U.S. Department of Health and Human Services

FY 2013 Report on the Preventive Medicine and Public Health Training Grant and Integrative Medicine Programs

Submitted to the

Committee on Health, Education, Labor and Pensions
U. S. Senate

and

Committee on Energy and Commerce
U. S. House of Representatives

Executive Summary

This is the Fiscal Year 2013 Report to Congress on the Preventive Medicine and Public Health Training Grant and Integrative Medicine Program, which are administered by the Health Resources and Services Administration (HRSA). The HRSA Preventive Medicine Residency Program is authorized under Section 768 of the Public Health Service (PHS) Act. The Integrative Medicine Program (IMP) is authorized under Sections 765 and 768 of the PHS Act. The report is required by Section 768(d) of the PHS Act. The Report Language for the Consolidated Appropriations Act of 2012 (P.L. 112-74) provided guidance for the allocation of funds to the IMP and the National Coordinating Center for Integrated Medicine (NccIM).

This report provides a description, funding levels, and accomplishments of the HRSA Preventive Medicine Residency Program in Fiscal Year (FY) 2013. HRSA awarded eight new Preventive Medicine Residency grants in FY 2013 totaling $2,961,931 for a 5-year project period. The report also provides a summary of the IMP and the NccIM cooperative agreement activities conducted in FY 2013. HRSA did not receive any new funding for the IMP in FY 2013. However, in FY 2012, HRSA fully funded 12 IMP grants and the 1 cooperative agreement, totaling $1,785,233, for a 2-year project period. IMP grantees continued their activities through Academic Year 2013-2014 and are thus included in this report.

Table of Contents

List of Tables

Acronym List

ACGME	Accreditation Council for Graduate Medical Education
ACPM	American College of Preventive Medicine
AM	Aerospace Medicine
AY	Academic Year
CAM	Complementary and Alternative Medicine
FY	Fiscal Year
GME	Graduate Medical Education
HHS	U.S. Department of Health and Human Services
HRSA	Health Resources and Services Administration
IMP	Integrative Medicine Program supported by HRSA
ITLC	Intensive Therapeutic Lifestyle Change group visit curriculum
NccIM	National Coordinating Center for Integrated Medicine
OM	Occupational Medicine
PGY-#	Post-graduate year (residency year) beyond the M.D. degree (e.g., PGY-2 means a second-year resident). The PGY-2 year is the first year of the 2-year preventive medicine program.
PH/GPM	Public Health and General Preventive Medicine
PHS	Public Health Service
SAR	Subject-Area Rotation
SHRP	Rutgers University's School of Health Related Professions
VA	U.S. Department of Veterans Affairs

I. Legislative Language

This is the Fiscal Year (FY) 2013 Report to Congress on the Preventive Medicine and Public Health Training Grant and Integrative Medicine Programs, which are administered by the Health Resources and Services Administration (HRSA). The HRSA Preventive Medicine and Public Health Training Grant and Integrative Medicine Programs are authorized by Public Health Service (PHS) Act Section 765 (42 U.S.C. 295), as amended by Section 5206 of the Affordable Care Act (P.L. 111-148), and PHS Act Section 768 (42 U.S.C. 295c), as amended by Section 10501(m)(1) of the Affordable Care Act (P.L. 111-148).

Section 768 of the PHS Act, Preventive Medicine and Public Health Training Grant Program states:

> (a) GRANTS. The Secretary, acting through the Administrator of the Health Resources and Services Administration and in consultation with the Director of the Centers for Disease Control and Prevention, shall award grants to, or enter into contracts with, eligible entities to provide training to graduate medical residents in preventive medicine specialties.
>
> (b) ELIGIBILITY. To be eligible for a grant or contract under subsection (a), an entity shall be:
>
> (1) an accredited school of public health or school of medicine or osteopathic medicine;
> (2) an accredited public or private nonprofit hospital;
> (3) a State, local, or tribal health department; or
> (4) a consortium of 2 or more entities described in paragraphs (1) through (3).
>
> (c) USE OF FUNDS. Amounts received under a grant or contract under this section shall be used to:
>
> (1) plan, develop (including the development of curricula), operate, or participate in an accredited residency or internship program in preventive medicine or public health;
> (2) defray the costs of practicum experiences, as required in such a program; and
> (3) establish, maintain, or improve:
>
> (A) academic administrative units (including departments, divisions, or other appropriate units) in preventive medicine and public health; or
> (B) programs that improve clinical teaching in preventive medicine and public health.
>
> (d) REPORT. The Secretary shall submit to the Congress an annual report on the program carried out under this section.

The Report Language for the Consolidated Appropriations Act of 2012 (P.L. 112-74) included guidance for the IMP, such as awarding grants to incorporate evidence-based integrative medicine curricula in accredited preventive medicine residency programs and establishing a National Coordinating Center for Integrative Medicine (NccIM).

II. Introduction

HRSA is committed to improving health equity by increasing access to quality services and promoting a skilled health professions workforce. One mechanism for achieving this is through supporting innovative programs that increase the number and skills of physicians educated in prevention science and public health, who in turn are prepared to build the evidence base for prevention and to assume leadership at all levels of the public health system.

