



# Strengthening primary care and oral health education and training of future and current health professionals for rural and underserved populations

July 2020

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

Advisory Committee Training in Primary Care Medicine and Dentistry (ACTPCMD)



**HRSA**  
Health Resources & Services Administration

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The views expressed in this report are solely those of the Advisory Committee on Training in Primary Care Medicine and Dentistry, and do not represent the perspectives 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**

The Advisory Committee on Training in Primary Care Medicine and Dentistry (ACTPCMD) is a Federal advisory committee under the auspices of the Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services (HHS). HRSA is the primary Federal agency for improving access to healthcare by strengthening the healthcare workforce, building healthy communities, and achieving health equity. The ACTPCMD is authorized by sections 222 and 749 of the Public Health Service Act (PHSA) (42 U.S.C. §§ 271a, 749), as amended by section 5303 of the Patient Protection and Affordable Care Act (ACA).

The ACTPCMD originally was established under the authority of section 748 of the 1998 Health Professions Education Partnerships Act. The ACTPCMD provides advice and recommendations on policy and program development to the Secretary of the U.S. Department of Health and Human Services (Secretary) and is responsible for submitting an annual report to the Secretary and to Congress concerning the activities under sections 747 and 748 of the PHSA, as amended. Reports are submitted to the Committee on Health, Education, Labor, and Pensions of the Senate and the Committee on Energy and Commerce of the House of Representatives. In addition, ACTPCMD develops, publishes, and implements performance measures and longitudinal evaluations, as well as recommends appropriations levels for programs under Part C of Title VII of the PHSA, as amended.

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# INTRODUCTION

## **The Importance of Primary Care**

Primary care addresses the quadruple aim of (1) improving population health, (2) improving quality of care, (3) reducing overall costs of care, and (4) improving provider satisfaction. A growing shortage of primary care clinicians threatens the vitality of our primary care system. Primary care availability improves health equity, while challenges to our primary care system, such as inadequate financial support for primary care activities, will worsen disparities in care, especially among our most vulnerable populations. Primary care dentistry is similarly important to population health and faces some of the same challenges as primary care medicine. Patient-centered medical homes (PCMH) that feature integrated oral and behavioral health offer a team-based model that focuses attention on improving population health in ways that create stronger linkages between practices, patients and communities. The Health Resources and Services Administration (HRSA), through its Title VII programs, has played an important role in primary care and dentistry workforce training, offering programs that support PCMH development as well as oral and behavioral health integration.

In this report, we make recommendations about programming that HRSA might support to strengthen primary care at a time of great challenge. We also make recommendations that go beyond Title VII programs, and address what the Committee views as important enablers of primary care and dentistry practice and training.

Our Title VII recommendations, referred to as our Part A recommendations, include providing residency training in primary care and dentistry that provide direct care to rural and underserved communities, based on the observation that trainees are more likely to choose to care for these populations if they train in rural and underserved communities. We recommend that Title VII funding be used to support training that prepares program graduates to create linkages between community resources and primary care practices in ways that improve population health. Finally, we recommend an overall increase in funding for Title VII funding to expand programs, as well as resources that will allow HRSA to track program graduates and demonstrate the long-term impact of Title VII programs.

In our second group of recommendations, referred to as Part B recommendations, we address improvements that would help to address primary care workforce issues and fall outside of Title VII programs. These recommendations include expansion of alternative payment models that improve funding for primary care, expansion of National Health Service Corps loan repayment programs for primary care and dentistry, expansion of the Teaching Health Center Graduate Medical Education (THCGME) program, and creation of incentives in reimbursement for Graduate Medical Education that favor primary care training.

## **TITLE VII PROGRAM OVERVIEW**

Title VII Section 747 and Section 748 health workforce programs serve to strengthen the nation's primary care and oral health workforce by supporting training for clinicians, faculty, and researchers, and by promoting and providing quality health care, particularly for populations living in rural and underserved areas. The collective focus of Section 747 and Section 748 programs is to prepare providers to practice, teach, and lead the transformation of health care systems that improve access, quality of care, and cost effectiveness (Department of Health and Human Services, 2019).

