to building diversity in medicine because diversity—both geographic and racial/ethnic—in medical education improves the medical education environment for all, and a more diverse physician workforce improves the Nation's health care. Academic medical centers across the country employ a spectrum of practices to build diversity in medicine, including outreach and career awareness activities, mentoring, and summer academic enrichment and research opportunities.

The AAMC compiles data annually on the demographics of applicants and accepted students. The table below lists between 1992 and 2007 the percentage of accepted students who provided a rural county of residence when completing the American Medical College Application Service (AMCAS). In 1992, 49 percent of rural applicants were accepted to medical school, compared to 46 percent of rural applicants in 2007. This ratio has remained relatively stable over the last 16 years, fluctuating between 41 and 50 percent. These trends mirror those in the total applicant pool; 47 percent of all applicants were accepted in 1992, compared to 45 percent in 2007, with acceptance percentages varying between 37 and 50 percent.

AMCAS Year	Rural Applicants	Rural Accepted	Rural Accepted/ Applied [in percent]	Total Applicants	Total Accepted	Total Accepted/ Applied [in percent]
1992	2,897	1,433	49%	37,402	17,465	47%
1993	3,324	1,445	43	42,806	17,361	41
1994	3,608	1,508	42	45,360	17,318	38
1995	2,842	1,201	42	46,586	17,356	37
1996	2,827	1,161	41	46,965	17,385	37
1997	2,666	1,112	42	43,016	17,312	40
1998	2,670	1,192	45	40,996	17,373	42
1999	2,543	1,151	45	38,443	17,421	45
2000	2,479	1,213	49	37,088	17,535	47
2001	2,417	1,182	49	34,860	17,454	50
2002 *	329 *	166 *	50 *	33,625	17,593	52
2003	2,184	1,094	50	34,791	17,542	50
2004	2,260	1,139	50	35,735	17,662	49
2005	2,277	1,121	49	37,373	17,987	48
2006	2,213	1,090	49	39,108	18,418	47
2007	2,369	1,097	46	42,315	18,858	45

* Incomplete data for rural applicants and acceptances in 2002.

As of 2006, 28.8 percent of the U.S. population was black/African-American, Hispanic/Latino, or Native American, yet these groups accounted for 14.6 percent of medical school graduates. The 2007 medical school applicant pool included more individuals from racial and ethnic minorities than the previous year. The number of

black male applicants and Hispanic male applicants both increased by 9.2 percent (higher than the growth rate of the total applicant pool, 8.2 percent). The number of black males who ultimately were accepted and enrolled in medical school increased by 5.3 percent, a rate nearly double that of the first-year entrant increase overall. Hispanic male first-year enrollees remained at the same level as 2006.

Outreach projects directed by the AAMC include a Minority Student Medical Career Awareness Workshop and Recruitment Fair, which attracts nearly 1,000 students annually, and *AspiringDocs.org*, a comprehensive marketing campaign to increase diversity in medicine. Launched in the fall of 2006, the *AspiringDocs.org* campaign takes a new approach—career marketing—to encourage well-prepared African-American, Hispanic/Latino, and Native American college students from all undergraduate majors to pursue medicine as a career. The interactive Web site featuring information, support, and encouragement has logged 124,069 unique user visits and more than 3,373 registered undergraduate and college graduate visitors since 2006.

Another reliable way to impact the applicant pool is to fortify the pipeline that leads to a health professions education. Pipeline programs, including those supported by title VII, play an important role in promoting a health professions education at an early age and helping to strengthen the math, science, and learning skills of aspiring health professionals. The Title VII Area Health Education Centers (AHECs), for example, offer an array of outreach activities for students in rural and other undeserved areas. Federal funding for the AHEC program, however, has slowly deteriorated over the last 9 years, dropping from $33.4 million in fiscal year 2001 to $28.2 million in fiscal year 2008.

Similarly, the Title VII Health Careers Opportunity Programs (HCOP) and Centers of Excellence (COE) support the recruitment, retention, and advancement of underrepresented minorities and disadvantaged students in the health professions, through mentorship, academic and financial support, and other activities. Since fiscal year 2006, the programs have struggled to recover from virtual elimination of Federal funding in fiscal year 2006. Despite a slight increase in fiscal year 2008, funding for these programs remains well below fiscal year 2005 levels. The AAMC strongly supports restoration of funding to fiscal year 2005 levels. The AAMC also recommends the creation of a new program under title VII to support demonstration projects designed to increase the number of underrepresented minority faculty. Underrepresented minority faculty help create an environment that can minimize attrition rates among minority health professions students through mentorship.