Preventive medicine is one of 145 medical specialties and subspecialties recognized by the 24-member board of the American Board of Medical Specialties.[1] Preventive medicine physicians are educated in both clinical medicine and public health areas. Examples include biostatistics, epidemiology, environmental and occupational medicine, planning and evaluation of health services, management of health care organizations, research into causes of disease and injury in population groups, and the practice of prevention in clinical medicine. Within preventive medicine, there are three specialty areas that share common core knowledge, skills, and competencies, but emphasize different populations, environments, or practice settings. These areas are public health and general preventive medicine (PH/GPM), aerospace medicine (AM), and occupational medicine (OM).[2]

- PH/GPM focuses on promoting health, preventing disease, and managing the health of communities and defined populations. PH/GPM physicians combine population-based public health skills with knowledge of primary, secondary, and tertiary prevention-oriented clinical practice. These physicians investigate disease outbreaks; assess the medical needs of both individuals and populations; counsel patients for health promotion behavioral changes; implement community-based programs that reduce the exposure to disease risk factors or better manage chronic diseases; conduct policy analyses to improve population health; complete research to inform health policy; design and operate surveillance systems; and promote clinical preventive medicine for individuals and populations, such as following guidelines for clinical preventive services like immunizations, screening tests, and preventive medications.

- AM focuses on the clinical care, research, and operational support of the health, safety, and performance of crew members and passengers of air and space vehicles, working together with support personnel who assist with the operation of such vehicles. AM physicians develop the scientific evidence that guides health care for the personnel and passengers of air and space vehicles. Through ongoing assessment of the aerospace workforce, they assure the safety of the passengers. They assess the conditions under which it is safe to operate these vehicles.[3]

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[1] American Board of Medical Specialties website: http://www.abms.org/About_ABMS/member_boards.aspx, accessed October 2, 2014.
[2] Accreditation Council on Graduate Medical Education (ACGME) - preventive medicine definition. http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/380_preventive_medicine_07012014.pdf, accessed October 6, 2014.
[3] *Ibid.*

- OM focuses on the health of workers, including the ability to perform work; the physical, chemical, biological, and social environments of the workplace; and the health outcomes of environmental exposures. These residency programs have a close relationship with the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health and serve as resources for the primary health care personnel who care for migrants and assess the health effects of workplace hazards. Residents are able to identify factors affecting health that are present in the workplace and take steps to ameliorate the effects of such factors.[4]

Preventive medicine residency programs are accredited by the Accreditation Council for Graduate Medical Education (ACGME) and/or the American Osteopathic Association. As of July 2011, ACGME accreditation standards require 4 months of direct patient care in the 24-month residency training, which is a minimum of 2 months each year. The training requirements consist of 2 years of competency-based education and academic- and practicum-based training that incorporate the attainment of a Master of Public Health or other appropriate postgraduate degree. Accredited preventive medicine residency programs require prior graduate medical education (GME) training, including at least 1 year of clinical training. Thus, preventive medicine residency training occurs in the second and third postgraduate years (PGY-2 and PGY-3). Residents often combine preventive medicine residency training with another specialty, such as family medicine or internal medicine. Some residents enter the programs in mid-career, after having completed and gained experience in other primary care specialties.

All preventive medicine residents must complete graduate-level courses in epidemiology, biostatistics, health services management and administration, environmental health, and the behavioral aspects of health. In addition to the common core curriculum, preventive medicine residents also must complete graduate-level courses specific to the concentration of the program. Furthermore, PH/GPM residents should complete applied epidemiology (to include acute and chronic disease), advanced biostatistics, advanced health services management, clinical preventive services, and risk/hazard control and communication. AM residents should complete courses in toxicology, global health, travel medicine, principles of aviation and space medicine, and accident investigation/risk management and mitigation.[5] OM residents should complete courses in toxicology, occupational epidemiology, industrial hygiene, safety and ergonomics, risk/hazard control, and communication.

III. Overview

Section 768 of the PHS Act authorizes the Secretary of the U.S. Department of Health and Human Services (HHS) to make grants and enter into contracts with schools of allopathic medicine, osteopathic medicine, and public health; public or private nonprofit hospitals; as well as state, local, or tribal health departments to plan and develop new residency training programs in preventive medicine. The statute also provides the authority to maintain or improve existing

[4] *Ibid.*
[5] *Ibid.*

training programs in preventive medicine and to provide financial assistance to residents enrolled in such programs. The Integrative Medicine Program (IMP) is authorized under Sections 765 and 768 of the PHS Act. The Report Language for the Consolidated Appropriations Act of 2012 (P. L. 112-74) provided guidance for allocation of funds to the IMP. The two strategies are to incorporate evidence-based integrative medicine curricula in accredited, preventive medicine residency programs, and establish the NccIM through a cooperative agreement mechanism.

This report provides a description, funding levels, and accomplishments of the HRSA Preventive Medicine Residency Program in FY 2013. HRSA awarded eight new Preventive Medicine Residency grants in FY 2013 totaling $2,961,931 for a 5-year project period. The report also provides a summary of the IMP and the NccIM cooperative agreement activities conducted in FY 2013. HRSA did not receive any new funding for the IMP in FY 2013. However, in FY 2012, HRSA fully funded 12 IMP grants and the 1 cooperative agreement, totaling $1,785,233. Both the grants and cooperative agreement were funded for a 2-year project period. IMP grantees continued their activities through Academic Year (AY) 2013-2014 and are thus included in this report.

The NccIM grantee, the American College of Preventive Medicine (ACPM), named this center the Integrative Medicine in Preventive Medicine Education Center. For purposes of the Report, this center will be referred to as the NccIM.

IV. HRSA Preventive Medicine Residency Program

HRSA Preventive Medicine Residency Program Funding Levels

The HRSA Preventive Medicine Residency Program provides support for PGY-2 and PGY-3 medical training in preventive medicine and stipends for residents to defray the costs associated with living expenses, tuition, and fees

In FY 2013, eight grantees were funded for a total amount of $2,961,931, with an average award of $370,241. The funds were used to plan and develop preventive medicine curricula, operate or participate in an accredited residency program in preventive medicine, establish and maintain academic administrative units in preventive medicine, and improve clinical teaching in preventive medicine. The HRSA Preventive Medicine Residency Program also provided travel support for those residents who presented at national meetings. A portion of the funds provided support for faculty and staff who were directing the program, developing curricula, teaching, and coordinating program activities including clinical rotations.