For example, the HRSA-administered Primary Care Training and Enhancement (PCTE) Program helps to train primary care clinicians, teachers, and researchers by enhancing trainees' clinical experiences and by supporting health care access in rural and underserved areas. The PCTE Program also supports the Primary Care Medicine and Dentistry Clinician Educator Career Development Awards, which help to develop future clinician educator faculty and leaders in primary care medicine and dentistry while also supporting innovative projects that involve the transformation of health care delivery systems. In Academic Year 2018-2019, the PCTE Program supported 13,094 trainees, including primary care medical residents, fellows, medical students, physician assistant students, and medical faculty. Over 29 percent of these trainees were from disadvantaged backgrounds. Trainees received clinical training experiences at 997 sites, including ambulatory practices, physicians' offices, hospitals, community health centers, and rural health clinics (Health Resources and Services Administration, 2019).

Similarly, HRSA's oral health training programs increase access to high-quality dental health services in rural and underserved communities by increasing the number of providers working in underserved areas and by enhancing training programs for these providers. These programs support dental students, dental residents, practicing dentists, dental faculty, and dental hygienists. In Academic Year 2018-2019, grantees of the Training in General, Pediatric, and Public Health Dentistry and Dental Hygiene Programs trained 10,356 dental and dental hygiene students in pre-doctoral training degree programs; 494 dental residents and fellows in advanced primary care dental residency and fellowship training programs; and 1,957 dental faculty members in faculty development activities. In this same academic year, 96 dental faculty participated in Title VII's Dental Faculty Loan Repayment Program and received over \$2.8M in educational loan repayments (Department of Health and Human Services, 2019).



## **PART A: RECOMMENDATIONS**

### **Recommendation A1**

Congress should increase funding of Title VII, primary care and oral health training programs from \$89 million to \$120 million for the next fiscal year and ensure that this funding be used to continue and expand current programs and enable longitudinal tracking of program graduates.

**The Charge:** The ACTPCMD is authorized by Title VII, Part C, section 749 (42 U.S.C. 293I) of the Public Health Service Act to recommend appropriation levels for programs concerning medicine and dentistry activities under section 747 of the PHS Act, as it existed upon the enactment of Section 749 of the PHS Act in 1998

**The Challenge:** Title VII primary care medicine and dentistry education and training programs have traditionally provided support for training of primary care physicians, physician assistants, dentists, and dental hygienists. These programs have been instrumental in supporting innovative training of these professionals as they care for the most vulnerable and underserved populations. In their 2019 report, the Association of American Medical Colleges (AAMC) stated that the U.S. population is estimated to grow by nearly 11% by 2032, with those over age of 65 estimated to increase by nearly 50%. During this period, they predicted that the United States could see a shortage of up to 121,900 physicians by 2032, where the shortage of primary care physicians fell between 21,100 and 55,200. Note that this range accounts for the projected rapid growth in the number of Advanced Practice Registered Nurses and Physician Assistants that could ideally strengthen the nation's primary care foundation.

**Addressing the Challenge:** The goals of Title VII section 747 and 748 has been to enhance training in primary care and dentistry. Above the looming shortage of physicians to adequately support our growing nation, primary care faces challenges with transition to value-based care and HRSA grantees face challenges in longitudinal tracking of its graduates. Hence, the committee recommends a new proposed budget of \$120 million dollars in support of these goals, representing an approximate 30% increase over current funding levels. These funds would be used to continue and expand the current programs addressing the current and future need of primary care and dentistry. For instance, funding would be used to support innovative training programs that focus on meeting the needs of vulnerable populations, particularly in geographically isolated or medically underserved communities.

### **Recommendation A2**

New funds should be made available to support the development and implementation of longitudinal rural primary care education and training residency programs, or rural tracks within primary care residency programs, such as those for physicians in family medicine,

internal medicine, and pediatrics; for physician assistants; and for dentists in pediatric dentistry, dental public health, and advanced general dentistry.

**The Challenge:** Nearly 20% of Americans live in rural areas, but less than 10% of physicians practice in these communities (Health Resources and Services Administration, 2018). Compared to the general population, rural and underserved populations tend to be poorer, less healthy, and have a lower life expectancy (Warshaw, 2017). The rural-urban gap is widening and simply training more physicians, physician assistants, dentists, and other health care professionals is not fixing the maldistribution of clinicians. This is partially influenced by the fact that most postgraduate training is conducted in urban Academic Health Centers (large teaching hospitals) while most health care is instead delivered in community-based settings (Leighton et al., 2015). Access to primary care, psychiatry, obstetrics/gynecology, and general surgery services can most efficiently address rural health issues, but each specialty faces serious shortages of rural providers (AAMC 2019 report). Nonetheless, it is important to note that there continues to be significant challenges in urban areas.