Loans, loan guarantees, and scholarships provided through the title VII and other programs can play an instrumental role in diversifying the health workforce as well. As mentioned previously, the NHSC has demonstrated tremendous success in providing scholarships and loan repayment for physicians that agree to serve rural and urban underserved communities after completing residency training.

From 1996–2005, the AAMC directed the Health Professions Partnership Initiative (HPPI). Funded by the Robert Wood Johnson and W.K. Kellogg Foundations, HPPI supported collaboration between medical and health professions schools, undergraduate institutions, and K–12 public school systems to improve curricula, provide learning opportunities, and enhance academic performance among participating students. The AAMC also has had 20 years of experience with what is now the Summer Medical and Dental Education Program (SMDEP). SMDEP is a 12-site summer academic enrichment program for underrepresented minority and disadvantaged undergraduate students funded by the Robert Wood Johnson Foundation and co-directed by the AAMC and the American Dental Education Association. From 1989 to 2005, 16,575 students participated in SMDEP. Of those participants 60.9 percent (8,903) applied to medical school, and 64.3 percent of those who applied (5,723) were accepted.

Additionally, the AAMC is developing a comprehensive Holistic Review Project to develop, distribute, and promote information and tools to be used by medical schools in their efforts to create and sustain institutional diversity—a specific focus on application and admission processes linked to medical schools' missions and goals.

QUESTION OF SENATOR CLINTON

Question. In your testimony, you note the importance of Title VII Primary Care Training Programs, specifically their role in strengthening diversity of the workforce and improving professional placements into under-resourced urban and rural communities.

You recommend reauthorization at levels greater than previously funded. How do you recommend the funds be applied in order to maximize outcomes?

Answer. Studies show that health centers and other clinics that provide care to the underserved need more primary care physicians, as well as physician assistants, and dentists. Primary care education programs would benefit by providing their trainees access to sites in underserved areas. The new structure proposed by the AAMC for the Title VII Primary Care Training Programs would award grants preferentially to applicants entering a formal relationship with one of these sites of care (Output program) and would create a new program for demonstration projects centered on improving the quality of primary care in selected emphasis areas (New Competencies program). The AAMC recommends a funding level of $198 million for the Primary Care Training Programs, with the distribution among the disciplines and between undergraduate and graduate programs to remain the same.[1] A total of 80 percent of this funding is directed to the Output program ($158.4 million) and 20 percent to the New Competencies program ($39.6 million).

Within the Output program, the AAMC reaffirms the funding priorities and preferences outlined in existing statute and recommends reserving a certain percentage of funding (e.g., 50 to 70 percent) for already successful programs. The statute states: funding priority will be given to applicants that have a significant improvement in the percentage of providers entering primary care; preference will be given to applicants that have a high rate for placing graduates in practice settings having the focus of serving residents of medically underserved communities or during the preceding 2 years have achieved a significant increase in the rate of placing graduates in such setting.[2] To encourage new applicants, the AAMC further recommends a certain amount of funding be reserved (e.g., 30 to 50 percent) for applicants that outline a plan with strong potential to improve the number of their students entering primary care and working in underserved areas.

QUESTIONS OF SENATOR SANDERS

Question 1. Your Association is recommending a 30 percent increase in medical school enrollment by 2015. Does this assume that we will continue to rely on international medical graduates to be ¼ of our physician workforce? If so, what would the U.S. enrollment increase need to be to supplant our exploitation of poor countries?

Answer 1. The primary goal of the AAMC recommendation for a 30 percent increase in medical school enrollment is to promote an adequate supply of well-educated physicians to meet the growing needs for care in the United States. Based on the best available data, the Association concluded that demand is likely to be rising more rapidly than supply and steps are needed now to increase the total number of physicians that will be available in the coming decades to serve a growing and aging America.

Currently, more than 6,500 international medical graduates (IMGs) enter the U.S. training system each year and nearly all stay to practice in the United States. About a quarter of these physicians are U.S. citizens who have gone abroad for medical education.

The recommended increase in enrollment assumes a continued flow of international medical graduates into the United States. The recommended 30 percent increase in enrollment is equal to about 5,000 additional graduates per year phased in between 2005 and 2015. This will not be sufficient to meet all of the medical care needs of the Nation. We will continue to need IMGs; the exact number is dependent on a number of factors, including our success in improving the performance of the delivery system. The Nation must also improve the efficiency and effectiveness of our health care delivery system to make better use of our physician supply. This includes increasing the supply of nurse practitioners and physician assistants.

In the absence of major delivery system improvements, any significant decrease in the number of international medical school graduates would require significant additional increases in U.S. medical school enrollment to ensure an adequate supply of physicians.

