

**ADVISORY COMMITTEE ON TRAINING
IN PRIMARY CARE MEDICINE
AND DENTISTRY**

***THE REDESIGN OF PRIMARY
CARE WITH IMPLICATIONS
FOR TRAINING***

**Eighth Annual Report to
the Secretary of the
U.S. Department of Health and Human Services
and to the U.S. Congress**

May 2010

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The views expressed in this document are solely those of the Advisory Committee on Training in Primary Care Medicine and Dentistry and do not necessarily represent the views of the Health Resources and Services Administration nor the United States Government.

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ADVISORY COMMITTEE ON TRAINING IN PRIMARY CARE MEDICINE AND DENTISTRY

Section 748 of the Health Professions Education Partnerships Act of 1998 authorizes the establishment of an Advisory Committee on Training in Primary Care Medicine and Dentistry. The Act directs the Secretary to establish an advisory committee to be known as the Advisory Committee on Training in Primary Care Medicine and Dentistry (ACTPCMD). The Advisory Committee was constituted to:

- 1) Provide advice and recommendations to the Secretary concerning policy and program development and other matters of significance concerning the activities under Title VII, section 747.
- 2) Not later than 3 years after the date of enactment, and annually thereafter, prepare and submit to the Secretary, the Committee on Health, Education, Labor, and Pensions of the Senate and the Committee on Energy and Commerce of the House of Representatives, a report describing the activities of the Advisory Committee, including findings and recommendations made by the Advisory Committee concerning the activities under section 747.

Congress created the Advisory Committee to obtain insight and objectives from primary health care providers, educators, and trainees who work on the front line. The members below include such health professionals as physicians and physician assistants, as well as general and pediatric dentists, from the disciplines of primary care medicine and dentistry.

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THE REDESIGN OF PRIMARY CARE WITH IMPLICATIONS FOR TRAINING

INTRODUCTION

The Crisis in Primary Care

A primary care workforce that is adequate both in numbers and preparation is central to the goal of attaining accessible, high-quality, and affordable health care for all of our citizens. Unfortunately, there are strong indicators that the number of primary care practitioners in our country will be insufficient to care for the population under either the current or a reformed health care system. A redesign of health services must emphasize the centrality of primary care in order to achieve the goals of cost-effective, quality patient care. Therefore, we stress the need to: 1) develop educational initiatives to fill the gaps in the primary care workforce rapidly; 2) support system changes that promote efficient inter-professional models of care in which individuals from a variety of areas of expertise collaborate to meet patient health care needs; and 3) align financial incentives to support primary care to achieve the desired access, quality, and efficiency outcomes.

Title VII, Section 747 Programs and Related Health Care Workforce Programs

A well-prepared, effective primary care workforce can reduce health care costs and play a significant role in the prevention and management of illness. For example, improved access to primary care can reduce the future burden of chronic diseases, such as obesity, by addressing nutrition and health maintenance during childhood (Daniels, Jacobson, McCrindle, Eckel, & McHugh Sanner, 2009).

The Title VII, section 747 programs have had a significant impact on the Nation's supply of primary care clinicians (Reynolds, 2008) by contributing to the development of a well-trained primary care workforce. Title VII, section 747 provides funding for approved training of students, interns, and residents in family medicine, general internal medicine, and general pediatrics; training of physician assistants; training of residents in general dentistry and pediatric dentistry; and training of individuals who plan to teach in family medicine, internal medicine, pediatrics, and physician assistant training programs. Since its inception, Title VII, section 747 has helped to develop, expand, and improve training programs for primary care providers; promote diversity in the workforce; and ensure that curricula within the health professions respond to the changing demands and emerging health needs of the U.S. population.

Title VII, section 747 programs operate within a broader context that includes complementary Federal programs, such as the National Health Service Corps (NHSC) and the Centers for Medicare & Medicaid Services (CMS). The NHSC promotes primary care by providing repayment of educational loans for individuals who practice primary care in underserved areas; CMS supports graduate medical education (GME) by paying teaching hospitals for costs incurred while training residents. Incentives provided by these programs can enhance the success of Title VII, section 747 programs in producing an adequate primary care workforce. In addition, Federal

policies affecting reimbursement for health care services impact the likelihood that potential graduates of Title VII, section 747 programs will choose to practice in primary care.

In order to maximize the collective contribution of all of the programs to the Department of Health and Human Services' (DHHS') goals and objectives, it is important that the programs work in a complementary fashion with the appropriate balance of resources. For example, the NHSC should have capacity for placing providers that is aligned with the capacity of Title VII, section

747 for producing providers. In order for Title VII, section 747 programs to be most successful, resources and outcomes within all of these Federal program areas should be aligned toward the common goal of revitalizing primary care. Therefore, our recommendations are presented in two groups. The first group of five recommendations directly addresses Title VII, section 747 programs. Since we recognize that the success of these Title VII programs is closely linked with other Federal health programs, we also offer a second set of recommendations addressing these related programs.

Recommendations

A. Recommendations designed to bring about direct improvements in Title VII, section 747 programs

1. Congress should restore and enhance funding for Title VII, section 747 programs at \$235 million for the next fiscal year and ensure that this larger appropriation is distributed more broadly across the multiple disciplines covered by these programs.
2. The Secretary should ask Congress to modify the charge of the Advisory Committee on Training in Primary Care Medicine and Dentistry to include making recommendations directly to Congress in addition to the Secretary.
3. Training grants should provide funds to develop, implement, and evaluate training programs that promote inter-professional practice in the Patient-Centered Medical-Dental Home (PCM-DH) model of care.
4. Training grants should support primary care clinical training in community-based settings for providers and trainees in various disciplines, including those in Title VII, section 747 programs (i.e., physicians, dentists, physician assistants) by funding proposals to recruit and develop community-based clinical educators.
5. The Bureau of Health Professions should provide support for grantees to evaluate Title VII, section 747 programs and to track trainees in the long term.

B. Recommendations addressing Federal policies necessary to support primary care as the backbone of the health care system

6. Congress and Centers for Medicare & Medicaid Services (CMS) should restructure health care financing to attract health care providers to enter and stay in primary care careers.
7. Congress and CMS should revise funding policies for Graduate Medical Education and other educational programs to foster and support the use of community-based (non-hospital) sites for primary care training of physicians, dentists, and physician assistants.
8. Congress should expand the National Health Service Corps loan repayment programs with additional programs to address the severe primary care workforce shortages in medicine and dentistry.
9. Congress should support Patient-Centered Medical-Dental Home demonstration projects designed to evaluate innovative funding and reimbursement strategies that promote accessible high-quality care, while stemming the growth of health care costs.