Table 1 provides data on the FY 2013 grantees. The table lists award amounts for each grantee and includes the specialty discipline within preventive medicine that was supported by each grantee.

Table 1 – HRSA Preventive Medicine Residency Grantees

State	Grantee	Award (FY 2013)	Discipline*
Colorado	University of Colorado Health Sciences Center, Denver	$431,319	PH/GPM
Connecticut	Danbury Hospital	$149,267	PH/GPM
Massachusetts	Boston Medical Center	$473,151	PH/GPM combined with Internal Medicine
Michigan	University of Michigan, Ann Arbor	$340,000	PH/GPM
North Carolina	University of North Carolina	$361,980	PH/GPM
Pennsylvania	University of Pennsylvania	$429,561	OM
Tennessee	Meharry Medical College	$400,000	PH/GPM and OM
Utah	University of Utah	$376,653	OM
TOTAL		**$2,961,931**	

***OM**=Occupational Medicine; **PH/GPM**=Public Health/General Preventive Medicine*

Results for the HRSA Preventive Medicine Residency Program

Data regarding residents trained and supported through the program are collected from grantees. Data for residents supported by the HRSA Preventive Medicine Residency Program are presented below.

Demographics

Since AY 2011-2012, there have been 109[6] residents trained and supported through HRSA Preventive Medicine Residency Program annual appropriations. Results have consistently shown that the majority of residents trained and supported through the program are female, primarily between the ages of 30 and 39, and identify as Non-Hispanic or Latino White. Table 2 provides an overview of resident demographics for AY 2012-2013 and AY 2013-2014.

[6] The total number of residents trained and supported through annual appropriations is calculated by adding the number of residents who completed the program in AYs 2011-2012 (27) and 2012-2013 (26) with the total number of residents trained and supported through the program in AY 2013-2014 (56). Adding the total number of residents in each AY would result in double-counting those who were still in ongoing training at the end of each AY.

Table 2 - Demographic Characteristics of Preventive Medicine Resident Enrollees

Demographic		Academic Year 2012-2013[7]		Academic Year 2013-2014[8]	
		Number of Residents	Percent of AY Total	Number of Residents	Percent of AY Total
Total Number of Residents Trained		54		56	
Sex	Male	16	29.1%	26	46.4%
	Female	39	71.0%	30	53.6%
Age	20-29 years	7	12.7%	4	7.1%
	30-39 years	35	63.6%	23	41.1%
	40-49 years	11	20.0%	16	28.6%
	50 and over	2	3.3%	5	8.9%
	Age not reported	0	0.0%	8	14.3%
Ethnicity/ Race	Hispanic or Latino (all Races)	2	3.6%	5	8.9%
	Non-Hispanic or Latino American Indian or Alaska Native	1	1.8%	2	3.6%
	Non-Hispanic or Latino Asian	12	21.8%	10	17.9%
	Non-Hispanic or Latino Black or African-American	11	20.0%	8	14.3%
	Non-Hispanic or Latino Native Hawaiian or Other Pacific Islander	0	0%	1	1.8%
	Non-Hispanic or Latino White	28	50.9%	30	53.6%
	Non-Hispanic or Latino More Than One Race	1	1.8%	0	0%
Disadvantaged Background[9]	Yes	12	21.8%	9	16.1%
	No	22	40.0%	33	58.9%
	Not Reported	21	39.1%	14	25.0%
Median Financial Award			$32,267		$37,075

[7] Total Residents from AY 2012-2013

[8] Total Residents from AY 2013-2014

[9] Disadvantaged background is a citizen, national, or a lawful permanent resident of the United States or the District of Columbia, the Commonwealths of Puerto Rico or the Mariana Islands, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, the Republic of Palau, the Republic of the Marshall Islands, and the Federated States of Micronesia who either comes from an environment that has inhibited the individual from obtaining the knowledge, skill, and abilities required to enroll in and graduate from a health professions school or from a program providing education or training in an allied health profession OR comes from a family with an annual income below a level based on low income thresholds according to family size published by the U.S. Bureau of Census, adjusted annually for changes in the Consumer Price Index and adjusted by the Secretary, HHS, for use in health professions and nursing programs.

Experiential Training

In AY 2013-2014, grantees of the HRSA Preventive Medicine Residency Program partnered with more than 100 different sites to provide clinical and experiential training in preventive medicine to residents. Overall, residents were trained in a variety of clinical and public health settings such as hospitals, local health centers, local and state health departments, aerospace operations centers, and Veterans Affairs (VA) hospitals and clinics. Results have consistently shown that over one-third of the sites used to train residents are located in medically underserved communities across the country, and between two to three residents are trained at each site during the AY.

Program Completers

As part of its performance measurement strategy, the Bureau of Health Workforce (formerly the Bureau of Health Professions) measures the number of individuals completing preventive medicine residency programs each year. In addition, grantees are required to assess each resident's intentions to practice in specific designated settings at the time of completion. Finally, grantees are asked to provide follow-up data on the current employment status of prior residents 12 months after program completion.

Since AY 2011-2012, the HRSA Preventive Medicine Residency Program has produced a total of 79 preventive medicine physicians (27 residents in AY 2011-2012, 26 residents in AY 2012-2013, and 26 residents in AY 2013-2014).