The AAMC is very concerned with the global need for physician services and the potential impact of physicians migrating to the United States from less developed countries. We believe America can and should be a good global citizen and leader. To that end, the AAMC supports efforts to improve medical education and health care throughout the world. Increasing the number of U.S.-medical school graduates will directly reduce the "pull" of physicians from less developed countries without creating barriers for individual migration.

[1] Level recommended by the HRSA Advisory Committee on Training in Primary Care Medicine and Dentistry.

[2] Public Health Service Act, Sections 747(c) and 791(a).

But there is more that needs to be done. The AAMC and its members have valuable knowledge, skills and resources that would be of great help to the medical community in less developed countries. Many AAMC members already have begun to work with institutions and organizations outside of the United States, demonstrating the commitment of the U.S.-medical education community to improve health worldwide. These initiatives include a wide range of programs and can involve medical schools, teaching hospitals, medical students and physicians in training.

As part of these efforts, the AAMC has joined with the Foundation for Advancement of International Medical Education and Research (FAIMER) and the Global Health Education Consortium (GHEC), to collect information about international activities at U.S. medical schools. More information on these programs is available at *http://www.faimer.org/resources/opportunities/index.html*.

Question 2. If we don't significantly increase U.S. enrollment, won't we be even more dependent on international medical graduates?

Answer 2. Yes, given expected shortages of physicians in the United States, in the absence of a significant increase in medical school enrollment, the expected increase in need and demand is very likely to lead to an increasing demand for international medical graduates. We worry that if we fail to increase the number of U.S. medical school graduates and GME positions over the coming years, shortages will lead to pressure to recruit even more physicians from abroad.

QUESTIONS OF SENATOR ENZI

Question 1. Recognizing that most resident physicians practice within a limited distance of their training site, and that the majority of current residency training programs exist in or near the major metropolitan cities on the East Coast, West Coast and Great Lakes areas, what should be done to equalize the distribution of residency training sites in the United States? (AG)

Answer 1. The AAMC has called for an expansion of medical education and training in the United States, and medical schools are responding. However, the current restriction on Federal support of graduate medical education (GME) through the Medicare program instituted through the Balanced Budget Act of 1997 (P.L. 105–33) has severely limited the ability of residency programs to respond to the impending shortage of physicians. These shortages will be worse for those areas that are already underserved and efforts must also be made to improve the distribution of physicians nationwide.

The "Resident Physician Shortage Reduction Act of 2007," (S. 588) is a positive first step towards addressing the national shortage of physicians in training. The bill will allow those States whose training ratios fall below the national median level to begin the effort of increasing the number of GME slots. This would be particularly helpful to those areas of the country whose populations have grown most rapidly and those that are already faced with an inadequate infrastructure for training future physicians. While it is only a first step toward the important elimination of the Medicare cap, it is a step in the right direction.

Question 2. Mr. Salsberg: As the number of primary care doctors in proportion to the population has actually risen, will you discuss the cause of the perceived shortage of these physicians?

Answer 2. While the aggregate number of primary care physicians has been increasing over the past several decades, there are growing concerns with current and projected shortages of primary care physicians. There are several reasons for this.

- The need and demand for primary care services is rising. This reflects a variety of factors including the growing number of elderly and chronically ill who need far more primary care services than others. For example, according to the National Ambulatory Medical Care Survey, those over 65 make twice as many physician visits per person per year as those under 65. As America ages and the number of chronically ill increases we can expect total visits to physicians—including primary care physicians—to continue to increase.
- While the number of primary care physicians is still growing, the U.S. population is growing more rapidly and may outpace the growth in the supply of primary care physicians.
- The length of an average visit also appears to be increasing. This in part reflects the fact that visits by the elderly take longer and their share of visits is increasing. Advances in medicine and a wider array of diagnostic tests and interventions may also be contributing to longer visits.

• The physician workforce is aging; more than a third of active physicians are now over the age of 55. This is important because physicians in general tend to start to cut back on their work hours slowly but steadily beginning in their early 50s.

• In the past, younger physicians could be counted on to pick up some of the extra demand; but the youngest generation of physicians appears to be less willing to work the long hours worked by earlier generations of physicians.

• As need and opportunities in sub-specialties rise, an increasing number of internal medicine and pediatric trainees are going on to sub-specialize. While this helps meet the need for specialists, it contributes to the shortage in primary care. An increasing number of internists are also becoming hospitalists, working full time in the hospital. While this may improve the quality of hospital care and assist the community primary care physician, it also reduces the number of physicians available to practice primary care in the community.