DISCUSSION

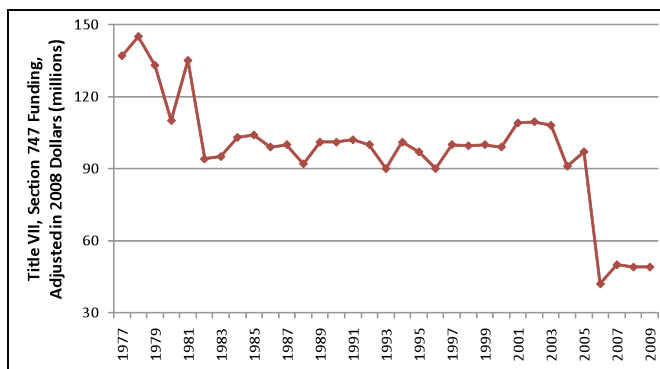
Recommendations designed to bring about direct improvements in Title VII, section 747 programs

Recommendation 1: Congress should restore and enhance funding for Title VII, section 747 programs at \$235 million for the next fiscal year and ensure that this larger appropriation is distributed more broadly across the multiple disciplines covered by these programs.

Problem/Opportunity for improvement

The Title VII programs can make significant contributions to accomplishing the goals of health care reform. However, in recent years, funding for the programs has been cut significantly (Harrison, et al., 2009). The FY2009 funding for Title VII, section 747 is less than a third of what it was in FY1977 in real terms. These sequential catastrophic funding reductions have significantly impacted the ability of training programs to develop the Nation's primary care health workforce.

Figure 1: Title VII, Section 747 Funding



Source: Harrison, et al., 2009

In 2009, Congress mandated minimum funding levels for two of the disciplines covered under Title VII, section 747: family medicine and dentistry. These funds will be well-spent to train essential providers, but after the required allotment was reserved for these disciplines, minimal funding remained to support training in the other vital program areas of general internal medicine, general pediatric medicine, and physician assistant programs. We believe that all of these disciplines are important and that current funding allocations neglect the training of important groups of primary care clinicians, including Medicine-Pediatrics, which is a primary care specialty that should be eligible to receive Title VII funding. Congress should appropriate additional funds to continue and increase support for family medicine and dentistry programs, but also to broaden the support so that discrepancies in funding among the primary care disciplines are addressed.

There is significant research demonstrating the benefits of a robust primary care workforce. In the United States, an increase of just one primary care physician is associated with 1.44 fewer deaths per 10,000 persons; adults with a primary care physician rather than a specialist had 33% lower costs of care after adjusting for demographic and health characteristics (Starfield, 2006). Patients with a regular primary care physician have lower overall health care costs than those without one (Weiss & Blustein, 1996; De Maeseneer, De Prins, Gosset, & Heyerick, 2003). Higher ratios of primary care physicians to population are associated with reduced hospitalization rates (Parchman & Culler, 1994). Patients with a regular primary care provider have 19% lower mortality (Franks & Fiscella, 1998), are 7% more likely to stop smoking, and are 12% less likely to be obese (Arora, et al., 2009).

In 2009, the Robert Graham Center presented an evaluation of the economic impact of family physicians based on direct, indirect, induced, and total economic impacts on their communities. Based on this analysis, the economic impact of one family physician was \$904,696 (Robert Graham Center, 2009). Also, primary care-oriented practice models can result in economic benefits. As discussed in the ACTPCMD's seventh report, a number of researchers have shown the patient-centered medical-dental home model can result in significant cost benefits (Advisory Committee on Training in Primary Care Medicine and Dentistry, 2008).

Title VII, section 747 funding has provided critical support in many areas related to developing the primary care workforce. The program funds primary care education, faculty development, and the creation of innovative primary care curricula and models of care. The program has long emphasized education and training of primary care providers for underserved populations and has stressed prevention and early intervention. The program has also emphasized a multidisciplinary focus while supporting primary care leadership development. Title VII, section 747 programs have been unique in attempting to promote primary care as a career choice among graduates of medical, dental, and physician assistant (PA) training institutions.

Program areas are funded through competitive grants and cooperative agreements awarded to organizations that train and educate health care professionals. The program areas have included residency training in primary care, pre-doctoral training in primary care, faculty development in primary care, academic administrative units, PA training, and general and pediatric dentistry residency training.

Collectively, grants in these program areas have helped to improve many aspects of the Nation's primary care workforce. They have led to improvements in primary care education, including innovative curricula, workforce capacity building, and faculty development. They have helped to identify and develop primary care education and training innovations along with best practices, and disseminated them to programs, accrediting bodies, and other constituents. In addition, they have helped to improve the diversity and number of primary care faculty and students, with special emphasis on individuals from disadvantaged backgrounds and on underrepresented minorities.

Key stakeholders have recognized the contributions of these training programs. For example, in 1994, the General Accounting Office (now called the Government Accountability Office) acknowledged that the program was important for funding innovative projects and providing seed money for starting new programs. The General Accounting Office further pointed out that the program was considered important in the creation and maintenance of family medicine departments (General Accounting Office, 1994).

In 2002, a study by the Robert Graham Center reported that students who attended medical schools that received Title VII, section 747 family medicine funds were more likely to practice family medicine or primary care in a rural area or in a Health Professional Shortage Area (HPSA) (Meyers, et al., 2002). Fryer and colleagues (2002) concluded that Title VII, section 747 funding led to higher rates of students entering family practice and practicing in HPSAs; pre-doctoral training and departmental development funding were strongly related to achievement of Title VII, section 747 objectives.

Edelstein and colleagues (2003) found that Title VII, section 747 funding of pediatric dentistry training programs was effective in shaping careers of professionals dedicated to serving the underserved, in recruiting underrepresented minority dentists, and in delivering dental services to the underserved. In addition, Title VII, section 747 contracts awarded to national primary care organizations have led to increased collaboration and enhanced innovation in ambulatory care education and training for students, residents, and faculty (Davis, et al., 2008). Title VII also fostered the development of primary care research capacity (Newton & Arndt, 2008).

These improvements in primary care education have led to improvements in the pipeline and, consequently, the supply of primary care providers. Early Title VII grants led to an increase in the production of physicians and dentists through grants for construction, renovation, and expansion of schools. Later grants helped to train physicians, dentists, and PAs in the fields of primary care, defined as family medicine, general internal medicine, general pediatrics, and general and pediatric dentistry. During this era, nearly every allopathic and osteopathic medical school established divisions of general internal medicine and general pediatrics and departments of family medicine; these disciplines offered primary care residencies, medical student clerkships, and faculty development programs (Reynolds, 2008).