**Addressing the challenge.** Health professionals tend to practice in, or near, where they have trained. Greater than 50% of newly certified physicians practice within 100 miles of their residency (Fagan et al., 2013), where smaller community-based programs have been found to produce the largest percentage of primary care physicians who stay in rural areas (Nelson & Gruca, 2017). For physician assistants, training where they were raised, particularly in a rural environment, is associated with future practice in that setting (Coombs et al., 2011). Finally, for dentists, evidence suggests that increasing the opportunities for dental students to witness the practice of rural dentists and experience rural living could increase their interest in rural practice after graduation (Lopez, Sager, & Gonzaga, 2019). Hence, the Committee recommends increasing funds to support the development and implementation of rural health programs to augment existing programs and promote establishment of new programs through Title VII grants.

### **Recommendation A3**

Funds should be targeted at developing and implementing primary care residency programs as above that focus on meeting the needs of underserved areas and vulnerable populations.

**The Challenge:** The primary care setting is the hub for promoting healthy behaviors as well as decreasing the incidence and mitigating the impact of chronic disease. There is need to prepare primary care providers with access to experience and resources that enhance their ability to deliver this kind of care. Health disparities in the United States are increasingly affecting urban and rural areas, where some of our most vulnerable populations live. The Center for Disease Control’s Office of Minority Health and Health Equity reported “compelling evidence indicate race and ethnicity correlate with persistent, and often increasing, health disparities and chronic disease prevalence among the U.S. populations.” According to a 2013 CDC Health Disparities and Inequities report, the complexity of training to serve a diverse population requires a healthcare workforce prepared to address its challenging healthcare needs. Yet this population

often lives in a medically underserved community with a shortage of health care professionals and training opportunities. By 2023 there will be a shortage of as many as 55,200 primary care physicians. The Association of American Medical Colleges (AAMC) 2019 update on physician supply and demand predicts a shortfall range that is higher than the previous (2018) study. This reflects their recalculations of the number of generalists who remain in primary care versus becoming a hospitalist or later specializing in non-primary care.

Health care professionals will often work in areas in which they were trained, as there is certain comfort in the familiarity of working with a population you already know. Studies have supported the idea that training in settings characterized by outpatient practice with an underserved patient population yield high retention of trainees near their safety net graduate medical education (GME) sites after graduation. (7)

**Addressing the Challenge:** It is essential for primary care providers to be trained as physicians, dentists, and physician assistants in underserved areas- both urban and rural. In urban settings, there are cultural differences and socio economic factors that drive complex health care needs and lead to disparity in access to care. In rural areas, there is disparity in access to care due to long distances between scarce providers driving a greater reliance on innovative technology, and an expanded scope of primary care practice and practice authority. Emphasis needs to be on training providers who understand the complex environment and needs of these underserved areas.

## **Recommendation A4**

Sufficient funds should be made available to assist HRSA in developing the expertise and capacity to evaluate longer-term outcomes of Title VII, Part C, primary care and oral health training HRSA grantees.

**The Challenge:** Programs in the health sector exist in a complex and rapidly changing environment. It may even be a challenge to define appropriate measurable outcomes to assess programmatic success. For example, cost of care, patient satisfaction, quality outcomes, number of lives impacted, staff turnover, and many other metrics might be relevant, but not all metrics are relevant to all programs. Generally, grant-receiving organizations are more experienced and skilled at implementation of care-delivery programs than at post hoc analysis of the implemented programs. Any grant-giving organization should view its stable of funded projects as an investment portfolio, and the effectiveness and impact of funded programs represent the return on that investment. While it may be easy to present a convincing rationale for rigorous program evaluation, it is substantially more difficult to conduct meaningful evaluations of complex programs.

The health of an investment portfolio is determined by the aggregate results of the entire portfolio, not by the results of individual investments within that portfolio. If different methods are employed to assess individual programs, it becomes impossible to aggregate these individual assessments into a meaningful and holistic analysis of portfolio performance. Future investments should be guided by the performance of previously funded programs. Of course, it is important to learn if a funded project worked or did not work. Beyond that, for results to be

disseminated beyond the walls of the grant-receiving organization, it is important to understand why a funded project worked or did not work.