The demand and need for primary care physicians is expected to continue to rise in the future for all of the reasons mentioned above. This along with the decreasing number of physicians now going into primary care, particularly among U.S.-medical school graduates, has contributed to the growing concerns.

QUESTIONS OF SENATOR MURKOWSKI

Question 1. I have heard concerns that HRSA's Healthcare work shortages designation in frontier areas are not accurately reflected by the area's HPSA scores. Do you think that HPSA scores accurately reflect shortage needs in frontier areas? Can you suggest ways to modify HPSA score formula or additional consideration that might be used to better measure shortages of health professionals in frontier areas?

Answer 1. A proposed new methodology for the designation of Medically Underserved Areas (MUAs) and HPSAs (42 CFR parts 5 and 51c) was published as proposed rules in the *Federal Register* on February 29, 2008. The Department of Health and Human Services is accepting comments on the proposed new rules until April 29.

While we have not done an in-depth analysis of the proposed new methodology, it was designed to respond to some of the concerns expressed by rural communities. The proposed regulations were developed in part by a research team at the University of North Carolina Cecil Sheps Center. It appears that the new criteria will be more sensitive to the needs of rural communities.

Question 2. In discussing health care provider shortages in Wyoming, I have heard of health care providers who are always on call as they are the only health care provider in an area and I am concerned about this added stress. What is the best way to account for the strain of professional isolation on providers that geographic isolation causes in frontier areas?

Answer 2. Information technology and remote diagnosis and treatment guidance will be vital to maximizing the effect of current health care providers. In particular, strengthening linkages between providers in remote areas with academic medical centers (teaching hospitals and physicians) will better enable health professionals to utilize every available expert that will benefit underserved populations. Recreating these centers may not be feasible in every community; however, every effort should be made to improve access to cutting edge health care by patients and providers alike.

Thank you again for the opportunity to testify. The AAMC and its member institutions look forward to working with Congress on this important topic.

RESPONSE TO QUESTIONS OF SENATORS MIKULSKI, ENZI, AND MURKOWSKI BY BETH LANDON, M.H.A., M.B.A.

QUESTION OF SENATOR MIKULSKI

Question. With the aging baby boomer generation and the shortage of geriatricians, what can be done to increase the number of geriatricians?

Answer. Senator, as you are aware the aging of "baby boomers"—compounded with longer life expectancies and expectations for quality of life—increasingly affect the delivery of health and social services in our country. The need for health care professionals with training in geriatrics will continue to grow in parallel. While there is ample recognition of this phenomenon, funding is scarce to support training in this arena. One noteworthy resource is the Geriatric Education Center Program (GEC). Within Title VII of the Public Health Service Act, GEC is legislatively required to develop the health professions workforce providing geriatric services. They achieve this purpose with programming in four areas:

i. Continuing education and continuing medical education opportunities;

ii. Development and dissemination of curricula for the treatment of health problems of elderly individuals;

iii. Instruction in geriatrics through a faculty-training program; and

iv. Student clinical training in geriatrics, including geriatric residencies, and traineeships.

As Congress continues its deliberations for reauthorization of title VII programs, reauthorization of the GEC program, combined with increased funding, is critical to our Nation's capacity to provide competent geriatric health care.

QUESTION OF SENATOR ENZI

Question. Recognizing that most resident physicians practice within a limited distance of their training site, and that the majority of current residency training programs exist in or near the major metropolitan cities on the East Coast, West Coast and Great Lakes areas, what should be done to equalize the distribution of residency training sites in the United States?

Answer. Senator, your question highlights one of the great needs for rural health in this country—rural training tracks for medical residents. Rural training tracks, especially family medicine training tracks, must be both developed and expanded. Family physicians constitute nearly 90 percent of all primary care rural physicians and are the only source of medical care in many remote rural communities. Training programs designed for rural training have a proven track record—76 percent of graduates of such programs are in rural communities, while 61 percent were in federally designated HPSAs. Despite this track record, only 29 of the 474 family medicine residency programs in this country have an accredited rural training track and only 143 programs offer a fellowship in rural medicine. Barriers exist in rural physician residency programs and much of the need in rural America for primary care is left unmet.

One of these barriers is a direct reflection of the caps under Medicare Graduate Medical Education (GME) payments. To address rural shortages, Congress created in statute a waiver to GME payment caps to those programs that include integrated rural training tracks (IRTT). Despite statutory authority, CMS has never approved an application for this new training tract, claiming that Congress did not adequately define IRTT. Therefore, Congress should clearly define this new IRTT, thereby, exposing many more students to rural practice and receive critical training in primary care, obstetrics, pediatrics, emergency medicine and community health. This could have a large impact on the future of rural training by encouraging a number of medical schools to create these programs.