Title VII support has made significant contributions to the supply of primary care providers in the U.S. For example, by 2000, the number of family practice residencies had grown from 12 in 1969 to more than 493. The number of PA training programs had grown from 12 in 1970 to 129 in 2000, all of which were fully accredited. By 2000, there

were 104 general internal medicine residencies nationwide. More than 16,000 general internists had trained in these primary care residencies during the previous 15 years, with more than two-thirds of graduates continuing to practice general medicine (Reynolds, 2008). Title VII support for dentistry has resulted in over 560 new general dentistry residency positions in the past 25 years and over 160 new pediatric dentistry residency positions in the past decade. The general dentistry Title VII programs have increased access to dental care for indigent populations, patients with compromised health, geriatric patients, and patients with special health care needs. Pediatric dentistry Title VII programs treat high-risk children from low-income families and produce graduates who are more likely to treat Medicaid or State Children's Health Insurance Program (SCHIP) recipients and other high-risk populations in their practices.

In addition, Title VII funding has provided a key means to address the geographic maldistribution of health care providers by exposing students to underserved sites during their training. Research has consistently demonstrated that trainees frequently choose to practice in the same sites in which they train (Cawley, 2008). Title VII has historically increased service learning activities in American medical and dental education, and underserved areas have benefited from these programs. In particular, from 1992 to the present, Title VII grants emphasized caring for vulnerable populations, greater diversity in the health professions, and curricular innovations. Title VII grantees have responded by designing curricula and creating clinical experiences to teach care of patients with HIV, the elderly, the homeless, and other vulnerable populations. Many grantees

recruited underrepresented minorities into their programs as both trainees and faculty; all grantees designed and implemented new curricula to address emerging health priorities (Reynolds, 2008).

In light of the emerging primary care provider shortage and in recognition of the need to develop Patient-Centered Medical-Dental Homes (PCM-DH), as detailed in the ACTPCMD's Seventh Report (Advisory Committee on Training in Primary Care Medicine and Dentistry, 2008), increased funding is needed to expand and enhance our primary care training programs. Congress should increase the budget for Title VII, section 747 programs to provide expanded support for all program areas.

Regulatory infrastructure must be established to ensure that the funds are aimed at primary care training, rather than at generalist training that actually produces non-primary care graduates. Funding priorities should be given to programs with a clear track record of producing primary care providers, or to new or re-structured existing programs that show credible processes, appropriate curriculum, committed leadership, and strong institutional support to develop that outcome. Outcomes must then be documented and graduates must be tracked.

To ensure resources are allocated using an approach that optimizes the program's outcomes, it is important to allocate funds based on a clear set of goals and targets, rather than a fixed proportion going to various program areas each year. As part of this approach, organizations receiving funding must have credible plans, a credible chance of success, and an organizational commitment to meeting the goals and targets established. This approach will help assure that

funds flow to areas in which there is the greatest potential for producing generalist providers. It will also support accountability that can help ensure that goals and targets are met.

Finally, additional funds will be required to support data acquisition and analysis for evaluating program outcomes (see Recommendation 5 below). Together, these needs justify our recommendation to increase funding for Title VII, section 747 to \$235 million.

Benefits of adopting this recommendation

- Increased funding will lead to increased capacity for training of primary care clinicians, which is crucial to support improved outcomes and contain growth in health care costs.
- Title VII, section 747 programs increase students' exposure to underserved areas, which helps address inequities in distribution of primary care providers.

Recommendation 2: The Secretary should ask Congress to modify the charge of the Advisory Committee on Training in Primary Care Medicine and Dentistry to include making recommendations directly to Congress in addition to the Secretary.

Problem/Opportunity for improvement

We request a modification of the authorization language for our Committee because we need the ability to communicate directly with Congress to affect policy in a timely manner. We are asking for an authorization similar to that of the Council on Graduate Medical Education (COGME). The ACTPCMD offers complementary but unique expertise to that of COGME and should have similar input

into policy formation. We have found that the multiple layers of review currently required for our reports have delayed our input to Congress regarding important policy decisions. In particular, our Committee has relevant recommendations that should be considered by Congress when decisions are being made regarding Title VII, section 747.

Benefits of adopting this recommendation

- This change would allow communication of the Committee's consensus recommendations through other approaches in addition to the single annual report.
- Congress will benefit from the direct communication from experts in a broad array of primary care disciplines in defining policies that will affect the way that Americans receive primary care.
- This change will increase the timeliness of our communications and allow Congress to receive expert advice while deliberating on specific policies.
- Having an advisory committee that can communicate with policymakers will make the guidance from Congress to the Health Resources and Services Administration (HRSA) more informed and effective.

Recommendation 3: Training grants should provide funds to develop, implement, and evaluate training programs that promote inter-professional practice in the Patient-Centered Medical-Dental Home model of care.

Problem/Opportunity for improvement

Health care in the U.S. is often fragmented, with different providers handling different aspects of patient care. This fragmentation

can result in communication gaps, increased errors, avoidable hospitalizations, and reduced access to care. There is growing evidence that effective inter-professional practice can reduce fragmentation and improve coordination which, in turn, improves patient outcomes, increases provider satisfaction, and reduces and contains costs through more effective utilization of resources (Remington, Foulk, & Williams, 2006; Reeves, et al., 2008; Hammick, Freeth, Koppel, Reeves, & Barr, 2007). Optimal outcomes at lower costs can be delivered when providers coordinate care and follow the patient across each component of an integrated delivery system. As presented in detail in the ACTPCMD's Seventh Report (Advisory Committee on Training in Primary Care Medicine and Dentistry, 2008) the PCM-DH model is built upon the documented value of an inter-professional team providing primary care to achieve better health outcomes, higher quality service, a more positive patient experience, lower costs, and more efficient use of resources (Starfield, Shi, & Macinko, 2005).

A patient who receives care from a PCM-DH has continuous access to a team that provides comprehensive and coordinated care for the large majority of that individual's health care needs. Outcomes can be improved and costs contained through improved care management, improved communication, a decrease in the duplication of tests, and a decrease in hospitalizations (Paulus, Davis, & Steele, 2008; Drinka & Clark, 2000).