**Addressing the Challenge:** These challenges argue for a centralized approach to program evaluation. Dedicated funding would relieve grant-receiving organizations of the unfunded mandate of program evaluation. Currently, the obligations of grant-received organizations to collect data or conduct program evaluation expire at the conclusion of the grant, while the full impact of a funded program may only be realized over a longer period. A centralized approach would allow the concentration of expertise required to tackle the complexities of program evaluation and would allow the collection of longitudinal data extending beyond the term of individual grants. Finally, the application of consistent assessment methodology across programs would allow aggregate analysis of the programs within the portfolio and would provide the depth of understanding required to disseminate successful programs beyond the study institutions.

## **Recommendation A5**

HRSA should provide additional funding to support faculty development and retention through loan repayment and career development for faculty in the areas of behavioral health, oral health, and adverse social and structural determinants.

**The Challenge:** There are well-documented shortages in the number of physicians, dentists, and physician assistants who pursue full-time academic positions after training (Marabella, Holloway, Sherwood, & Layde, 2002; Haden, Weaver, & Valachovic, 2002; Glicken & Miller, 2013). Barriers to entry into an academic career include: underrepresented minority status, lack of mentorship, lower financial rewards, and student debt (Lin, Nguyen, Walters, & Gordon, 2018; Hassouneh, Lutz, Beckett, Junkins Jr, & Horton, 2014; Townsend & Chi, 2017). Faculty development awards and related programs like loan repayment have been shown to help recruit and retain minorities to faculty positions (McAndrew, Brunson, & Kamboj, 2011; Beech et al., 2013; Rodríguez, Campbell, Fogarty, & Williams, 2014).

**Addressing the Challenge:** New funds should be made available to expand the training capacity of educational institutions by supporting faculty development of primary care physicians, dentists, and physician assistants through career development awards and fellowship programs that focus on caring for complex patients in areas of behavioral health, oral health, and adverse social determinants.

In addition to supporting faculty training and development, HRSA should provide support and funding for partnerships between providers and community based organizations to encourage them in addressing social and structural determinants of health and improving quality of care.

## **Recommendation A6**

Educate and train the workforce (students, trainees, faculty, and practitioners) to prioritize partnerships between primary care practices and community-based

organizations to address social and structural determinants of health to improve quality of care and decrease costs.

**The Challenge:** People with multiple medical and social needs have been shown to consume a large portion of our health care dollars and we know that social and structural determinants of health are a key predictor of health outcomes. Yet the traditional health care system and community based organizations (CBOs) exist as silos even though they might be a few miles apart. CBOs can support the health plan for the patient in between office visits and in a way that is relevant to the culture and community norms in which the patient exists. The *Chronic Care Act* provides opportunities through Medicare and Medicaid payment and delivery systems for contractual agreements between CBOs and the traditional health care system in order to integrate patient centered care and consider the impact of medical and social needs on individual health outcomes. In addition, a critical element in the transformation to value based payment will be this integration of health and human services.

For partnerships to evolve between health and human services there must be education of providers to increase the knowledge of the services, challenges, strengths and limitations offered through the CBOs. There needs to be communication between the sectors so that the services provided through the CBO are part of any plan of care and that there is a communication loop through which information flows in both directions.

**Addressing the Challenge:** Funding should be provided for partnerships to include primary care providers in medicine and dentistry and CBOs with identified outcomes that support the quadruple aim and are appropriate to measure social and structural determinants of health interventions and their impact on the more traditional measures of health care delivery.

## **PART B: RECOMMENDATIONS TO SUPPORT PRIMARY CARE AS THE FOUNDATION OF THE HEALTH SYSTEM**

*Recognizing that for primary care to flourish in a way that enables our A level recommendations to successfully train the primary care workforce to meet the needs of our underserved and vulnerable populations, certain conditions should be addressed. In that context, we make several B level recommendations that are beyond the scope of our Advisory Committee but that we felt important to include in our report. These include attracting more resources to primary care, incentivizing primary care training in Graduate Medical Education, expanding loan repayment opportunities in primary care, and expanding the Teaching Health Program.*

### **Recommendation B1:**

Congress and the Secretary, through the Center for Medicare and Medicaid Services (CMS), should make changes in health care financing that prioritizes primary care services using alternative payment approaches.

