The Role of Title VII Funding in Academic General Pediatrics Fellowships and Leadership
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Abstract
Since 1979, the Health Resources and Services Administration, Bureau of Health Professionals Title VII, Section 747 (Title VII) programs have played an important role in both fellowship and leadership training in academic general pediatrics. Title VII-funded fellowship development programs and targeted contract funding have supported the faculty, trainees, and infrastructure necessary to achieve the outcomes of educational, research, and infrastructure necessary to achieve the outcomes of educational, research, and training pediatric academic generalist faculty, supporting individual fellowship programs, defining the core elements of such programs, and expanding faculty development and leadership training. As the major continuing source of external funding for these programs, Title VII has produced documented successful outcomes in all areas in terms of both numbers and accomplishments of trainees. Title VII-funded fellows, as well as the leaders trained, have formed and extended the field of general pediatrics, ultimately improving the health of children, especially in underserved and vulnerable populations. This article is part of a theme issue of Academic Medicine on the Title VII health professions training programs.


Since 1979, the Health Resources and Services Administration (HRSA), Bureau of Health Professionals (BHPr) Title VII, Section 747 (Title VII) funds have played an important role in academic general pediatrics in training faculty, supporting fellowship programs, defining the core elements of such programs, and expanding faculty development to include leadership training. Administered through a process of competitive, peer-reviewed grants and contracts, usually in three-year cycles and with specific content requirements, such as curriculum addressing diversity issues and primary care research training, these funds have supported the faculty, trainees, and infrastructure necessary to achieve the outcomes of educational, research, and leadership skill development in general pediatrics.

Fellowship Training
Pediatric academic generalism has its origins in the founding of the Academic Pediatric Association (APA, formerly Ambulatory Pediatric Association) almost 50 years ago. At that time, pediatricians in outpatient clinics in academic health centers found that the field of pediatrics was differentiating into subspecialties and, realizing the importance of defining themselves as nonsubspecialty academic pediatricians, created the APA. Most members had responsibility for the general and primary care training of future pediatricians; the training then included emergency care, child abuse, human behavior and development, and adolescent medicine. Then, as now, these physicians contributed a major part to medical student and resident education.

In the early 1970s, the Robert Wood Johnson Foundation (RWJF) Clinical Scholars Fellowship Program began. This program consisted of a two-year intensive training program in clinical epidemiology and research and addressed the need to train physicians in the core skills of quantitative and qualitative clinical and health services research. Most fellows in this program were generalists, be it in pediatrics, internal medicine, or family medicine. The program produced the first cadre of formally trained academic general pediatricians, and it set core curricular and productivity expectations for fellowships in clinical and health services research. Realizing the paucity of pediatric faculty trained in such skills, the RWJF initiated a new 10-year program in 1978 specifically for pediatricians. The RWJF General Pediatric Academic Development (GPAD) program trained 111 pediatricians in 10 years, using the Clinical Scholars Fellowship Program model. Two thirds of these pediatricians have remained in academic departments and have helped to establish the field of academic general pediatrics.

Because many of the institutions chosen for the GPAD fellowships already had an RWJF Clinical Scholars program, thereby giving them a competitive advantage for the limited funds available, other institutions found obtaining funding for fellowships to be difficult. The initiation of Title VII funding for primary care faculty development—essentially at the same time as the GPAD program—was timely, providing the necessary support for faculty trained by the GPAD program to create fellowship programs in institutions not funded by RWJF. Title VII-funded fellowship programs subscribed to the same standards of rigorous core clinical and epidemiological research training as the GPAD programs and allowed fellowship programs to extend training to three years to facilitate completion of significant research and, at some programs, a masters degree. This has become increasingly important recently because fellowships are often expected to submit National Institutes of Health (NIH) grants shortly after completing their fellowship training.