Of the AY 2013-2014 cohort of residents who would complete the program by June 30, 2014, approximately 27 percent of program completers intended to practice in medically underserved communities, and approximately 15 percent of program completers intended to practice in a primary care setting (Table 3).

Table 3 – HRSA Preventive Medicine Residency Program Completers

		Academic Year 2012-2013	Academic Year 2013-2014
Total Number of Residents Who Completed Their Residency in Preventive Medicine		26	26
Post-Completion Intentions**:	Intended to Practice in:		
	Medically Underserved Communities	13 (50%)	7 (26.9%)
	Rural Areas	2 (7.6%)	0 (0%)
	Primary Care Settings	6 (23.1%)	4 (15.4%)
	None of the Above	7 (26.9%)	14 (53.8%)
	No Response	0 (0%)	1 (3.8%)
Total Number of Prior Residents Who Contributed Employment Data 12 Months After Program Completion		14	*
1-Year Follow-Up Employment Status:**	Currently employed or pursuing training in:		
	Medically Underserved Communities	7 (50%)	
	Primary Care Settings	4 (28.6%)	*
	None of the Above	3 (21.4%)	

*Data will be submitted 1 year after program completion (approximately July 31, 2015).
**Respondents were permitted to select more than one post completion intention.

Preventive Medicine Residency Program Highlights

The following are selected highlights of promising practices among HRSA Preventive Medicine Residency Program that were funded through annual appropriations in FY 2013.

The University of Colorado preventive medicine residents assessed mental health needs in rural communities in central and northeastern Colorado, analyzed hospitalization rates in southeastern Colorado during the rotation with the local Area Health Education Center, gathered data to identify Colorado communities with poor health outcomes and high hospitalization rates for mental health conditions, and many other activities. Results of these projects were incorporated into a county health improvement plan. Data from the needs assessment also were included in reports to state funding agencies to aid prioritization of funding for community health programs in high-need communities. In addition, the needs assessment data were included in a report and presentation to a state foundation for funding to improve mental health services in rural communities.

The Danbury Hospital carried out activities to meet the accreditation standards of ACGME for a new preventive medicine residency program, plan for rotations in state and local health departments, as well as in CHCs and develop partnerships with accredited programs. The faculty prepared all curriculum materials needed for the accreditation application, including public health content and the integration of public health into primary care, via the rotations in the health departments and CHCs. They arranged for a new partnership with Yale University so that residents could obtain their public health course work in that program. They also arranged an option for residents to obtain a Master of Public Health through Johns Hopkins University School of Public Health.

The Boston Medical Center enrolled one new resident, continued supporting three residents in PGY-3 in their general preventive medicine program, and reached out to internal medicine residents to provide an introduction to public health and preventive medicine as a recruitment measure. The program worked toward gaining accreditation for a 4-year combined program that will prepare residents to sit for board certification in both preventive medicine and internal medicine. Resident course work and rotations focused on the needs of vulnerable and minority populations, leadership and management skills, and public health care delivery systems. Residents were provided with opportunities, such as scholarly presentations and journal clubs, in order to focus their rotations and academic work.

The University of Michigan at Ann Arbor partnered with two CHCs in medically underserved communities in Michigan to facilitate the rotations for its preventive medicine residents. The Project Director met with the Primary Care Association and worked to establish a third CHC as a rotation site. The program implemented affiliation agreements at both the Detroit Department of Health and Wellness Promotion and the affiliated Institute for Population Health in Detroit. The Medical Director and Health Officer collaborated with the preventive medicine residency Director to develop an integrated public health and primary care curriculum. In addition to achieving the competencies, goals, and objectives outlined for the program's local health department rotation, the residents spent regularly-scheduled time at the sexually transmitted diseases clinic and the Tuberculosis clinic working with attending faculty. Residents obtained

direct primary care experience while providing clinical preventive and public health services which is a truly integrated public health and primary care curriculum. Funding from HRSA enabled the program to admit additional residents.

The University of North Carolina strengthened its curriculum and rotations in public health placements in governmental settings and was able to increase program enrollment through grant-funded stipends. The program focused on health disparities and access to care for underserved populations, population-based approaches to violence/injury prevention and cancer prevention and control, and development of policies for the provision of clinical preventive services. Residents developed individualized educational plans and pursued rotations in four local health departments, two health center systems, multiple organizational units in the state health department, the North Carolina Medicaid managed care network, a VA office, and, the North Carolina Quality Improvement Organization.

The University of Pennsylvania supported rotations for residents in occupational and environmental health. The program accepted six new residents in July 2013. The eight first year OM residents moved on to their second year OM residency training. In their first year, residents completed five 2-month subject-area rotations (SARs) addressing specific competencies. The SARs are the workplace hazard recognition, evaluation, and control; environmental health, risk assessment, and risk communication; organizational and health care management; population-based OM; and the worker, disability, and work fitness. These SARs were conducted at the University of Pennsylvania, where residents attended monthly 3-day intensive didactic training sessions. In their second year, residents completed four required SARs and one elective SAR, as well as a new course entitled Research Methods Course and Second Year Project. All eight second-year residents had poster presentations of their Second-Year Project work accepted to the American Occupational Health Conference.

The Meharry Medical College incorporated preventive medicine resident training into preventive medicine clinics serving veterans at the Alvin C. York Campus (Murfreesboro, Tennessee) of the Tennessee Valley VA Health Care System. The General Preventive and Occupational Medicine Program collaborated with a U.S. Department of Agriculture program to help deliver nearly 5,000 hours of training in healthy nutrition to 991 college undergraduates, medical students, post-graduate physician and non-physician trainees, practicing doctors, and other health care personnel. Residents were working on issues related to the health and safety of migrant farm workers, hepatitis prevention in prisons, treatment of chronic pain for Human Immunodeficiency Virus and cancer patients, and cycling safety. The program also expanded its training in clinical prevention programs so that both general preventive medicine and OM residents participated in clinical prevention programs for migrant farm workers in Snow Hill, North Carolina. This was done in conjunction with the Wake Forest University School of Medicine in Winston-Salem, North Carolina.