#### ***Problem/Opportunity for Improvement.***

Current reimbursement systems for paying physicians emphasize a fee-for-service approach. This approach rewards physicians and other providers for each service provided, rather than for coordinated, comprehensive, and non-visit based care. Even given the move towards alternative payment models (APMs) and other models of care delivery spurred by the Patient Protection and Affordable Care Act of 2010 (ACA), fee-for-service remains the dominant approach in paying providers. In 2016, approximately 29% of health care payments were under alternative payment models (Freeman, 2017).

The fee-for-service approach undervalues and does not adequately support primary care medicine. This occurs in two ways. First, greater reimbursement is allocated to procedures as opposed to cognitive based care, including office visits. For example, an office consultation (2016, CPT 99243) earned 1.88 RVUs while a colonoscopy (2016, CPT 45373) earned 3.36 RVUs (Katz & Melmed, 2016). In essence, this penalizes primary care providers as the bulk of outpatient primary care consists of cognitive care, coordinating care, and other non-procedural tasks. Second, fee-for-service does not incentivize coordinated, longitudinal care that allows for the proper management of chronic conditions (Bodenheimer, Berenson, & Rudolf, 2007). In addition, it places a premium on visit-based care even in cases in which non-visit based care might be sufficient or appropriate. This lack of incentive to provide coordinated, longitudinal care is particularly untimely as the U.S. population is facing an ever growing demand for chronic disease management given that chronic diseases are the leading cause of death in the United States (Centers for Disease Control and Prevention, 2017).

The devaluing of primary care, as evident in the current fee-for-service payment methodology, along with challenging working conditions, has led to decreased interest in pursuing a career in primary care among medical students. In regards to the challenges that primary care physicians face, these include administrative burdens, the under-appreciation of cognitive care, and inequities in compensation as compared to specialist physicians (American College of Physicians, ACP, 2018). In regards to a decreased interest in pursuing a career in primary care

medicine, the percentage of Graduate Medical Education (GME) internal medicine residency positions filled by U.S. medical school graduates has decreased over time (ACP, 2018). In a recent survey of graduating internal medicine residents, only 18 percent planned on a career in general internal medicine (adult primary care) (ACP, 2018).

In an effort to address the challenges facing primary care, Congress and the Secretary, through the CMS, should make changes in health care financing that will prioritize primary care services through Alternative Payment Models (APMs). Such payment models would give primary care the proper importance in care delivery. Primary care accounts for 55% of physician office visits; decisions made by primary care providers account for up to 90% of health care spending (Golden, Edgman-Levitan, & Callahan, 2017). APMs can allow primary care providers to be at the center of the patient's care team, leading the initiative towards population health management and care coordination. In essence, APMs can allow primary care to take a central role in ensuring that patients are getting comprehensive, coordinated, and appropriate care.

It is important to note that there is no “one-sized fits all” approach to implementing APMs. A key characteristic across APMs includes risk-adjusted payments based on the patients assigned to a particular practice. APMs can include such models as multi-provider bundled payments, provider-facility procedure bundles, condition-based payments for provider services, episode payments for procedures, and condition-based payment approaches, to name a few (Parks, 2016). This variation in models can enable primary care teams in a variety of clinical settings to participate in models that work for them and meet the needs of their patient populations. Additionally, fee-for-service may remain as a component of APMs (Gregory, 2017). For example, family physicians who perform tasks that are not included in global payments can still have certain medical procedures, such as treating broken legs for example, made in a fee-for-service manner. This is especially helpful for small practices that may not be able to accept complete global payment, and/or for practices in areas where there is a lack of specialists or shortages of providers.

To effectively support practice transformation, APMs should constitute a majority of a practice's finances. That is, such payment models need to be the majority of revenue sources for a primary care practice. A simulation of the impact on shifting towards capitated payments in primary care practices found that practices would achieve financial gains if 63% or more of annual payments to practices were capitated (Basu, Phillips, Song, Bitton, and Landon, 2017). Above that threshold, practices would be financially incentivized to increase team- and non-visit-based primary care services. As such, high levels of capitated payments can allow primary care practices to redesign care delivery in order to improve patient access, quality of care, and comprehensiveness of care delivered.