The RWJF GPAD program ended in the early 1990s, and the Clinical Scholars Fellowship Program now funds only four
programs; however, the Title VII-funded fellowships continue to sustain multiple programs. In 1993, the RWJF initiated its Generalist Physician Faculty Scholars program supporting junior faculty career development, but, as of 2006, this faculty development program stopped focusing specifically on generalists. In contrast, Title VII funding for faculty development and fellowship training has maintained its focus on training generalists and has provided more than $119 million to general pediatric and general internal medicine faculty development programs since its inception. Of note, Title VII funding was traditionally stratified into physician assistant, dentistry, family medicine, and general pediatrics/general internal medicine, often creating redundant programs within a given institution. After 2000, Title VII funds encouraged collaboration among these disciplines, allowing for more synergistic and efficient multidisciplinary training.

The addition of the National Research Service Award (NRSA) for Primary Medical Care in 1986, funded through the NIH with BHPr administration, has also provided important support for generalist fellowship training in pediatrics, internal medicine, and family medicine. Although the early NRSA funding guidelines allowed for fellow stipends in addition to fellowship faculty support, funds have become more restrictive. NRSA Primary Medical Care awards now fund fellow stipends and some fellow-associated expenses, but they do not fund infrastructure or faculty, creating an even greater need for the Title VII faculty development program to cover these costs. A recent survey shows that most NRSA-funded fellowships are also supported by Title VII funds. Title VII funds have supported an APA effort to establish guidelines for fellowship curricula with goals and objectives that could be encompassed in credentialing criteria for academic general pediatric fellowships. A contract was awarded to the APA to develop and test fellowship guidelines focusing primarily on core elements of research and education training, with some clinical and administrative elements. The guidelines set a two-year minimum for training and expect a peer-reviewed academic product. This contract has led to standards for evaluating and accrediting general academic pediatric fellowships in a program that was initiated by the APA in July 2008.

**Leadership Training**

The ability to address teaching skills, often in the context of training community- and hospital-based primary care preceptors, has led to Title VII programs that focus on development for individuals already in faculty positions. As these train-the-trainer programs evolve, the need to add leadership development to the training has become apparent because graduates tend to lead training programs for medical students, residents, and faculty/preceptors.

In October 1997, BHPr awarded the APA a contract, “Faculty Development Scholars Program,” for teachers of medical students and/or residents in ambulatory community-based settings. Recognizing the broad backgrounds and needs of participants, the national program enrolled 112 scholars in three tracks: Community-Based Clinical Teaching, Educational Scholarship, and Executive Leadership. Self-reported outcomes assessed at the end of the program demonstrated positive impact. Most participants reported assuming local or national leadership positions as a result of participation in the program. Program alumni include three chairs of departments of pediatrics and 28 APA leaders; these roles allow them to focus on changing the culture of academic medicine in order to value and support primary care medical education. Ninety-nine scholars reported positive organizational or infrastructure changes associated with their participation in the program, including financial support for community teaching sites and preceptors, institutional support for faculty development for community preceptors, and changes in curricula to include community-based experiences for students. Workshops subsequently presented by participants in the program involved more than 8,000 community faculty.

A recent national survey of divisions of Academic General Pediatrics found the field of general pediatrics to be established, but with a need for continuing leadership development to effectively meet missions in clinical care, education, research, and advocacy in an environment of financial constraints. According to the survey, division directors whose fellowship programs are supported by Title VII are particularly concerned about Title VII funding cuts. As a result of these leadership development needs and the fellowship guidelines project, the APA sponsored the first Leadership Development Conference in 2007. Almost 150 participants, including division directors and fellowship directors, attended the conference, at which they developed personal leadership action plans. Future leadership activities include courses at Pediatric Academic Societies meetings and subsequent conferences.

**Impact on Primary Care Research**

To meet Healthy People 2010 goals (e.g., reducing obesity, injury, and substance abuse) and to improve the effectiveness of primary care, research surveillance and innovation are critical for improving care and addressing health disparities. Without research in primary care and research related to vulnerable children and families, models to best deliver health care remain stagnant. Through faculty development programs, Title VII has supported research training, research, and ensuing translation to practice and policy, which have been key to improving the health of vulnerable children and mitigating health disparities. These fellowships (see examples in Appendix 1) have produced talented researchers who have contributed new knowledge regarding the health and care of underserved children and families, and this knowledge has, in turn, been translated into innovative models of primary care delivery and improved health outcomes.