Example of Health Home Model in an Academic Dental Program

The New York University College of Dentistry and the College of Nursing have introduced a formal, collaborative teaching program that unites dentistry and nursing. The program aims to increase students' focus in both programs on linkages between oral health and system health. A recent survey found that 15% of patients being treated at the New York University College of Dentistry had medical problems that were not being addressed because they did not have a primary care provider. The program highlights the opportunities and obligations that dental students have to intervene in their patients' medical care to ensure that health problems are addressed before they worsen. Dental students in the program are learning the skills necessary to recognize, diagnose, and refer patients for care to the New York University College of Nursing. Emphasis is placed on disease prevention and health promotion as students are taught to assess their patients' primary and secondary preventive needs. This holistic approach to care is earning rave reviews from patients and students.

American Dental Education Association, 2010

Academy of Family Physicians (AAFP), the American Academy of Pediatrics (AAP), the American College of Physicians (ACP), and the American Osteopathic Association (AOA) endorsed the principles of a patient-centered medical home model in a joint statement issued in February 2007 (American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, & American Osteopathic Association, 2007). The primary care medical home principles those groups endorsed include the following

- Each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous, and comprehensive care;
- The patient's personal physician leads a team of individuals at the practice level who collectively takes responsibility for the ongoing care of the patient;
- Care is coordinated and/or integrated across all elements of the complex health care system; evidence-based health care and clinical decision-support tools guide decision making; and
- Reimbursement or payment appropriately recognizes the added value provided to patients who have a patient-centered medical home (American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, & American Osteopathic Association, 2007).

In 2001, the American Academy of Pediatric Dentistry (AAPD) adapted the medical home concept to a Dental Home, which addresses the ongoing relationship between the dentist and the patient, inclusive of all aspects of oral health care, delivered in a comprehensive, continuously

The American Academy of Pediatrics first advanced the concept of a primary care medical home model as a central location for archiving a child's medical record and as an accessible, continuous, comprehensive, family-centered, coordinated, and compassionate approach offering culturally effective care (American Academy of Pediatrics, 2002). The American

accessible, coordinated, and family-centered way (AAPD, 2008)

A research team from the RAND Corporation and the University of California at Berkeley undertook a rigorous evaluation of care provided according to PCM-DH principles. In almost 4,000 patients with diabetes, congestive heart failure (CHF), asthma, and depression, under this model, researchers found that patients with diabetes had significant reductions in cardiovascular risk; CHF patients had 35% fewer hospital days; and patients with asthma or diabetes were more likely to receive appropriate therapy (Higashi, et al., 2007).

Utilizing a PCM-DH model, Blue Cross Blue Shield of North Dakota Diabetes Care Management reduced hospital admissions by 6% and reduced emergency department visits by 24%. The program saw savings of \$1,213 per patient for a total of \$233,000 (Adams, Grundy, Kohn, & Mounib, 2009). Geisinger Health Systems' preliminary data on use of a PCM-DH model show a 20% reduction in hospital admissions and a 7% savings in total medical costs (Paulus, Davis, & Steele, 2008). In addition, findings from *Closing the Divide: How Medical Homes Promote Equity in Health Care*, based on The Commonwealth Fund 2006 Health Care Quality Survey, show that racial and ethnic disparities in access to care and quality of care are largely eliminated when adults have a medical home, insurance coverage, and access to high-quality services and systems of care (Beal, Doty, Hernandez, Shea, & Davis, 2007).

Among the challenges to establishing effective, integrated, inter-professional teams are a lack of mutual understanding of each team member's role and lack of united training programs for providers (Brashers, et al., 2001). In an inter-professional practice context, all members of the team must understand the scope of practice of each of the other members of that team. Team members must work collaboratively using an inter-professional approach that integrates the unique contributions of various providers. In order to prepare health care providers appropriately for a practice in which they can achieve these benefits, the education of providers must include core competencies in inter-professional practice and experience working on inter-professional teams. This training will enable them to work collaboratively with effective coordination and communication.

Benefits of adopting this recommendation

- Facilitation of the implementation of the PCM-DH model will lead to improved coordination of care, better care management, improved outcomes, and cost containment.
- Reduced fragmentation of care and improved coordination and communication can lead to increased provider and patient satisfaction.
- Access to a PCM-DH can reduce racial and ethnic disparities in health care quality and access.
- Training in inter-professional settings will prepare health care providers for effective inter-professional practice

Recommendation 4: Training grants should support primary care clinical training in community-based settings for providers and trainees in various disciplines, including those in Title VII, section 747 programs (i.e., physicians, dentists, physician assistants) by funding proposals to recruit and develop community-based clinical educators.

Problem/Opportunity for improvement

Most primary care providers will ultimately practice in community-based settings such as health centers and clinics, physician offices, and community hospitals. However, limited availability of preceptors and instructors, higher travel costs, and space constraints create challenges for community-based training, compared to in-patient hospital-based training. Although teaching hospitals are an essential component of training because they expose trainees to a range of patients and cutting-edge research, more training in community-based settings would serve to promote primary care careers. As training programs expand in many disciplines, competition for clinical placement sites increases.

Insufficient availability of preceptor sites is constricting the primary care provider pipeline. Surveys of allopathic and osteopathic medical schools and PA training programs showed that availability of clinical training sites and clinical preceptors are rate-limiting barriers. Glicken & Lane (2007) noted that PA training programs identified insufficient clinical training opportunities and limited clinical preceptors as the leading barriers to expansion of PA training capacity. Surveys by the Association of American Medical Colleges and the American Association of Colleges of Osteopathic Medicine in 2008 found that

57% of the 121 respondent U. S. allopathic medical schools and 60% of the 25 respondent osteopathic medical schools indicated concern about the adequacy and availability of clinical training sites (Association of American Medical Colleges, Center for Workforce Studies, 2009; Levitan, 2008).

Costs associated with community-based training include staff support to recruit and train preceptors, costs to monitor the quality of students' educational experiences at remote sites, and support for development of the PCM-DH model of care. In addition, students at remote sites need assistance with travel costs and expenses of locating and financing housing for short-term placements. To support recruitment of community based educators, physician, physician assistant, and dental graduates who receive financial assistance, (e.g., loan repayment) as an incentive to work in a Federally Qualified Health Center (FQHC) should be able to count time spent teaching as clinical practice for a portion of their service obligation.

Students often choose to practice in sites where they trained. One-third of PAs met their first clinical employer through their clinical rotations (Cawley, 2008). Therefore, supporting community-based primary care preceptor sites may help to increase the flow of primary care graduates to practice in these sites. Additional benefits can be derived by collaborating with other Title VII programs such as the Area Health Education Center (AHEC) program. AHECs provide health care recruitment programs for K-12 students and facilitate linkages between trainees across health professions disciplines and training opportunities in community-based settings. Such partnerships can provide continuity that can increase retention in the pipeline of providers.