The University of Utah continued to support their preventive medicine residents in public health and primary care integration in OM. Residents focused on general preventive screening for occupational hazards, identified exposures, and handled workers' compensation cases. Some residents worked onsite, providing assistance to mining employees, as part of their physical exams and injury care. The OM residency program matriculated highly qualified candidates to

achieve the complement of residents proposed in the project plan. The HRSA-funded graduates accomplished a 100 percent pass rate on the American Board of Preventive Medicine's Occupational Medicine Board Certification examination. The program developed and implemented three new training experiences: "Health Care and Prevention in Miners"; "Occupational Health, Wellness and Prevention at the VA Medical Center"; and collaboration with the University of Utah Family Medicine Residency Program to develop and implement a combined OM/Family Medicine Residency training program. The OM Residency program developed strategies for incorporation of modules and assessment tools to meet the new ACGME Next Accreditation System. One innovative project involved development and implementation of a distance-based education certificate program in occupational health that would enable alternative pathway residents to complete the program.

V. HRSA Integrative Medicine Program

Integrative Medicine in Preventive Medicine

Integrative medicine emphasizes the relationship between the practitioner and consumer by placing the whole person at the center of care. This approach addresses the full range of physical, psychological, social, spiritual, and environmental influences affecting health. The concepts are evolving and include complementary and alternative therapies and providers.

Integrative medicine enhances the preventive medicine programs. The focus on prevention, individual self-care, and team care implicit in integrative medicine is consistent with the prevention focus in preventive medicine residency education. The principles of integration of non-traditional therapies and approaches complement—and are facilitated by—the movement to patient-centered medical homes (health care homes) and other coordinated care and case-management systems.

The principles of integrative medicine work well with the principles and competencies in place for preventive medicine. The defining principles of integrative medicine are:

- the relationship between the patient and practitioner is critical to treatment;
- all factors that influence health, wellness, and disease are taken into consideration;
- care addresses the whole person, including both mind and body;
- principles are based in good science, are inquiry-driven, and evidence-based;
- alongside the concept of treatment, the broader concepts of health promotion and the prevention of illness are paramount; and
- care is individualized to best address the person's unique conditions, needs, and circumstances.[10]

[10] The Bravewell Collaborative, *What is Integrative Medicine?, 2011, www.bravewell.org accessed June 9, 2014.*

Integrative Medicine Grants

HRSA did not receive any new funding for the IMP in FY 2013. However, HRSA fully funded 12 grants and 1 cooperative agreement in FY 2012, totaling $1,785,233. The average award was $148,766, and covered a 2-year project period. IMP grantees continued their activities through AY 2013-2014 and are thus included in this report. The IMP grants were awarded to accredited preventive medicine residency programs and support activities that (1) incorporate evidence-based integrative medicine content into existing preventive medicine residency programs, (2) provide faculty development to improve clinical teaching in both preventive and evidence-based integrative medicine, and (3) facilitate delivery of related information that will be measured through competency development and assessment of the trainees. In FY 2013, HRSA continued supporting the NccIM via a cooperative agreement with the ACPM. ACPM received $773,676 in FY 2012 for the 2-year agreement.

Table 4 provides a list of IMP FY 2012 grantee awards. No new funds were provided in FY 2013.

Table 4 – Integrative Medicine Program Grant Awards

State	Grantee	Award (FY 2012)
California	Loma Linda University	$148,554
California	University of California, San Diego	$149,272
Connecticut	The Griffin Hospital, Inc.	$149,896
Maryland	The Johns Hopkins University	$149,998
Maryland	University of Maryland	$149,963
Massachusetts	Boston Medical Center Corporation	$139,200
Michigan	Regents of the University of Michigan	$149,640
New Jersey	Rutgers, New Jersey Medical School[11]	$149,748
New Mexico	University of New Mexico	$150,000
North Carolina	University of North Carolina, Chapel Hill	$150,000
South Carolina	South Carolina Research Foundation	$148,964
Tennessee	Meharry Medical College	$149,998
Total		**$1,785,233**

Unlike the HRSA Preventive Medicine Residency Program, the IMP does not support stipends for the residents. However, it does support faculty development in the areas of integrative medicine, curriculum development, and education—in both the didactic and the clinical application of the integrative medicine principles for the residents—so that they achieve competency in the areas of integrative medicine in preventive medicine.

[11] Originally this grantee was named the University of Medicine and Dentistry of New Jersey – New Jersey Medical School. They merged with Rutgers on July 1, 2013.

Results for the Integrative Medicine Program

A summary of the characteristics and accomplishments of grantee programs and trainees that received IMP support during AY 2013-2014 is provided below.

A total of 61 preventive medicine residents participated in IMP programs during AY 2013-2014. Of these, 26 residents successfully completed training during that time, and one left the program prior to program completion. IMP grantees used more than 79 sites (e.g., academic institutions, hospitals, and physicians' offices) to offer experiential training to residents. More than half of the sites were within primary care settings; more than 40 percent were within medically underserved communities; and approximately 20 percent were set within rural areas. Grantees partnered with a variety of organizations to offer the training, most commonly pairing with academic departments, hospitals, and ambulatory care sites. A variety of vulnerable populations were served by these training sites. The residents participated in more than 400 training experiences. More than 60 percent of these residents were general preventive medicine residents or preventive medicine residents with a dual focus on family medicine.

