



**U.S. Department of Health and Human Services
Health Resources and Services Administration**

REPORT TO CONGRESS

**PREVENTIVE MEDICINE AND PUBLIC HEALTH
TRAINING GRANT PROGRAM**

Fiscal Year 2020

Executive Summary

This is the fiscal year (FY) 2020 Report to Congress on the Preventive Medicine and Public Health Training Grant Program administered by the Health Resources and Services Administration (HRSA). This report to Congress is required by section 768(d) of the Public Health Service Act, which states:

“The Secretary shall submit to the Congress an annual report on the program carried out under this section.”

It provides a description of activities and funding levels for the Preventive Medicine and Public Health Training Grant Program authority for HRSA’s Preventive Medicine Residency (PMR) Program. The goal of the program is to increase the number of preventive medicine physicians trained in preventive medicine specialties who can lead public health activities, including the integration of public health with primary care; management of response to disasters; and outbreak investigation. A new competition for this program, with a 5-year project period, occurred in FY 2018 and awarded funding to 17 qualifying awardees. HRSA awarded continuation funding to these 17 PMR Program awardees for a total of \$6,615,390 in FY 2020. In FY 2019, two PMR grant recipients from a prior competition continued their work through a 1-year no-cost extension, with no additional funding, after the end of their initial project period. The two PMR grant recipients under no-cost extensions concluded their projects in FY 2020. The reporting period for this report is academic year 2020-2021.

The Coronavirus Disease 2019 (COVID-19) pandemic created unique learning opportunities for residents while they addressed the health care needs of underserved communities. Of the 85 residents financially supported by the program, approximately 79 percent received COVID-19 related training in response to the COVID-19 pandemic.



Public Health Training Grant Program

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Acronym List

ABMS	American Board of Medical Specialties
ACGME	Accreditation Council for Graduate Medical Education
AY	Academic Year
CDC	Centers for Disease Control and Prevention
COVID-19	Coronavirus Disease 2019
FQHC	Federally Qualified Health Center
FY	Fiscal Year
HRSA	Health Resources and Services Administration
PGY	Postgraduate year (also known as residency) ¹
PH/GPM	Public Health and General Preventive Medicine
PHS	Public Health Service
PMR	HRSA's Preventive Medicine Residency Program
VA	Department of Veterans Affairs

¹ Post-Graduate year (PGY)-1 is the first year of graduate training after completion of the formal 4 years of medical school. Similarly, PGY-2 and PGY-3 are the abbreviations for postgraduate years 2 and 3. Residents typically begin the 2-year PH/GPM in PGY-2, after at least one year of direct clinical training.

I. Legislative Language

This is the fiscal year (FY) 2020 Report to Congress on the Preventive Medicine Residency and Public Health Training Grant Programs administered by the Health Resources and Services Administration (HRSA). This program is authorized by section 768 of the Public Health Service (PHS) Act (42 U.S.C § 295c).

The PHS Act requires this report in section 768(d):

“The Secretary shall submit to the Congress an annual report on the program carried out under this section.”

II. Introduction

HRSA is committed to reducing health disparities by increasing access to quality services and promoting a skilled health professions workforce. One mechanism for achieving increased access is through supporting innovative programs that increase the number and skills of physicians graduating from preventive medicine and public health programs. Through these programs, participants are prepared to advance public health research, address emerging public health issues, and assume leadership roles within the public health system.

Preventive Medicine Specialties

Preventive medicine is one of the 40 specialties recognized by the American Board of Medical Specialties (ABMS).² Preventive medicine physicians are educated in both clinical medicine and public health. Preventive medicine training includes direct patient care, biostatistics, epidemiology, social and behavioral sciences, health services administration, environmental health sciences, and practicing prevention in clinical medicine. The fundamental competencies of preventive medicine align with the recently updated *Ten Essential Public Health Services* framework.^{3,4} The ABMS and Accreditation Council for Graduate Medical Education (ACGME) recognize three specialty areas under the “preventive medicine” rubric: public health and general preventive medicine (PH/GPM), aerospace medicine, and occupational medicine.⁵ Provided below are descriptions of each specialty area.

- PH/GPM focuses on promoting health, preventing disease, and managing the health of communities and defined populations. PH/GPM physicians combine population-based

² American Board of Medical Specialties (ABMS). (n.d.). About ABMS. Retrieved January 10, 2020, from <https://www.abms.org/member-boards/>.

³ Jung P, Lushniak BD. Preventive Medicine’s Identity Crisis. *Am J Prev Med*. 2017 Mar;52(3):e85-e89. doi: 10.1016/j.amepre.2016.10.037.

⁴ de Beaumont. (2020). *10 Essential Public Health Services*. Retrieved February 8, 2021, from <https://debeaumont.org/10-essential-services/>.