Benefits of adopting this recommendation

- Primary care clinical training will be more effective when training is delivered to the student in the same context in which he or she will practice.
- The pipeline for training primary care clinicians will not be constrained by lack of community clinical preceptor sites.

Recommendation 5: The Bureau of Health Professions should provide support for grantees to evaluate Title VII, section 747 programs and to track trainees in the long term.

Problem/Opportunity for improvement

Measurement of the effectiveness of Title VII, section 747 is critical to demonstrating its strategic importance in developing the health care provider workforce. Various stakeholders have criticized these Title VII programs for failing to develop evaluations of programmatic effectiveness. As the Congressional Budget Office noted in 2007, the Office of Management and Budget found that although the programs are well managed, they did not have a clear purpose defined in the authorizing legislation. An earlier report by the General Accounting Office in 1997 found that the effectiveness of the programs had not been demonstrated, partly because of a lack of clear program objectives and appropriate data (Congressional Budget Office, 2007). Although there has been evidence that suggests that Title VII programs have been substantially successful in promoting a primary care workforce, some of the criticism has some merit since these programs do not have any long-term data regarding their outcomes. Recognizing the value that such outcome data would have for justifying continued

Congressional appropriations for Title VII programs, the Committee recommends that HRSA's Bureau of Health Professions (BHP) collect and evaluate outcomes data related to Title VII, section 747 programs as outlined in the ACTPCMD's Fifth Report, *Evaluating the Impact of Title VII, Section 747 Programs* (Advisory Committee on Training in Primary Care Medicine and Dentistry, 2005).

Potential approaches to facilitating evaluation of the effectiveness of Title VII, section 747 include:

- Contracting an external review team to evaluate the effectiveness of current Title VII programs in training health professionals for the primary care workforce;
- Establishing supplemental funding for each Title VII grantee to identify and track trainees who matriculate through Title VII programs; and
- Creating a central data repository to track information on Title VII programs and trainees who complete funded training.

The mechanism to fund the evaluations could be in the form of a special Request for Proposals (RFP) under the Title VII supplement program. Designating one HRSA-funded site as the coordinating center and funding six to ten HRSA-funded programs as initial evaluation sites would provide an in-depth, robust assessment of the effectiveness of HRSA Title VII programs. Additional data from HRSA-funded sites could be added through additional HRSA supplements after the evaluation instruments and data collection protocols are established during the initial phases of evaluation. Subsequent RFPs would include set-aside funds for grantees to collect and forward the data necessary for tracking outcomes.

Another option could be to fund a separate evaluation contract award. The recipient of this award would be contracted to contact each HRSA Title VII grantee and solicit contact information on program participants. Each participant would subsequently be contacted and asked to provide information on current activities, feedback on the grant program, and socio-demographics.

The objectives of such efforts should include establishing consistent measures that provide for programmatically relevant reporting on program effectiveness without placing undue burden on grantees for collecting and analyzing data. The recommendations set out in the ACTPCMD's Fifth Report should be the basis of the evaluation procedures.

Data from such studies should be stored in a central data repository that can be a major data source for investigators studying ways to enhance the primary care workforce. There are several models of shared central repositories, such as those at the Centers for Disease Control and Prevention (CDC) and the University of Michigan.

Benefits of adopting this recommendation

- Effective evaluation of outcomes provides a way to demonstrate both the near- and long-term benefits of Title VII, section 747 programs and how these programs can contribute to overall health care reform objectives.
- A shared central data repository would become a resource for researchers and would facilitate identification and dissemination of best practices.
- The evaluation and outcome data can be used to prove effectiveness and efficiency of Title VII, section 747 programs to stakeholders.

Recommendations addressing Federal policies necessary to support primary care as the backbone of the health care system

Recommendation 6: Congress and Centers for Medicare & Medicaid Services should restructure health care financing to attract health care providers to enter and stay in primary care careers.

Problem/Opportunity for improvement

Dwindling numbers of U.S. allopathic medical school graduates are choosing to enter the field of primary care medicine. The percentage of those U.S. medical graduates choosing family medicine decreased from 14% in 2000 to 8% in 2005 (Pugno, Schmittling, Fetter, & Kahn, 2005). Seventy-five percent of internal medicine residents eventually become subspecialists or hospitalists rather than general internists (West, Popkave, Schultz, Weinberger, & Kolars, 2006). Among U.S. osteopathic medical school graduates there has been a similar, if less marked, decline in the selection of primary care. Graduating seniors' intent to pursue primary care dropped from 44% in 1999 to 28% in 2007 (Shannon, Ferretti, & Levitan, 2010). In 2008, 37% of PAs were working in primary care (family/general medicine, general pediatrics, or general internal medicine) (American Academy of Physician Assistants, 2008). This figure represents a decline since 1997 when fully 50% were engaged in primary care (American Academy of Physician Assistants, 2007).

This trend [of medical school graduates opting to enter higher-paid sub-specialties rather than careers in primary care medicine] has fueled a growing shortage of primary care doctors in the United States. “On the eve of (health care) reform, we have a very real primary care crisis,” said Dr. Ted Epperly, president of the American Academy of Family Physicians (AAFP).

Epperly estimates that the primary care arena will be 40,000 doctors short of where it needs to be by 2020 to support the demand for medical care. “We need 150,000 family doctors in total by then,” Epperly said.

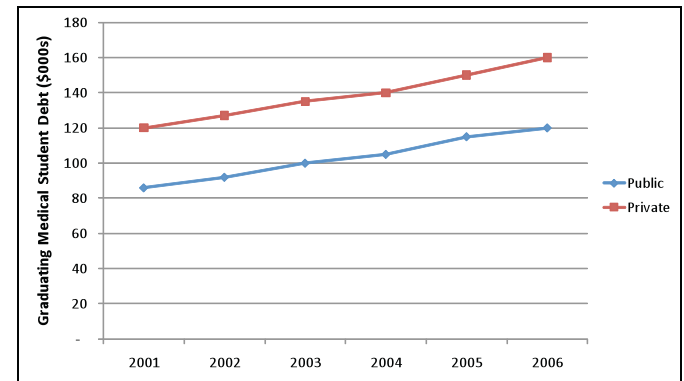
(Kavilanz, 2009)

The work-related stresses felt by primary care physicians are so widely recognized that medical students view primary care as the career choice with more work at less pay (Bodenheimer, 2006). Because office visit fees are relatively low, primary care physicians schedule many short, rushed visits to keep their practices afloat financially; however, these brief appointments potentially compromise patient outcomes (Zyzanski, Stange, Langa, & Flocke, 1998) and foster the unsustainable physician work life that contributes to students’ avoidance of primary care careers (Dorsey, Jarjoura, & Rutecki, 2003).