Compounding the difficulty in training a rural health workforce in rural America is that the cost of going to medical school continues to rise. Even in public medical schools, the cost has risen 900 percent in the last 25 years. Rural students and those that will go into rural medicine cannot afford these levels of debt as they will get paid less than urban sub-specialists. Congress should continue to examine ways to reduce this debt burden for those committed to practicing in rural, underserved areas.

A final way of addressing the barriers around training physicians and other health professionals in programs outside of the major metropolitan cities in this Nation is through title VII and VIII programs, such as Area Health Education Centers (AHECs). AHECs are authorized to assist health professional schools to improve the distribution, supply, quality, utilization and efficiency of health personnel in scarcity areas through the efficient use of regional educational resources. One way this is done is through AHEC Centers that have clinical rotations.

QUESTIONS OF SENATOR MURKOWSKI

Question 1. I have heard concerns that HRSA's Healthcare work shortages designation in frontier areas are not accurately reflected by the area's HPSA scores. Do you think that HPSA scores accurately reflect shortage needs in frontier areas? Can you suggest ways to modify HPSA score formula or additional consideration that might be used to better measure shortages of health professionals in frontier areas?

Answer 1. Senator, you are correct—the current HPSA scoring and designation process do not accurately reflect shortages in frontier areas, primarily due to processes based on urban, not rural, communities. In fact, many of the most geographically-isolated populations, who reside in frontier locations, often are not categorized as a HPSA. These frontier regions are often ineligible for a geographic designation because they exceed the required population to provider ratio of 3,500:1. Receiving

designation as a HPSA is critical for all frontier areas because it would allow them to participate in the NHSC program and other critical Federal programs.

A "frontier designation" can and should be added to the Health Resource and Services Administration's list of HPSA designations. The NRHA has developed designation criteria for a frontier HPSA using the extensive input from health care leaders in seven frontier States. The criteria currently in place, as well as anticipated proposed methods, does not provide meaningful results in areas with sparse or geographically isolated populations.

This new designation would establish "Frontier" as a geographic area with fewer than seven people per square mile across a service area, within which the time and/or distance to primary care is excessive for the residents. Such areas should qualify as frontier HPSAs whose populations are experiencing excessive time or distance to primary care, oral health and mental health care.

It is important to note, that nearly all areas defined by this definition as frontier are without public transportation. Many experience dramatic seasonal fluctuations in population either for employment or recreation, and many have seasonal weather barriers to travel. For instance, the community of Unalaska, 800 air miles from the nearest hospital, is served by a single community health center with three and a half physicians and two mid-level providers. The population fluctuates between 5,500 and 10,000 with the dangerous fishing seasons. With this staffing, they are ineligible for consistent HPSA status, compromising their ability to recruit and retain providers.

In addition to correcting HPSA inequities, other solutions exist to strengthen the health care safety net in rural areas. As you know, research consistently indicates that providers are more likely to work in rural or frontier areas if they are from those areas or have spent time in those areas. Title VII programs such as Area Health Education Centers (AHEC) and Health Careers Opportunities Program (HCOP) are specifically designed to support career exposure activities with youth in the remote areas, improving their likelihood of matriculation into those fields. AHECs prepare and socialize students to work in shortage areas, and serve as a feeder program for the NHSC. Moreover, AHEC supports health professions students to conduct part of their clinical training in the remote areas.

For instance, as you know Senator Murkowski, one of the three AHEC Centers in your State is located in Bethel, 500 air miles from Anchorage in a region the size of Oregon with 25,000 residents living in villages unconnected by roads. Securing health professionals in this environment is extremely difficult. We know, from a study my office conducted in 2006, that rural health organizations spend an average of $106K to recruit a pharmacist and takes over 2.5 years (32.6 months) to fill that vacancy. Last year, the Bethel AHEC Center coordinated and funded 37 clinical rotations last year in medicine, dentistry, pharmacy, and nearly 35 in other occupations. These are providers recruited from programs in the Lower 48, since there is not an Alaskan medical school. As a direct result of their clinical experiences in the Bethel region, two of those pharmacy students have signed employment contracts and one has already started. It is too early in training for the medical or dental students to know if they will choose to return to practice but we plan to get them out to Bethel for another clinical rotation further along in their training. As we look at Alaska's workforce shortages, and our Nation's, AHECs are a great investment in providing residency training in rural and frontier communities.