Title VII grant funding has clearly had a major impact in supporting the development and maintenance of high-quality fellowship and leadership training in academic general pediatrics. The research of fellows graduating from Title VII-funded fellowship programs, as well as the leaders trained, have formed and extended the field of general pediatrics, ultimately improving the health of children, especially those from underserved and vulnerable populations. As the principle source of support for this important area of pediatrics, the continuation of Title VII section 747 funds is critical to the ability to effectively...
address the health issues of these populations.

References

Appendix 1
Examples Demonstrating the Geographic Dispersion and Variety of Successful Programs and Projects Supported by the Health Resources and Services Administration, Bureau of Health Professionals Title VII, Section 747 (Title VII) Funds

Example 1: The University of Colorado Health Sciences Center Faculty Development Type I Collaborative Primary Care Program. This program has offered fellowship training opportunities to physicians wishing to establish academic careers in primary care since 1979. Title VII-funded Faculty Development Programs at the University of Colorado began in 1988 with a research clinician program in General Internal Medicine and became fully collaborative with General Pediatrics and Family Medicine in 1999. Since 1988, 45 fellows have completed the program (13 family medicine, 13 pediatrics, and 19 internal medicine), and 6 are currently enrolled. Of the graduates, 19 are women, and 6 are Latino or African-American. Of program completers, 42 (93%) remain in academic teaching positions, 15 (33%) are employed in federally qualified or community health centers, and almost all serve primarily low-income populations who attend hospital-based or community clinics for primary care. All those in academic positions teach medical students and residents at the sites in which they practice. Of the 26 graduates since 1999 (6 have not graduated), 20 have obtained research funding, and half are currently in leadership roles. Additionally, 132 publications have been generated in total by these graduates.

Examples of areas in which the graduates have focused include
* improving outcomes of children in foster or kinship care placement,
* improving the effectiveness of telephone triage in primary care,
* increasing immunization delivery in low-income populations,
* improving quality of care for Mexican American families,
* implementing preventive screening in primary care,
* increasing patient compliance with prescribed therapies,
* increasing smoking cessation in underserved populations,
* implementing practice-based interventions to improve quality of diabetic care in primary care,
* optimizing quality of care for asthmatics in low-income populations,
* using patient-accessible, Web-based interventions to improve the care of patients with diabetes and patients with congestive heart failure,
* teaching health literacy in Latino populations,
* preventing violence in adolescent populations,
* increasing breastfeeding among low-income populations, and
* understanding the association of maternal depression and child health outcomes.

Example 2: The Johns Hopkins University/University of Maryland Faculty Development in Primary Care Program. This program has been supported by Title VII since 1991. This program is a formal collaboration of the Johns Hopkins Division of General Pediatrics and Adolescent Medicine (DGP) and the University of Maryland–Baltimore Department of Family and Community Medicine. The program recruitment objective is to attract highly qualified candidates who aim to build academic careers in primary care pediatrics or family medicine for medically underserved populations, particularly individuals in groups underrepresented in the physician workforce. Training objectives are (1) to provide trainees with the knowledge, attitudes, and skills to be independent primary care investigators focused on health issues pertinent to urban, underserved families, (2) to provide trainees with the knowledge and skills to be excellent educators, and (3) to motivate trainees to seek faculty positions that promote their continued growth as primary care researchers focused on improving the health of urban, underserved families, to guide them to secure such positions; and to prepare them to compete successfully for resources that will allow them to develop as leaders in the field.