Thirty courses and training activities were newly developed or enhanced as a result of the grants. Ninety-one percent of the new curricula were implemented during the reporting period. Thirty-four additional curricula previously developed and implemented by IMP grantees were used once again, for a total of 64 courses/training activities offered in AY 2013-2014. These classes were delivered in classroom-based settings, grand rounds, academic courses, and clinical rotations. Faculty members participated in more than 66 structured and unstructured faculty development programs or activities.

Demographics

The majority of the 61 residents were female (52.5 percent), under 40 years of age (65.6 percent), Non-Hispanic or Latino White (49.2 percent), and were full time in the PGY-2 and PGY-3 years of training (88.5 percent). Eleven residents came from disadvantaged backgrounds, and four came from rural backgrounds.

A majority of the 61 residents received training in a primary care setting (85.2 percent) and/or a medically underserved community (83.6 percent). Less than five percent of residents (3.3 percent) received training in a rural setting.

Program Completion

Of the 61 residents, 26 residents completed their training program during the AY 2013-2014. These residents had the opportunity to benefit from the integrative medicine didactic and experiential learning during the second year of their preventive medicine training. These program completers were primarily females (65.4 percent), under 40 years old (61.5 percent), Non-Hispanic or Latino (collapsed across race; 88.5 percent), and enrolled full-time (80.8 percent). Six program completers reported coming from disadvantaged backgrounds, and one came from a rural background.

Residents were asked to report their intentions regarding future employment. Of the 26 completing residents, 7 (26.9 percent) intended to become employed or pursue further training in a medically underserved community; and 6 (23.1 percent) intended to become employed or pursue further training in a primary care setting. None intended to become employed or pursue further training in a rural area.

Characteristics of Training Sites

The IMP grantees used 79 sites to facilitate experiential training for residents. More than half of the training sites were academic institutions, hospitals, or physicians' offices. Other sites included VA Healthcare Centers, ambulatory practice sites, and local health departments. Grantees were asked to identify all categories of settings in which training sites were located. More than half of the training sites were set within a primary care setting (44, or 55.7 percent), over 40 percent of the sites were set within medically underserved communities, and approximately 20 percent of sites were in rural settings.

Characteristics of Partnerships and Consortia

IMP grantees established partnerships with 15 different types of partners and/or consortia to provide experiential training. The most common types of partners were academic departments (41.8 percent), hospitals (25.8 percent), and ambulatory care sites (19 percent). These programs also partnered with VA facilities (12.7 percent) and CHCs (7.6 percent). These sites provided the opportunity for the residents to serve vulnerable populations. A total of 22 different vulnerable populations were served by IMP training sites, with over 75 percent of sites serving individuals who are chronically ill, individuals with mental illness or substance use disorders, older adults, and people with disabilities.

Course Development and Enhancement

Thirty-three courses and training activities were developed or enhanced by IMP grantees during AY 2013-2014. More than 91 percent of these curricula were implemented during the AY. The remaining three courses were either under development, or developed but not yet implemented. In addition to these newly developed or enhanced curricula, 34 previously implemented courses and training activities were used once again, for a total of 64 courses/training activities offered in the AY. Of these 64 courses/training activities, the majority were either academic courses (18.8 percent), field placements/practica (17.2 percent) or trainings/workshops (23.4 percent). In addition, 9 clinical rotations, 10 grand rounds, 2 continuing education courses, and 5 faculty development programs or activities were developed or enhanced. Finally, of the 64 courses/training activities, 42.2 percent were delivered in classroom settings and 37.5 percent were experimental/field-based offerings. Other types of instructional delivery platforms included clinical rotations (10.9 percent), hybrid formats (7.8 percent), and courses delivered using distance learning strategies (1.6 percent).

Faculty Development

Thirty-one faculty members participated in 10 different structured faculty development programs. Nineteen of these faculty members completed their structured program during the reporting period. On average, faculty spent approximately 75 percent of their time developing competencies related to their roles as clinicians (50.3 percent) or researchers (24.3 percent), with the remaining time split between education and administration. In addition, a total of 473 faculty members participated in 56 different unstructured faculty development activities. Twenty-six of these activities were approved for continuing education units. Most of the 56 unstructured activities were in classroom-based settings (75 percent) and were either workshops or grand rounds. These activities typically lasted about 8 hours.

Integrative Medicine Program Highlights

The grantees that received funding for integrative medicine carried out activities related to enhancing the preventive medicine curriculum in integrative medicine for the residents, developing faculty knowledge and skills, and facilitating the delivery of related information that is being measured through competency development and assessment of the trainees.

The Loma Linda University incorporated the 15 competencies in lifestyle medicine, published in July 2010 in the Journal of the American Medicine Association, into the preventive medicine residency curriculum, including training in integrative medicine modalities. The program included developing a Lifestyle and Integrative Medicine Assessment tool for the Electronic Health Record, on which faculty and residents would be trained. Residents learned about group care and developed and implemented an Intensive Therapeutic Lifestyle Change (ITLC) group visit curriculum. Residents used this curriculum— a modified version of the Full Plate Diet ITLC—in their rotations. The program further developed an outline of available complementary and alternative medicine (CAM) Evidence-Based Integrative Medicine resources and connected faculty to these resources.