Unfortunately, despite the importance of AHECs and other Title VII Health Professions Programs to rural health care, Federal funding has consistently decreased. The President's fiscal year 2009 budget request eliminates funding for AHEC and other title VII programs. These programs need to be adequately funded with appropriate inflationary adjustments.

Question 2. In discussing health care provider shortages in Wyoming, I have heard of health care providers who are always on call as they are the only health care provider in an area and I am concerned about this added stress. What is the best way to account for the strain of professional isolation on providers that geographic isolation causes in frontier areas?

Answer 2. Senator, AHEC is designed to decrease professional isolation of practicing providers through programs that enhance education, continuing education and new support programs. Studies have shown that practitioners who serve as preceptors for health professions students are more satisfied in their professional roles. They have additional contacts with academic institutions through working with students. AHECs design and deliver continuing education programs for these providers. AHECs also provide support to these providers through information dissemination on practice management, electronic health records, and current best practices in clinical topics. AHECs work with providers, facilities and local communities to

strengthen recruitment and retention of providers, as well as facilitating community planning for the local health care system.

Mr. Chairman and other distinguished members of the committee, thank you for this opportunity to respond to your questions on the needs of a rural workforce. If you are in need of further follow-up or clarification, please feel free to contact myself or Maggie Elehwany, NRHA Vice President of Government Affairs and Policy (202–639–0550 or *elehwany@NRHArural.org*).

RESPONSE TO QUESTIONS OF SENATORS SANDERS AND MIKULSKI
BY JENNIFER S. LAURENT, M.S., FNP-BC

QUESTION OF SENATOR SANDERS

Question. What restrictions exist nationwide that impede nurse practitioner practice? Are they State specific or do they lend themselves to action by Congress. What specifically would you recommend Congress to do?

Answer. Rules and regulations for nurse practitioners (NPs) practice vary State to State. Currently in 11 States NPs practice independently (i.e. no physician involvement) they are ME, NH, AK, OR, AZ, ID, MT, WY, NM, WA and the District of Columbia. Of the remaining States restrictions vary from physician onsite oversite to written practice agreements. The Pearson Report [1] provides a detailed overview of each State and their rules and regulations.

Recognition of the value of NP high quality, cost-effective care by Congress sends a strong signal to the States. Supporting bill S. 59: Medicaid Advanced Practice Nurses and Physician Assistants Access Act of 2007 which "specifies as primary care case managers any nurse practitioner, certified nurse-midwife, or physician assistant that provides primary care case management services under a primary care case management contract" and "revises the coverage of certain nurse practitioner services under the Medicaid fee-for-service program to remove the specification of certified pediatric nurse practitioner and certified family nurse practitioner in order to extend such coverage to services furnished by a nurse practitioner or clinical nurse specialist." [2]

The language in the Balanced Budget Act of 1997 is misleading and created new barriers for NPs. State-driven Medicaid programs have instituted Primary Care Case Management (PCCM) Programs. In many States NPs have been excluded from these program provider panels resulting in patients being denied access to NP services, primary care services, and dual eligible Medicare/Medicaid patients from obtaining vital prescriptions written by their NP. NPs are well recognized valuable health care providers in Medicaid Managed Care and SCHIP programs in the Nation and specifically in undeserved urban and rural communities. Authorization of S. 59 will ensure continued access to high quality, cost-effective primary care services for all individuals.[3]

Support S. 1678: Home Health Planning Improvement Act of 2007. Currently, NPs are unable to order home health services for their patients thereby requiring a M.D. provider to initiate care for an unfamiliar patient potentially resulting in delay of necessary services. This bill provides increased access to NPs health services for Medicare beneficiaries which will expedite referrals for home care services to those who need them and, in turn, decrease undue burdensome paperwork for all parties.

Support S. 54: Nursing School Clinics Act. This bill would allow Medicaid payment for services to NP faculty and students who provide direct patient care in clinics within academic institutions as is currently the model for medical residents.

Full recognition of NPs as PCP on a national level will serve as a role model on State and local levels. Other recommendations include the following:

- Appointing NPs to national healthcare workgroups;
- Avoiding "physician" only language;
- Encouraging local legislators to follow Congresses lead.

These straight forward approaches prevent barriers to NP care and enhance utilization of NPs as vital healthcare resources.

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[1] Pearson, L. (2008). Retrieved on March 17, 2008 at *http://www.webnp.net/downloads/pearson_report08/ajnp_pearson08.pdf*.

[2] Library of Congress: Thomas. Retrieved on March 17, 2008 at *http://thomas.loc.gov/cgi-bin/bdquery/z?d110:SN00059:@@@L&summ2=m&*.