#### ***Benefits of adopting this recommendation***

- Would prioritize primary care as the foundation of the health care system and make care more patient centered, comprehensive, and encourage keeping people healthy
- Would encourage more allopathic and osteopathic medical school graduates to pursue careers in primary care, thereby helping address the shortage of primary care physicians [PCP] the nation is facing
- Lower health care spending and improve the quality of care delivered at a population health level



## **Recommendation B2:**

Congress and the Secretary, through CMS, should create incentives in the Graduate Medical Education system that prioritize training of primary care physicians.

### ***Problem/Opportunity for Improvement***

Graduate Medical Education (GME, n.d.) refers to the period of training, and the system that establishes that training, that medical school graduates complete to become fully licensed physicians. After graduating from an allopathic or osteopathic medical school, medical students complete a minimum of three years in a residency training program in a particular medical specialty. As such, GME determines the specialty composition of the nation's physician workforce. The system graduates more than 25,000 new physicians every year from more than 8,000 residency and fellowship programs (Jackson et al., 2014). As such, the specialty distribution of GME positions determines the composition of the nation's physician workforce. However, training sites are not required to allocate certain slots for particular specialties; specialty distribution or allocation is left up to the institution (Phillips, Edwards-Johnson, and Wendling, 2018).

Over the past twenty years, there has been a net loss in primary care physicians graduating from GME training programs. Although there has been a slight increase in the number of residents matching into the primary care specialties (Internal Medicine, Family Medicine, and Pediatrics), this has been offset by sub-specialization trends among internal medicine and pediatrics residents, leading to a net loss of primary care graduates (Phillips, Edwards-Johnson, and Wendling, 2018). In the 2013 Match, 49.3% of all GME positions were in Family Medicine, Internal Medicine, or Pediatrics. However, only one-fifth (20.9%) of these residents are expected to practice primary care medicine, with the rest pursuing training in a subspecialty or in hospitalist medicine (Golden et al., 2017).

The GME training programs are not producing the specialty mix of physicians that are needed to care for the nation's aging population. There is a shortage of primary care physicians being trained, as well as a shortage of physicians practicing in underserved areas. The demand for supply of generalist physicians/primary care physicians is only set to grow, given the aging of the U.S. population, as approximately 80 million baby boomers become eligible for Medicare. The Council on Graduate Medical Education (COGME), a Health Resources and Service Administration (HRSA) Advisory Committee, has recommended an increase in the percentage of the nation's primary care physician population to 40% of the physician workforce, up from its current level of 32% (Golden et al., 2017). In addition, the American College of Physicians (ACP; 2018) has also voiced concerns over the shortage of general internists in training. Finally, GME training also needs to reflect a health care delivery system that is not predominantly focused on inpatient, hospital-based, acute care. As such, GME training of primary care physicians should reflect such topics as care for the elderly, the management of chronic disease, and team-based care coordination, among others (Golden et al., 2017).

Many suggestions have been put forward on how GME might be reformed to incentivize or prioritize the training of primary care physicians. These include tying expansions of the GME program to minimum FTE requirements dedicated to primary care training per institution, and



making GME payments to primary care residency entities rather than hospitals in order to support training in ambulatory care settings, to name a few. The Society of General Internal Medicine (SGIM) has supported linking GME funding with workforce outcomes, for example (Golden et al., 2017). In a joint letter to the U.S. Congress (2015), the American Academy of Family Physicians (AAFP) and the Council of Academic Family Medicine (CAFM) have recommended that indirect medical education (IME) payments be reduced and that institutions seeking new Medicare and/or Medicaid funded GME positions meet minimum primary care training thresholds. In a separate letter to the U.S. President (2011), AAFP and CAFM have also recommended increased payments for primary care training in community-based settings. The Institute of Medicine's [National Academy of Medicine] 2014 report, *Graduate Medical Education That Meets the Nation's Health Needs*, also notes that changes in GME payments to institutions are needed in order to support non-hospital based care delivery and training (Jackson et al., 2014).