The University of California at San Diego trained preventive medicine residents in the enhanced curriculum in integrative medicine, including didactic and experiential rotations. These rotations were in integrative medicine, including physical activity, diet, exercise counseling, mind-body modalities, and broad exposures to integrative services. This training resulted in the ability of the preventive medicine residents to incorporate lifestyle and other integrative modalities into their practice and their research. The program worked closely with the network of integrative medical services across San Diego County, home to the Pacific College of Oriental Medicine, The University of California's Center for Integrative Medicine, Scripps' Center for Integrative Health, Bastyr University, and the Alternative Healing Network of San Diego. The program also completed a curriculum entitled "Exercise is Medicine."

The Griffin Hospital, Inc. developed a multi-modality, collaborative curriculum on integrative medicine through its Advancing Skills of Preventive Medicine Residents through Integrative Medicine Education, Research, and Evaluation Program. The curriculum is comprised of didactic workshops, research, new practicum rotations, and robust evaluation and feedback to evaluate the competency of residents and faculty in integrative medicine. The goal of this

program was to produce preventive medicine-trained physicians with competencies in integrative medicine to work with other integrative medicine practitioners on interdisciplinary teams in order to provide holistic and patient-centered care. The program implemented a series of 13 didactic lectures. National experts in integrative medicine conducted three grand rounds for residents, faculty, and clinical staff. Two integrative medicine practica rotations were developed and implemented. A Griffin naturopathic clinician supervised residents at their ambulatory site to advise them on integrating CAM techniques into clinic patient encounters. The program developed baseline and follow-up integrative medicine self-assessments, as well as an integrative medicine-based Objective Structured Clinical Examination.

The Johns Hopkins University developed a curriculum called "The Population Approach to Patient Care" during their first year of funding. The curriculum is to be integrated into the preventive medicine residency curriculum in the second year of the project period. This curriculum trains the resident in health promotion and disease prevention. The curriculum addresses the integration of conventional, complementary, and alternative approaches to promoting health in patients and populations and is designed to give the residents the opportunity to work with an interprofessional team of trainers within primary care clinics, patient-centered medical homes, and an accountable care organization. Two faculty members were selected to attend rigorous year-long GME training on pedagogy to develop the 2-year curriculum. Residents and faculty also completed the modular curricula on lifestyle medicine developed by Harvard University and the National Institutes of Health. Residents were developing ways to incorporate these concepts into public health services.

The University of Maryland partnered with their Center for Integrative Medicine faculty to provide didactic lectures on integrative medicine to both first- and second-year preventive medicine residents and faculty. They provided stress-reduction group sessions for first- and second-year preventive medicine residents and faculty and had two annual resident retreats focused on self-care, play, and learning to work as a team. Clinical practicums for preventive medicine residents were arranged in the Center for Integrative Medicine outpatient clinic, and each resident had an individual integrative medicine mentor. One resident who completed the program stated that she "found the integrative pain management a particularly useful perspective in [her] current area of work…on prescription opioid abuse." Another resident reported she is more knowledgeable and open to offering modalities that could benefit her patients commenting that "I don't know that I would have done this so readily without this exposure."

The Boston Medicine Center Corporation preventive medicine residency emphasized resident engagement with underserved communities to reduce disparities in health status. By partnering with Boston University's Program for Integrative Medicine and Health Care Disparities, the two programs have advanced their synergistic agendas of reducing disparities through a model of comprehensive patient-centered care. The program finalized the preventive medicine residency competencies matrix with indicators for assessing competencies, including checklists for clinical practicum, online assessments for integrative medicine cases, and chart review checklists. The project team finalized curricular offerings, including self-study materials such as journal articles and webinars. Integrative medicine content was presented during the regularly scheduled preventive medicine journal club sessions and residents' seminar during the spring 2014 academic semester. All preventive medicine residents attended, completing 20-24 hours of

rotation in integrative medicine during their clinical training. The preventive medicine residents from AY 2013-2014 drafted and initiated self-care wellness plans and followed up with an integrative medicine physician.

The University of Michigan developed an interdisciplinary advisory committee of community integrative medicine providers, public health faculty, preventive medicine practitioners, and resident representatives. This advisory committee provided recommendations for the new integrative medicine competencies. The faculty developed a required primary care and public health rotation in integrative medicine that used community-based integrative medicine practice sites, including those that served underserved and culturally diverse populations. The faculty participated in an existing inter-professional program for faculty development in integrative health care to support residency learning. The program also targeted public health graduate students, including medical students, along with residents enrolled in preventive medicine seminars, and provided web-based training modules and seminars to teach integrative health care.

The Rutgers New Jersey Medical School developed a formal agreement with its School of Health Related Professions (SHRP), Institute for Complementary and Alternative Medicine to (1) provide resident training in integrative medicine and CAM, and (2) collaborate and assess faculty and service development in integrative medicine. Second-year residents spent 8-week rotations with the SHRP and 8 half days at the integrative medicine clinic. During the first project year, faculty developed a survey for the University of Medicine and Dentistry of New Jersey[12] Newark campus clinical faculty on the knowledge and practice of Integrative Medicine and mind-body medicine for stress management. Residents also had the opportunity for participation in evidence-based yoga outcomes research projects. Learning strategies included case studies, mini grand rounds, journal club, and meeting with physicians who are practicing integrative medicine. The program also worked with the VA to incorporate integrative medicine in the residents' 8-week rotations there.

The University of New Mexico adapted the University of Arizona's online curriculum in integrative medicine for the University of New Mexico's preventive medicine residency. Residents also completed a 1-month rotation at the University of New Mexico's Center for Life, an integrative and intercultural center for prevention and wellness, and a rotation at the Casa de Salud, a community based-holistic clinic in Albuquerque. The first-year residents were provided the opportunity to complete educational offerings at the university in traditional healing such as Curanderismo, the art of Mexican Folk Healing, and they were exposed to other traditional healing. Several activities were dedicated to faculty development: core faculty members could participate in the online curriculum; faculty attended didactic sessions provided by the Integrative Medicine track faculty members; the associate program director met regularly with the university's Integrative Medicine track faculty to discuss ongoing educational opportunities; and, program representatives participated in the periodic NccIM conference calls.