⁵ Accreditation Council on Graduate Medical Education (ACGME). (2019, July). ACGME Program Requirements for Graduate Medical Education in Preventive Medicine, p 3-4. Retrieved March 30, 2020, from https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/380-Preventive_Medicine_2019.pdf?ver=2018-08-21-130637-697.

public health skills with knowledge of primary, secondary, and tertiary prevention-oriented clinical practice. PH/GPM physicians investigate disease outbreaks, assess the medical needs of individuals and populations, and counsel patients for health promotion. They also provide education on behavioral changes to implement community-based programs to reduce risk factors for disease and better manage chronic conditions. Additionally, PH/GPM physicians 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 by following guidelines for clinical preventive services such as immunizations, screening tests, and preventive medications. Preventive medicine physicians and residents engage globally and with public, private, and academic public health and health care organizations in surveillance, research, and prevention of emerging health threats.⁶

- Aerospace medicine focuses on the clinical care, research, and operational support of the health, safety, and performance of crewmembers and passengers of air and space vehicles and the support personnel who assist with the operation of these vehicles. Aerospace medicine 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, these physicians assure the safety of passengers and assess the conditions under which it is safe to operate vehicles.⁷
- Occupational medicine focuses on the health of workers and their ability to perform work. The focus includes the physical, chemical, biological, and social environments of the workplace and the health outcomes of environmental exposures. These residency programs work closely with the Centers for Disease Control and Prevention's (CDC) National Institute for Occupational Safety and Health and serve as resources for the primary health care personnel who care for agricultural workers and assess and mitigate the health effects of workplace hazards. Residents identify factors present in the workplace affecting health and take steps to ameliorate, prevent, and address the effects of such factors.⁸

Effective July 1, 2020, the ACGME became the sole accrediting entity for both osteopathic and allopathic graduate medical education.⁹ This change streamlined the accreditation process and enabled consistency in outcomes between osteopathic and allopathic medicine.

Preventive medicine training requirements include at least 1 year of clinical residency training in an ACGME-accredited program¹⁰ followed by 2 years of competency-based education, academic and practicum-based training, and the completion of a Master of Public Health or other

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Accreditation Council on Graduate Medical Education (ACGME). (2019). Benefits of Single GME. Retrieved May 21, 2021, from <https://acgme.org/What-We-Do/Accreditation/Single-GME-Accreditation-System/Benefits-of-Single-GME/>.

¹⁰ Accreditation Council for Graduate Medical Education. (2020). ACGME Program Requirements for Graduate Medical Education in Preventive Medicine. Pgs. 16 and 64. Retrieved from https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/380_PreventiveMedicine_2020.pdf?ver=2020-06-30-144631-400.

comparable postgraduate degree. During their preventive medicine specialty training, residents train in hospitals, managed care organizations, health departments, industry, federal government, non-governmental organizations, and community-based organizations, including federally qualified health centers (FQHCs).

Residents often combine their preventive medicine residency training with another specialty, such as family medicine, internal medicine, or pediatrics. These programs are completed either sequentially or integrated as a combined training program.

Because most preventive medicine residency activities occur outside hospital settings, preventive medicine residencies are not directly eligible for graduate medical education funding through the Centers for Medicare & Medicaid Services. Therefore, funding for preventive medicine residents and programs is limited, and creates challenges for programs.¹¹ HRSA, as authorized by section 768 of the PHS Act, is the largest single source of federal support specifically for preventive medicine residency programs.¹² In 2019, the ABMS recorded 216 physicians newly certified in preventive medicine specialties: 113 physicians in the PH/GPM specialty, 81 physicians in the occupational medicine specialty, and 22 physicians in the aerospace medicine specialty.¹³ Residency directors report that program curriculum enhancements, new rotations, and the number of residents enrolled and graduated would not occur without HRSA funding.

III. Overview

This report describes the funding levels and selected highlights of the Preventive Medicine Residency (PMR) Program, as well as a list of the PMR Program awardees and awardees that received no-cost extensions in FY 2020.

The goal of HRSA's PMR Program, which has a 5-year project period, is to increase the number of preventive medicine physicians trained in preventive medicine specialties. These physicians have the capacity to lead public health activities, including the integration of public health with primary care, leadership in management of response to disasters, and outbreak investigations. This goal is supported through awards to accredited schools of public health, medicine, or osteopathic medicine; accredited public or private nonprofit hospitals; state, local, or tribal health departments; and consortiums of two or more of these entities that plan and develop new residency training programs or expand current programs in the specialty of preventive medicine. In FY 2020, HRSA awarded continuation funding to 17 PMR Program awardees.