Medical students fund a large proportion of the cost of their medical education through educational loans; the median indebtedness of medical school students graduating in 2006 was expected to be \$120,000 for students in public medical schools and \$160,000 for students attending private medical schools. About 5% of all medical students will graduate with debts of \$200,000 or more (Association of

American Medical Colleges, 2005). Osteopathic physicians graduated with similar mean debts of \$134,000 for public schools and \$154,000 for private schools in 2006 (Shannon, 2008).

Figure 2: Graduating Medical School Indebtedness



Source: Association of American Medical Colleges, 2004

Noncompetitive salaries discourage medical students from choosing careers in primary care (American College of Physicians, 2006b). With high debt burdens at graduation, jobs in specialty fields are more attractive to new physicians as they offer higher salaries than primary care positions. Specialists earn nearly twice as much as primary care physicians, despite working the same number of hours. A 30-minute routine procedure performed by a specialist is frequently reimbursed at two-and-a-half to three times the amount paid to a primary care physician who has spent the same amount of time with a complicated patient (deGier, 2007).

As Bodenheimer, Berenson, and Rudolf noted (2007), the Resource-Based Relative Value Scale (RBRVS) system, adopted by Medicare in 1992 and copied in part by private insurers, was designed to lessen the fee disparity between office visits—the bread and butter of primary care—and procedures provided by specialists. However, the RBRVS has failed to prevent the widening income gap between primary care and specialty care because:

- Diagnostic and imaging procedures have increased at a more rapid pace as compared to the number of office visits;
- The process of updating fees every 5 years is greatly influenced by the Relative Value Scale Update Committee, which has heavy representation from procedural specialists;
- Medicare's formula for controlling physician payments penalizes primary care physicians; and
- Private insurers usually pay for procedures, but not for office visits, at higher levels than those paid by Medicare.

It would be desirable to develop new payment models that blend the best of fee-for-service, capitation, and salary, while mitigating each approach's deficiencies (Robinson, 2001; Berenson & Horvath, 2003). For example, primary care physicians who care for patients with multiple chronic conditions could be paid using an approach similar to that of capitation in which a fixed per capita amount is paid for each patient served (Goodson, et al., 2001; Goroll, Berenson, Schoenbaum, & Gardner, 2007). Surgeons and other specialists responsible for episodes of care over a limited time period might be paid case rates on the basis of diagnoses; specialists providing one-time professional services might continue to be paid on a fee-for-service schedule. Public and private payers, working with physicians, have a common interest in promoting a vibrant primary care sector as a medical home for patients and families because if this concept is properly supported, it can contribute to substantial reductions in health care costs (Bodenheimer & Fernandez, 2005).

As discussed earlier, there is growing evidence of the beneficial impact of primary care providers on health care outcomes and cost. Areas with higher ratios of primary care physicians to population have substantially lower health care costs than areas with lower ratios. The lower costs may be the result of the better preventive care and lower hospitalization rates associated with good primary care. Care for illnesses common in the population, such as pneumonia, is more expensive when provided by specialists rather than generalists, despite the fact that there are no differences in outcomes (Starfield, 2005).

A revised reimbursement model should acknowledge the value of both providing and receiving coordinated care in a system that incorporates the elements of the PCM-DH. In addition, such a system would align incentives so providers and patients would choose practices that deliver care according to the PCM-DH model. The revised reimbursement model could also include a qualification process for physicians and practices in which they must demonstrate proper application of PCM-DH principles prior to becoming eligible for the revised reimbursement model.

Benefits of adopting this recommendation

- A redesigned reimbursement system that compensates primary care providers for time spent in care coordination and communication would help reduce the compensation disparity between primary care providers and specialists.
- New payment models could promote a vibrant primary care sector and the PCM-DH model, which can lead to positive patient outcomes, health care cost containment, and improvement in the morale and job satisfaction of primary care providers.

Recommendation 7: Congress and Centers for Medicare & Medicaid Services should revise funding policies for Graduate Medical Education and other educational programs to foster and support the use of community-based (non-hospital) sites for primary care training of physicians, dentists, and physician assistants.

We concur with the recommendations of COGME in its 19th report, *Enhancing Flexibility in Graduate Medical Education* (Council on Graduate Medical Education, 2007). In addition, we emphasize the following specific suggestions:

- Federal funding for medical and dental residency education should follow trainees into community-based sites. Support for practices and clinics that are affiliated with academic centers should be included because they are also under-supported when funding is directed to hospitals.
- CMS education funding should go beyond GME residency funding and include primary care training for interdisciplinary teams in ambulatory care settings. The rationale for this change is that in order for inter-professional teams to function well together, they should be trained together.
- When hospital or training programs close, funded training positions should be transferred to other organizations, including non-hospital organizations. We specifically advocate that non-hospital entities be eligible for any new training program funding.
- Funding should be directed specifically to training in non-hospital sites that serve underserved and rural populations.

- Private health care payers should be required to join with the government in funding community-based primary care education.
- Funding should support clinical sites that prepare trainees for inter-professional practice by educating medical, dental, physician assistant, and other trainees together on health care teams.

Problem/Opportunity for improvement

Primary care that is delivered effectively in community settings (i.e., non-hospital environments such as health centers and clinics, physician offices, schools, workplaces, nursing homes, hospices, and home care) can reduce costs and improve outcomes (Landon, et al., 2007). This care can reduce the need for patients to seek care at more expensive settings, such as emergency departments and hospitals.

In order to prepare physicians, dentists, and PAs for practice in community settings, trainees should learn in settings similar to those in which they will eventually practice. However, there are barriers standing in the way of expanding community-based training. For example, the structure of current funding mechanisms for physician education is linked to in-patient, hospital-based care. COGME described this problem eloquently in its 19th report, *Enhancing Flexibility in Graduate Medical Education* (Council on Graduate Medical Education, 2007), and made recommendations to address support for community-based training. By tradition, many medical, dental, and PA training programs rely on hospital-based clinical training sites. These patterns should be changed in order to prepare trainees to practice most effectively in the community.

An example of a successful community-based education program is the Dental Pipeline Program. Beginning in 2001, the Robert Wood Johnson Foundation granted \$19 million to this community-based instruction program designed to reduce disparities in access to dental care (Brodeur, 2009). One of its primary strategies is to place dental training in community clinics and practices treating underserved patients. Successes of this program include:

- The reaching out of dental schools to communities with substantial unmet oral health needs, linking their educational and service goals;
- The development of community-based education curricula;
- The development of new extramural rotations or greater capacity for offsite student opportunities by those institutions that already have some established extramural activities (Kuthy, 2009).