[12] Originally this grantee was named the University of Medicine and Dentistry of New Jersey – New Jersey Medical School. They merged with Rutgers on July 1, 2013.

The University of North Carolina, Chapel Hill program incorporated evidence-based integrative medicine teaching into the preventive medicine residency curriculum, provided faculty development in preventive and evidence-based integrative medicine, and developed competency-based evaluations of residents and yearly review of the program. The project added selective fieldwork in an integrative medicine rotation and an integrative medicine practicum. Residents developed individualized education plans and pursued rotations in local health departments, health center systems, the state health department, the North Carolina Medicaid managed care network, a national VA office, and the North Carolina Quality Improvement Organization. The residents showed an increase in their comfort with and knowledge of integrative medicine practices, as demonstrated by the results of the pre- and post-tests and the self-assessment competency evaluation tool. Some residents became involved with evaluation of integrative medicine practices within the local Hispanic or Latino population and travelled to their native Mexican communities to gather further information on the history and evolution of their integrative medicine traditions. Others were involved in evaluations of national programs of the VA through their National Center of Prevention. The institution developed closer relationships to community CAM providers as a result of the IMP—especially through the fieldwork elective—and also as a result of the invited speakers to the integrative medicine seminars. This program also incorporated faculty development webinars sponsored by the NccIM into their principles and practices course.

The University of South Carolina adapted the University of Arizona, Center for Integrative Medicine's online curriculum and assigned all residents to complete a core group of modules relevant to preventive medicine. The curriculum also was available to faculty, family medicine residents, and sports medicine fellows. Residents further participated in the university's CAM Center Meetings to review research related to CAM. They learned practical skills in motivational interviewing that were then evaluated through an Objective Structured Clinical Examination case scenario, to assess residents' ability to use this technique to facilitate patients' behavior change. At the end of the first project year, faculty was surveyed regarding their experience with the overall integrative medicine curriculum. Respondents reported some degree of increased knowledge of integrative medicine concepts and increased acceptance of including evidence-based integrative medicine concepts in residency training. The program also involved faculty development activities that enabled them to interact with a national network of professionals with integrative medicine expertise and interest.

The Meharry Medical College supported five faculty members in faculty development activities. One faculty member enrolled in the 2-year fellowship training program in conjunction with the University of Arizona. This faculty member began to incorporate knowledge gained through the program into the general preventive medicine and OM curriculum. She is bringing that knowledge to patients and physicians-in-training via clinical services at the Tennessee Valley VA Health Care System in Murfreesboro. All preventive medicine residents in the PH/GPM and OM programs are benefitting from the integrative medicine content in the didactic and clinical experience.

National Coordinating Center for Integrative Medicine

The NccIM provides technical assistance to the IMP grantees, collects data, evaluates the grantees, provides support for the coordination and evaluation of faculty development programs, and disseminates best practices and lessons learned nationally from the IMP. The Community of Learning on Integrative Medicine in Preventive Medicine includes partners in preventive medicine training, primary care, and other health professions such as nursing, dentistry, pharmacy, and CAM practitioners. One outcome of the work of the IMP grantees and NccIM during FY 2013 is the development of integrative medicine competencies that are mapped to the ACGME standards. These competencies are now being used by the IMP grantees.

NccIM helps to maximize the success of the 12 IMP grantees and measures the impact of HRSA's investment. In addition, the NccIM has a greater national scope beyond the IMP grantees, as it is responsible for helping to establish evidence-based practices related to the integration of integrative medicine and preventive medicine that is available to the universe of accredited preventive medicine programs. This cooperative agreement:

- identifies best practices;
- disseminates project results to the preventive medicine community of learning;
- serves in an advisory capacity to other preventive medicine residency programs; and
- provides technical assistance to IMP grantees related to planning, developing, and operating training programs; faculty development; consultation; and project evaluation.

The NccIM planned and implemented a webinar series for faculty and resident development. The grantees each took turns hosting presentations in their areas of expertise. These webinars were well received by grantees and residents, and several grantees incorporated them into their preventive medicine residency curricula. The NccIM also convened the steering committee meetings and subcommittee meetings and managed an iterative consensus building process with grantees to prepare competencies in integrative medicine for preventive medicine education. The NccIM developed resources for other programs based on the lessons learned and experiences of the grantees and provided examples of curriculum content developed, adapted and used by the grantees, both didactic and experiential, that contribute to meeting each of the competencies. This provides guidance for other programs trying to add integrative health care principles and integrative medicine approaches into their curricula. The NccIM developed a resource center on its website to host grantee resources and made available other resources that could be easily accessed by grantees and others interested in integrative medicine.

VI. Summary and Conclusions

HRSA is committed to growing the health workforce, including preventive medicine physicians, through innovative programs that help increase access to quality health care to meet the nation's health care needs. Health priorities, such as emerging infectious diseases and non-communicable chronic diseases (including multiple chronic conditions across the life span), present tremendous challenges and require solutions involving prevention, public health strategies, and leadership from preventive medicine physicians.

This report described the efforts of the HRSA Preventive Medicine Residency Program and the IMP to support the needs of a changing health workforce. The preventive medicine physicians that graduate from these programs contribute to HRSA's priorities to improve health and achieve health equity through access to quality services, a skilled health workforce, and innovative programs. The residents who complete the program practice in local health departments and go on to serve as medical directors in health centers, helping bridge the incorporation of public health into primary care.