[3] AANP (2008). Medicaid managed care and SCHIP fact sheet [electronic version]. Retrieved on March 14, 2008 at *http:// www.aanp.org/NR/rdonlyres/ex312ckjf35s3pe5dlgqryyaxlxwmmjedk2yhxzryd67tkv2ftfmarnxkgzkayhabrk6sgafg6ceowsj7h6gjmgrvzc/Fact+Sheet+Medicaid+Managed+Care+1-08.pdf*.

QUESTION OF SENATOR MIKULSKI

Question. With the aging baby boomer generation and the shortage of geriatricians, what can be done to increase the number of geriatricians?

Answer. Nurse practitioners may specialize and receive board certification in gerontology. Gerontological nurse practitioners (GNP) are educated to diagnose and manage acute and chronic diseases using a holistic approach to meet the complex medical, psychosocial, and functional needs of older persons.

Unlike medical residency programs, NP programs are turning away qualified NP applicants for several reasons.

- Lack of faculty necessary to educate students;
- Lack of funding for such programs;
- Lack of scholarship funding.

Reauthorization and increased title VIII funding will improve the workforce of geriatric nurse practitioners by providing and educating the faculty that will be needed to accomplish the increased demand of the baby boomer generation.

Thank you for the opportunity to provide further information. Nurse practitioners are a valuable, untapped resource who are primed to answer the primary care needs of the people by providing holistic, high quality, health care. Should you require further information please do not hesitate to contact me.[4]

RESPONSE TO QUESTIONS OF SENATORS MIKULSKI, BINGAMAN, BROWN, ENZI, AND MURKOWSKI BY HRSA

QUESTION OF SENATOR MIKULSKI

Question. With the aging baby boomer generation and the shortage of geriatricians, what can be done to increase the number of geriatricians?

Answer. HRSA supports programs that provide direct primary care to individuals for all life cycles, including the geriatric cycle. For example, the 2009 HRSA budget supports funding for direct care services through the National Health Service Corps (NHSC), the Nursing Education Loan Repayment and the Nursing Scholarship programs.

In order to improve the distribution of health professionals and improve the health of the underserved, the budget focuses on activities that fund placement of more doctors, nurses and other health care professionals in the regions of the country that face shortages.

The NHSC is building on its success in increasing health care access for elderly and non-elderly residents of Health Professional Shortage Areas, removing barriers to care, and improving the quality of care to these underserved populations. The Nursing Education Loan Repayment Program is providing nurses who can immediately begin practicing in a health care facility with a critical shortage of nurses. The Nurse Scholarship Program is reducing the financial barrier to nursing education for professional nursing students, and thereby increasing the pipeline supply of nurses who will care for elderly and non-elderly patients. In addition to these programs, the fiscal year 2009 request includes funding for the Comprehensive Geriatric Nursing program which will provide advanced practice nurses, registered nurses and certified nursing assistants with specialized education and training to care for the unique needs of the elderly.

QUESTIONS OF SENATOR BINGAMAN

Dr. Duke, we were disappointed that HRSA did not attend our hearing on the health professions workforce. I and other committee members, including Senators Kennedy, Harkin, Clinton, Obama, Murray, Reed, Brown, Dodd, and Mikulski were disappointed that we were not provided the 18th and 19th Council on Graduate Medical Education Reports in advance of our hearing.

It is our understanding that the final versions of these reports were submitted to HRSA in September 2007, and have yet to be forwarded on to Secretary Leavitt. Despite multiple phone calls, e-mails, and the formal request—those reports have yet to be released. One of our expert witnesses had data demonstrating title VII effectiveness that was delayed for many months. These data and reports are essential to informing health professions workforce data and legislation to address shortages especially in our rural and medically underserved areas.

Question 1. Why does it take so many months for HRSA to forward the reports to the Secretary?

[4] jenniferslaurent@yahoo.com or jlaurent@vtnpa.org.

Answer 1. HRSA provides this timeline for the COGME reports in question. On the last day of September, the 18th and 19th COGME reports were submitted as documents for printing. The printed reports were received the last week of December. During that period HRSA initiated reviewing the reports, preparing comments and transmittal documents for the HRSA Administrator to the Secretary. When HRSA completed its review, the Administrator formally transmitted the reports to the Office of the Secretary where pertinent components of this Office are allocated 30 days to review the reports and HRSA's comments. Formal release of these reports is expected in the near future.

Question 2. The Administration has eliminated funding for title VII programs in the 2009 budget. Have HRSA staff been asked to delay release of data, reports or recommendations that support expansion or continuation of title VII programs?