Payment reform is also required at the educational level in order to encourage greater numbers of health professions students to consider careers in primary care. Medicare spends \$8.8 billion annually on GME, almost all of which flows to hospitals rather than directly to residency programs (Bodenheimer, Grumbach, & Berenson, 2009). This payment mechanism therefore inhibits training in ambulatory care settings, which is critical for the development of primary care skills to deliver preventive care and longitudinal disease management. The Medicare Payment Advisory Commission (MedPAC) and COGME have called for more flexible approaches to Medicare GME payment (Council on Graduate Medical Education, 2007). Family medicine advocacy groups have proposed that Medicare GME

funding for primary care residency training be rerouted away from hospitals and paid directly to residency programs. As Bodenheimer, Grumbach, and Berenson (2009) noted, “Far-reaching medical-education reform would redirect a substantial portion of Medicare’s GME billions to strengthening primary care residencies and preparing residents to lead the implementation of innovative models of primary care (para.12).” In addition, to ensure that there is sufficient transparency for all stakeholders regarding Medicare Indirect Medical Education (IME) and GME funding, CMS should publicly report the amounts that each organization receives per year.

Benefits of adopting this recommendation

- Community-based settings (i.e., non-hospital settings) such as health centers and clinics, physician offices, schools, workplaces, nursing homes, hospices, and home care can offer training opportunities more representative of where providers are likely to practice, making the training more effective.
- Rerouting Medicare GME funding away from hospital facilities and directly to residency programs would encourage training in non-hospital ambulatory care settings, which is critical for the development of primary care skills and the promotion of careers in primary care.
- Utilization of community-based, non-hospital sites will provide more diverse patient populations for undergraduate and graduate medical education than may be available at hospital sites.

Recommendation 8: Congress should expand the National Health Service Corps loan repayment programs with additional programs to address the severe primary care workforce shortages in medicine and dentistry.

Problem/Opportunity for improvement

Inequities in the distribution of health care professionals continue to be a persistent U.S. health care policy problem. The supply of physicians, for example, is much lower in rural areas relative to population, and rural residents are older, sicker, and poorer than the overall population. Despite recent growth in the overall numbers of health care professionals, the distribution problem persists in rural areas, inner cities, and in some outlying suburban areas.

Research during the past decade reveals a combination of factors that have worked in concert to aggravate the distribution problem. Among these are increasing specialization among physicians and dentists (Bodenheimer, 2006), preferences for affluent suburban and urban practice locations (Rosenblatt & Hart, 2000), and lower rates of health insurance coverage in rural and inner city areas (DeLia & Belloff, 2006). Together, these factors have impacted the distribution of health care professionals. Evaluations conducted by stakeholders such as the Office of Management and Budget (OMB) and the U.S. Government Accountability Office (GAO) have shown

that National Health Service Corps (NHSC) placements have provided much-needed services and have resulted in retention of many providers in underserved areas. Medical students with NHSC scholarships are much more likely to become primary care physicians, to practice in underserved areas, and to practice in a community health center. However, NHSC positions are available to only 3 – 4% of physicians (Phillips, et al., 2009).

While the NHSC already plays a significant role with respect to placing providers in shortage areas, there is an opportunity for additional synergy with regard to placing educators in community based settings. To enable the NHSC to play a more complementary function with FQHCs, physician, physician assistant, and dental faculty should be allowed to count time spent teaching as clinical practice for a portion of their obligated service.

Benefits of adopting this recommendation

- Expansion of NHSC programs will help to address severe primary care workforce shortages in underserved areas.
- Improved access to primary care providers will lead to improved health care outcomes for patients in underserved areas.
- Loan repayment plans such as those provided by the NHSC reduce a major financial barrier to medical student selection of primary care careers.

Recommendation 9: Congress should support Patient-Centered Medical-Dental Home demonstration projects designed to evaluate innovative funding and reimbursement strategies that promote accessible high-quality care, while stemming the growth in health care costs.

Problem/Opportunity for improvement

This support should include commissioning a study by a respected external organization, such as the Institute of Medicine, to examine critical barriers and facilitators to the success of primary care including Federal support for the PCM-DH, assistance needed to transform practices successfully, training for practice in the PCM-DH, and incentives to increase interest in primary care. As part of this support, CMS should:

- Work with primary care leadership organizations to develop strategies to re-define how to deliver and reimburse primary care.
- Pilot and evaluate reimbursement strategies that compensate for nontraditional approaches to care such as group visits, telephone and electronic communication, care management, and incorporation of non-traditional provider types (such as patient educators, patient navigators, and community health workers).
- Pilot and evaluate reimbursement strategies for time spent on telephone and e-mail consultations and care coordination.

- Provide, along with other payors, financial incentives to practices that demonstrate performance in providing preventive services, care management of chronic disease, use of electronic medical records, and other components of the PCM-DH model. Special attention should be given to providers caring for underserved populations.

“Currently, reimbursement for office visits does not capture many activities that primary care practices must perform for their patients, especially those with chronic conditions. Under the Medicare Patient-Centered Medical Home demonstration, additional payments would be made to qualifying practices for care coordination activities, including communication with patients and families by telephone and secure e-mail.”

[If the Physician Group Practice Demonstration were expanded] “under this approach, groups would be rewarded for improved performance on quality measures and assessments of patients’ experience by being allowed to share in the savings if costs for their Medicare patients were lower than projected. Under both of these approaches, primary care physicians should receive higher incomes. Moreover, these models provide resources and incentives for enhanced practice capabilities and team orientation to make primary care practice more satisfying and manageable.”

(Bodenheimer, Grumbach, & Berenson, 2009)

Problem/Opportunity for improvement

Structural factors in the U.S. health insurance system undermine the effectiveness and efficiency of primary care. These issues

should be addressed as part of an overall effort to redesign primary care. Such redesign can bring about significant improvements in patient outcomes and reduced costs.

Case Study: Group Health Cooperative of Puget Sound

Group Health Cooperative of Puget Sound, a large, consumer-owned integrated delivery system in the Northwest, is rolling out a major transformation of its primary care practices. In 2007, Group Health piloted a Patient-Centered Medical Home redesign at one of its Seattle clinic sites. The redesign included substantial workforce investments to reduce primary care physician panels from an average of 2,327 patients to 1,800; expand in-person visits from 20 to 30 minutes and use more planned telephone and email virtual visits; and allocate daily “desktop medicine” time for staff to perform outreach, coordination, and other activities. The redesign emphasized team-based chronic and preventive care and 24/7 access using modalities including electronic health record (EHR) patient portals.