#### *Benefits of adapting this recommendation*

- The Council on Graduate Medical Education (COGME) noted the importance of training primary care physicians. In their 20<sup>th</sup> report in December 2010, they wrote, “there is compelling evidence that health care outcomes and costs in the United States are strongly linked to the availability of primary care physicians. For each incremental primary care physician (PCP), there is 1.44 fewer deaths per 10,000 persons. Patients with a regular primary care physician have lower overall health care costs than those without one.”
- A greater focus on expanding and training more PCPs in the appropriate settings (such as ambulatory outpatient care) will create a physician workforce that is adequately prepared and trained (in terms of specialty composition) to deliver high quality, high value, population based health care that meets the needs of patients and of our health care system.

### **Recommendation B3:**

Congress should expand the National Health Service Corps loan repayment program to increase the number of primary care physicians, physician assistants, and dentists practicing in rural and medically underserved communities.

#### ***Problem/Opportunity for Improvement***

The National Health Service Corps Loan Repayment Program (NHSC LRP) offers an opportunity to health care providers to practice in medically underserved communities. It offers qualified health professionals in a variety of disciplines repayment of their educational loans (HRSA, n.d.). Eligible provider types include primary care physicians (MD/DO), dentists (DDS/DMD), and primary care certified nurse practitioners (NP), among others. It is the largest loan repayment program available to health professionals (Pathman, Goldberg, Konrad, Kerwin, & Morgan, 2012). An initial two-year contract is required, and the maximum repayment amount is \$50,000 during this time (HRSA, n.d.). The contract may be extended one year at a time as long as providers have qualifying educational loans and continue to serve at an eligible site.

It is important to note that there are two levels to the program. There is a federally-funded NHSC program and some states also have their own programs as well. In addition, some NHSC programs are jointly funded by the federal and state governments ([National Health Service Corps Report to Congress](#) for the Year 2016). For the purposes of this recommendation, we will focus on the federally funded NHSC LRP, but it is important to note that states do use their state-only and jointly funded programs to complement the federal NHSC LRP.

A large increase to the NHSC funding came from both the American Recovery and Reinvestment Act of 2009 (ARRA) and the Patient Protection and Affordable Care Act of 2010 (ACA). The most recent, large increase occurred in October, 2019 with [\\$319 million](#) in scholarship and loan repayment awards though with creation of Substance Use Disorder Workforce and Rural Community loan repayment programs.

The NHSC LRP has been especially effective in fulfilling its goal of recruiting health professionals to medically underserved communities. NHSC data has shown that 78% of providers are retained in a Health Professional Shortage Area (HPSA) after completion of their NHSC service (FY 2021 [Congressional Budget Justification](#)).

The NHSC workforce has grown with time, but it still has not met the estimated workforce needs. In 1986, the NHSC practitioner workforce consisted of 3,100 clinicians and in 2019 it consisted of 24,930 providers (). The ARRA has made significant gains in the program by growing the size of the NHSC provider workforce by 150% to 7713 and the workforce became greater than 10,000 with additional ACA support (Pathman & Konrad, 2012). However, even with this increased NHSC workforce, the [demand for primary care workforce](#) will exceed supply.

The composition of the workforce could also favor primary care physicians, physician assistants, and dentists. Even though the NHSC workforce increased due to the ARRA and ACA funding/support, the proportion of primary care clinicians grew the least and decreased as a proportion of the total workforce to 58.9% (Pathman & Konrad, 2012). In addition, there has been a decline in physician participation in the primary care group. In the two-year ARRA funding period, physician providers grew the least (114%) as compared to the growth in other primary care providers, such as nurse practitioners (367%) and physician assistants (199%) (Pathman & Konrad, 2012). As such, more work is needed to increase the number of primary care physicians participating in the NHSC LRP. Also, of note, there was no net increase or decrease in the proportion of the workforce that is attributable to dental clinicians, remaining constant at 13.5% (Pathman & Konrad, 2012).

Given the effectiveness of the NHSC LRP, Congress should continue to expand the program so that it increases the number of primary care providers, dentists, and other primary care providers. Doing so would allow the NHSC to expand its workforce, meet the needs of the communities in which its graduates serve, and provide for an adequate and appropriate primary care and dentistry workforce composition for underserved populations.

### ***Benefits of adopting this recommendation***

- An expansion of the NHSC loan repayment program for PCPs, PAs, and dentists is an effective mechanism in recruiting and retaining such providers in medically underserved communities
- An important caveat: An increase in NHSC funding due to the American Recovery and Reinvestment Act (2009) led to increase in PCPs, but they grew least as compared to other specialties and their percentage of the NHSC workforce actually decreased. We need additional incentives that favor primary care.