Answer 2. The COGME, as is customary with similar advisory committees, extends to the Department, i.e. the Secretary, the time necessary to review reports before they are sent to the congressional committees.

HRSA staff were not asked to delay these data releases or reports.

QUESTIONS OF SENATOR BROWN

Question 1. I am aware the HRSA issued a report in May 2006 titled: The Critical Care Workforce: A study of the Demand for and Supply of Critical Care Physicians. The report concluded that there was a current shortage of critical care physicians and that the shortage is projected to worsen through 2020. The imbalance between supply and demand is caused largely by the growth in the aging population and its predicted increase use of critical care services. Do you agree with the findings of the HRSA report and if so, what policy steps should Congress be considering to address this physician shortage?

Answer 1. (See answer 2.)

Question 2. In your 2006 report on Physician Specialties, one of the featured trends was specialty shortages, with vascular surgery being the specialty with the least number of active physicians—2,452 or one for every 121,600 Americans. The majority of their patients are Medicare beneficiaries and this population will be greatly increasing when the Baby Boomer generation starts turning 65. What are your recommendations for increasing the number of vascular surgeons and other physician specialties that predominantly treat diseases of the aged?

Answers 1 and 2. Numerous studies, including HRSA's May 2006 study, have projected shortages for the physician primary care and subspecialty workforces. Generally speaking, HRSA's statutory grant-making authorities do not include programs that target the subspecialty workforce. Funding through the Department of Education as well as partnerships with private and corporate entities is available to support health professions and meet anticipated needs.

QUESTION OF SENATOR ENZI

Question. Recognizing that most resident physicians practice within a limited distance of their training site, and that the majority of current residency training programs exist in or near the major metropolitan cities on the East Coast, West Coast and Great Lakes areas, what should be done to equalize the distribution of residency training sites in the United States?

Answer. The National Health Service Corps (NHSC) does not address the distribution of residency training sites, but it does have an impact on where physicians ultimately practice. It has been very successful in placing and retaining clinicians in underserved areas throughout the country. The NHSC's retention rate, the rate at which clinicians remain in an underserved area at the conclusion of their service commitment, measured at 1 year after service completion is approximately 75 percent. The State Loan Repayment program, a matching grant program for States, also helps to draw clinicians to underserved areas in the United States by providing loan repayment to clinicians to work in one of the 33 participating States.

QUESTIONS OF SENATOR MURKOWSKI

Question 1. I have heard concerns that HRSA's Healthcare work shortages designation in frontier areas are not accurately reflected by the area's HPSA scores. Do you think that HPSA scores accurately reflect shortage needs in frontier areas? Can you suggest ways to modify HPSA score formula or additional consideration that might be used to better measure shortages of health professionals in frontier areas?

Answer 1. In the current HPSA methodology, HRSA works to take into account the shortage needs in frontier and rural areas. One of the HPSA scoring factors is time and distance traveled which is significant in frontier and rural areas. Using this factor helps to portray a picture of actual access to care in these areas.

On February 29, HRSA issued a Notice of Proposed Rulemaking (NPRM) to revise the designation methodology for HPSAs and for Medically Underserved Populations (MUP). The goal of the NPRM is to improve both the methodology and the process for obtaining HPSA and MUP designations. Under the NPRM, HRSA includes a population density factor which is intended to reflect the shortage needs in frontier and rural areas. HRSA realizes that frontier and rural areas face special issues in accessing care, and we have sought to address those issues under the current HPSA methodology and in our proposed methodology.

Question 2. In discussing health care provider shortages in Wyoming, I have heard of health care providers who are always on call as they are the only health care provider in an area and I am concerned about this added stress. What is the best way to account for the strain of professional isolation on providers that geographic isolation causes in frontier areas?

Answer 2. The Department of Health and Human Services has sought to recognize the strain of professional isolation for health professionals practicing in frontier and rural areas. For example, Medicare Incentive Payments provide an additional 10 percent in reimbursement than otherwise permitted to physicians practicing in HPSA-designated areas.

In addition, telehealth programs can help to ameliorate professional isolation by supporting professional quality of life in a variety of areas. This includes supporting continuing education and facilitating technology-mediated peer relationships. HRSA's 2009 budget request includes $6.8 million for a range of telehealth activities, including training for health care providers.

Last, higher education institutions can help prepare health-professions students to practice in a variety of settings, including rural and frontier areas. Faculty with experience in such settings could be sought, and students with a rural background should be invited to share their insights. Also mentoring arrangements in the form of short-term student internships and more extensive training opportunities in rural areas could foster networking that can continue post-graduation.

[Whereupon, at 4:41 p.m. the hearing was adjourned.]

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