A 12-month controlled evaluation of the pilot clinic redesign found the following:

- Better quality: The pilot clinic had an absolute increase of 4% more of its patients achieving target levels on Healthcare Effectiveness Data and Information Set (HEDIS) quality measures, significantly different from the control clinic trend; pilot clinic patients also reported significantly greater improvement on measures of patient experiences, such as care coordination and patient activation.*
- Better work environment: There was less staff burnout, with only 10% of pilot clinic staff reporting high emotional exhaustion at 12 months compared to 30% of staff at control clinics, despite being similar at baseline. Group Health has seen a major improvement in recruitment and retention of primary care physicians.*
- Reduction in ER and inpatient hospital costs: Patients had 29% fewer ER visits and 11% fewer ambulatory sensitive care admissions.*
- Better value proposition: An additional investment in primary care of \$16 per patient per year was associated with offsetting cost reductions, with the net result being no overall increase in total costs for pilot clinic patients (the total net cost trend was a savings of \$17 per patient per year, which was not statistically significant). Unpublished data from the 24-month evaluation reportedly show a statistically significant decline in total costs.*

As a result of the success of the pilot clinic redesign, Group Health is currently implementing the Patient-Centered Medical Home model at all 26 of its primary care clinics serving 380,000 patients (Grumbach, Bodenheimer, & Grundy, 2009).

The GAO testified in 2008 that a strong primary care-based system offers higher quality and lower costs, arguing that the current undervaluing of primary care is harmful (Primary Care Professionals, 2008). The current reimbursement system by insurance

providers does not provide adequate incentives and support for proactive and preventive care; instead, the emphasis remains on episodic treatment of acute care and reimbursement for procedures, resulting in increased costs.

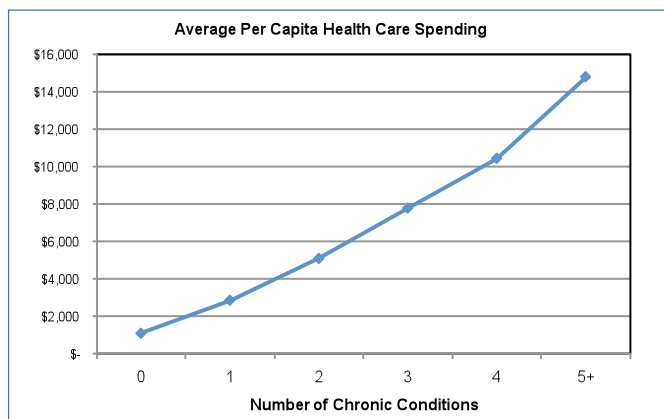
Case Study: Community Care of North Carolina

Community Care of North Carolina (CCNC) built a partnership between Medicaid, primary care physicians, and other community health care providers to achieve quality, utilization, and cost objectives in the management of care for over 750,000 Medicaid recipients across North Carolina. “CCNC has created a modified version of the medical home where patients are assigned to a primary care home that provides comprehensive longitudinal care, where case managers provide wrap-around services, where practice-specific data are used to improve care, where practices learn from each other, and where community partners support care” (Steiner, et al., 2008, para. 38).

Within the CCNC program, approximately 1,200 primary care practices across North Carolina manage the care of about 80% of the state’s Medicaid population, or almost 10% of North Carolina’s population. For a management fee (in addition to the usual fee schedule of Medicaid), the practices provide ongoing comprehensive primary care and arrange care with other qualified health care professionals as needed. The state Medicaid office funds the small statewide infrastructure and each of the 14 individual networks with a staff that provides outreach to network practices and case management for high-risk patients (at a rate of \$3 per member in the network per month). In addition to the usual Medicaid fee schedule, the state Medicaid office pays individual CCNC community practices an additional \$2.50 per member in the practice per month to fund practice innovations that improve disease management for CCNC patients.

The program provides a range of benefits. For example, hospitalization rates among asthmatic children dropped by 34% and emergency department visits decreased by 8%. As compared to individuals in other Medicaid programs without medical homes, in 2000, there were 23% fewer hospital admissions per 1,000 asthmatic CCNC enrollees under the age of 21; in 2002, there was a 9% lower hospital utilization rate among diabetic enrollees. Overall among the subset of the enrollees who are asthmatic or diabetic, the program saved the state as estimated \$5.4 million over a 3-year period (Ricketts, Greene, Silberman, Howard, & Poley, 2007). Estimates of annual savings in 2006 range from \$161 to \$300 million. As Steiner and colleagues noted, “The program supports itself fiscally and has shown important improvements in quality of care. It is a model of care that has moved beyond theory and could be implemented across the country” (Steiner, et al., 2008, para. 38).

Figure 3: Health Care Spending Increases and Number of Chronic Conditions



Source: Robert Wood Johnson Foundation, 2006

More than 40% of the U.S. population has a chronic medical condition; about half of these individuals have multiple chronic conditions (American College of Physicians, 2006a; Wu & Green, 2000; Anderson, 2005). The costs of treating patients with chronic conditions are significantly higher than the costs of treating patients without chronic conditions (Robert Wood Johnson Foundation, 2001). The current health insurance reimbursement system does not supply financial support for health care providers to deliver effective treatment for many of these chronic conditions.

Widespread adoption of models like the PCM-DH model and the Chronic Care model require a revised reimbursement structure. Changes in reimbursement would pave the way for practice reorganization. Practice reorganization, in turn, would improve the satisfaction, performance, and productivity of the primary care workforce, thus attracting new additional entrants into this field of medicine (Bodenheimer, Grumbach, & Berenson, 2009).

Several options for funding mechanisms have been proposed. For example, a management fee to pay for various aspects of care coordination. Value-based payment has become popular with some groups in the health care industry. Such approaches, and others, would lead to “pay-for-performance” programs that are incorporated into fee-for-service systems. For such reforms to achieve their objectives, they must be accompanied by practice reform. Willingness to reorganize and commit to a high standard of primary care delivery, such as implementing a PCM-DH model of care, might be a prerequisite for practices to qualify for payment under a reformed payment approach (Goroll, 2008).

Benefits of adopting this recommendation

- A reimbursement system without the current disincentives for proactive care would facilitate treatment of chronic conditions and preventive treatment, leading to improved health care outcomes.
- Innovations in funding could facilitate adoption of practice models such as the PCM-DH model that can contain costs and improve outcomes.
- PCM-DH models of care promise to increase the appeal of a primary care career because of its highly valued central role in the delivery of health care, efficiencies, and exciting collaborative care, thereby ameliorating expected primary care provider shortages.

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