Since 1979, the Johns Hopkins DGP has provided experiential research training for a total of 89 child health professionals with almost continuous Title VII faculty development funding since 1991. Since 2001, seven pediatricians and eight family medicine physicians have received stipends from the Title VII faculty development program, with a total of 35 fellows benefiting from Title VII faculty support. Of all trainees, 21 (60%) were from underrepresented minority groups (20 African American fellows and 1 Hispanic fellow). All but two of the graduates have held academic teaching or government (National Institutes of Health, Centers for Disease Control and Prevention [CDC], Agency for Healthcare Research and Quality) project officer or research positions, the majority working with underserved populations. Several trainees are now nationally recognized educators and/or researchers in primary care focusing on vulnerable populations. This program’s participants’ areas of research have included the following:
* improving immunization delivery,
* evaluating models of primary care,
* working to eliminate health disparities in attention deficit hyperactivity disorder and obesity,
* implementing primary-care-based injury prevention in poor neighborhoods,
* linking communities with primary care practice,
* providing HIV testing in primary care practice, and
* eliminating barriers to adolescent health care.
Example 3: The General Academic Pediatric Fellowship Program at the University of Rochester. This Rochester, New York, program has 41 years of experience in successfully training general academic pediatric fellows who are dedicated to serving underserved populations. Since 1967, 79 former fellowship graduates have become full-time faculty at medical centers, serving vulnerable children, teaching the next generation of pediatricians, and performing innovative research. An additional 17 graduates have part-time appointments in primary care, generally focusing on at-risk children. Title VII programs have supported the fellowship almost continuously since 1977. Many of the 96 fellowship graduates have attained leadership positions in general pediatrics and public health. Their roles include division chiefs of general pediatric divisions, chairs of departments, leaders of major programs at CDC or other federal government agencies, and directors of public health programs locally and nationally.

Historically, graduates of the program have focused their academic research, teaching, and clinical careers on the broad health, developmental, educational, and social function of children, and on population-based approaches to clinical care, especially as they apply to impoverished and minority children and children with chronic illnesses. This program operates from the fundamental belief that, when well-developed and implemented, the missions of clinical care, education, research, community-based involvement, and advocacy are blended and indistinguishable.

In 1998, this fellowship training program received the Ambulatory Pediatric Association’s (APA, now the Academic Pediatric Association) national teaching award, its most prestigious educational award. The fellowship also maintains a connection to the renowned Pediatric Links with the Community/Child Advocacy Resident Education Program, which is the only program to have won prestigious national education awards from both the APA and the American Academy of Pediatrics.

Fellows have become experts in Healthy People 2010 content areas. During the past decade, fellows have focused on the following content areas:

- access to health services,
- immunizations,
- asthma,
- mental health,
- nutrition and obesity,
- adolescent risk behavior,
- tobacco use and reduction, and
- health disparities.

The prior three-year funding cycle from this Title VII faculty development program resulted in seven fellows (six graduates, one currently a fellow), including one African American and Native American fellow, and one fellow from an underprivileged background (29%). These seven fellows worked in the Healthy People 2010 content areas of access to health care, tobacco, injury, and nutrition, and all seven focused their research on impoverished children. Their academic work has resulted in 20 peer-reviewed publications, 23 other manuscripts or book chapters, and 76 national presentations.

Example 4: The University of Minnesota Primary Care Clinician Research Fellowship in General Pediatrics. This fellowship is integrated into a broader interdisciplinary training program that includes professionals at the postdoctoral level from nursing, social work, psychology, and nutrition, as well as other areas of medicine (e.g., internal medicine and family practice). The fellowship focuses on the social morbidities of children and youth, which are the major causes of death, disability, and illness in the age group from birth to 21. Begun in 2004 with Title VII funding, the fellowship program has four graduates and four current fellows. All graduates hold academic positions and are involved in research, teaching, and clinical activities focused on underserved populations and other high-risk groups. Focal areas of expertise developed by fellows include

- identification and management of psychosocial problems in primary care,
- primary medical care for children with autism spectrum disorders,
- prevention of adolescent risk behaviors, including violence involvement and unsafe sexual activity,
- foster care health, and
- overweight prevention and management.