### **Recommendation B4:**

Congress should expand the Teaching Health Center program by increasing the number of primary care residency slots and by extending the renewal cycle to a minimum of 5 years.

The U.S. faces a shortage of primary care physicians as well as other primary care providers. According to HRSA projections, there is a projected shortage of 20,400 primary care physicians by 2020. The increase in demand for primary care is due in majority to the aging of the population as well as population growth (National Center for Health Workforce Analysis, 2013). In addition to this projected shortage, there is an especially acute need or shortage in rural areas. Even though approximately 20 percent of the U.S. population lives in a rural area, only 10 percent of the physician workforce is located in these areas (National Conference of State Legislatures (n.d.). There are 2,050 U.S. counties that are considered rural and of those, 77 percent are designated health professional shortage areas (HPSAs).

In an effort to address the shortage of primary care providers in rural areas, the Patient Protection and Affordable Care Act of 2010 (ACA) created the Teaching Health Center Graduate Medical Education (THCGME) program. This program, established in 2011, provides funding for ambulatory, community-based primary care residency programs (Durfey, George, & Adashi, 2017). In the [2018-19 academic year](#), the program trained 858 primary care medical and dental residents at 56 Teaching Health Center (THC) locations in 25 states, in addition to the District of Columbia. The residents provide care to over [500,000 patients](#), a significant portion of whom are either uninsured, receive Medicaid/CHIP, or have an income below the federal poverty level (Durfey et al., 2017).

The THCGME Program has been successful in producing primary care providers who work in rural areas. According to a study by Durfey et al. (2017), data from program graduates from 2011-14 indicates that THCGME program graduates were more likely to stay in primary care practice (91%) as opposed to those in traditional GME programs (23%). They were also more likely to practice in underserved areas and/or at Community Health Centers (76%) as compared to traditional GME graduates (26%). In addition, they were more likely to practice in rural locations (21%) than traditional graduates (5%). HRSA reported in 2018, 64% of THCGME graduates were practicing in primary care as compared with the national average of 33% and 58% of THCGME graduates practiced in medically underserved or rural communities ([Chen et al. Examining the Cost Effectiveness of Teaching Health Centers](#)) In essence, the program is an

effective mechanism for producing primary care clinicians who are willing to work in rural areas and serve underserved populations.

The Program has faced a great deal of uncertainty as well as inadequacy around its funding, which has led to a lessening of the impact that THCGME programs can have on producing a robust and reliable stream/source of the primary care clinicians who are needed to serve underserved and/or rural populations of the United States. As residency training programs operate on multi-year recruitment and training cycles, the uncertainty around THCGME funding leads to a lessened impact of the program on the primary care workforce. As an example, during 2011-15, THCGME programs accounted for 33 percent of the increase in family medicine residency training capacity (Kurz, Liaw, Wingrove, Petterson, & Bazemore, 2017). After the passage of the Medicare Access and CHIP Reauthorization Act in 2015, which did not allocate funding to new THCs, the net increase attributable to THCGME programs was only 7 percent (Kurz et al., 2017). It is important to note that other factors may have played a role in this decrease, such as an increase in non-THC, hospital-based residency programs (Kurz et al., 2017). However, the THCGME programs produce a robust supply of primary care clinicians that serve needed areas of the country as well as underserved populations. In fact, research on THCGME programs indicates that the training that THCGME programs provide in outpatient based, ambulatory care settings provides a stronger return on investment, with the THCGME graduates being more likely than those of traditional GME programs to work in rural areas and to treat underserved populations.

Given the extensive benefits and results of the THCGME program, there are two recommendations that we have. The first is that the number of primary care slots should be increased and the second is that the renewal timeline of the program should be extended to at least five years. Essentially, a permanent, long term funding solution for the program is essential to ensure its future success and impact.

***Benefits of adopting this recommendation***

- The benefit to adopting an increase in the number of primary care residency slots is an increase in the number of PCPs who will most likely work in rural and underserved areas given the track record of THCGME graduates of working in these areas. An increase in the rural/underserved primary care physician workforce.
- The benefit to adopting an extension of the renewal timeline for THCGME funding is that it will allow the program and its graduates to have a sustained, meaningful impact on contributing to the underserved/rural PCP pipeline.

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