IV. FY 2020 Preventive Medicine Residency Program

The PMR Program supports graduate medical education and training to preventive medicine residents to defray the costs of living expenses, tuition, and fees. Awardees use the grant funds to

¹¹ Jung P, Lushniak B. Financing Preventive Medicine Graduate Medical Education. *J Public Health Manag Pract.* 2021 May/Jun;27 Suppl 3, HRSA Investment in Public Health:S206-S210. [in press].

¹² Ibid.

¹³ American Board of Medical Specialties. (2020). ABMS Board Certification Report 2019-2020, p. 30 & 34. Retrieved February 8, 2021, from <https://www.abms.org/wp-content/uploads/2020/11/ABMS-Board-Certification-Report-2019-2020.pdf>.

plan, develop, and implement 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. PMR Program funds also provide stipends and travel support for residents who present their research findings at national academic meetings. A portion of the funds provides support for faculty and staff who are directing programs, developing curricula, teaching, and coordinating program activities, including clinical rotations and public health experiences.

HRSA held a new competition for the PMR Program in FY 2018 with a 5-year project period, yielding 17 new awards. These 17 PMR Program awardees received continuation funding in the amount of \$6,565,296 in FY 2019 and \$6,615,390 in FY 2020. In addition, two previously funded PMR Program awardees received a 1-year no-cost extension through FY 2020. Both programs completed their PMR program activities in 2020. Such extensions permit continuation of work with unspent funds. Table 1 presents the list of awards. Table 2 presents the list of awardees approved for a no cost extension in FY 2019.

Table 1 - FY 2020 Preventive Medicine Residency Program Continuation Funding and Awards

	State	Awardee	Award (FY 2020)	Discipline
1	California	University of California at Los Angeles	\$399,891	PH/GPM
2	California	California Department of Public Health	\$386,711	PH/GPM
3	California	University of California at San Diego	\$398,453	PH/GPM
4	California	University of California at San Francisco	\$400,000	Occupational Medicine
5	Colorado	University of Colorado Health Sciences Center, Denver	\$399,999	PH/GPM
6	Connecticut	Griffin Hospital, Inc.	\$399,981	PH/GPM
7	Georgia	Emory University	\$387,386	PH/GPM
8	Georgia	Morehouse School of Medicine, Inc.	\$400,000	PH/GPM
9	Maine	Maine Medical Center	\$397,628	PH/GPM
10	Michigan	University of Michigan, Ann Arbor	\$349,956	PH/GPM
11	Mississippi	University of Mississippi Medical Center	\$376,671	PH/GPM
12	New Jersey	Rutgers University	\$360,823	PH/GPM
13	New Mexico	University of New Mexico	\$399,984	PH/GPM
14	New York	State University of New York at Stony Brook	\$400,000	PH/GPM
15	North Carolina	University of North Carolina at Chapel Hill	\$369,017	PH/GPM
16	Pennsylvania	Trustees of the University of Pennsylvania	\$398,773	Occupational Medicine
17	West Virginia	West Virginia University	\$390,117	PH/GPM and Occupational Medicine

	State	Awardee	Award (FY 2020)	Discipline
	Total		\$6,615,390	

Table 2 - FY 2020 Preventive Medicine Residency Program No Cost Extensions

	State	Awardee	Project Period End Date	Discipline
1	New York	The Research Foundation of State University of New York	8/31/2020	PH/GPM
2	South Carolina	University of South Carolina	6/30/2020	PH/GPM

FY 2020 Preventive Medicine Stakeholder Meetings

HRSA hosted two preventive medicine stakeholder meetings. During the meeting on November 7, 2019, entitled the *Future of Preventive Medicine*, HRSA held a discussion with key stakeholders on the future of the medical specialty of preventive medicine and recommendations on what HRSA can do to strengthen the role of preventive medicine physicians in health systems. In attendance were representatives of 13 external organizations related to public health and preventive medicine, including consultancy from CDC. HRSA invited all three specialties of preventive medicine. Key areas of discussion included:

- issues related to the field of preventive medicine,
- the role of the specialty within the healthcare system,
- metrics to measure the success of a PMR and its impacts within the community, and
- training structure of residency programs.

The speakers presented updates on PMR program accreditation, the workforce in state and local health departments, and the value of preventive medicine, to provide background for the discussion. General discussion topics included careers for preventive medicine physicians, measures of success in residency programs, and the structure of funding for preventive medicine residencies.

HRSA sponsored the second meeting virtually on November 19, 2020, as a continuation of the discussion held during the November 2019 meeting. Among the attendees were preventive medicine resident graduates, who held a panel discussion to provide feedback on their experience. The key takeaways from the meeting were:

- The value of the specialty of preventive medicine is not always evident to those who would most benefit from the skills of a preventive medicine specialist. Groups that would benefit include possible employers, the general public, and health care systems administrators.
- The specialty of preventive medicine is unknown to most medical students and difficult to access for fourth year medical students due to the requirement to complete a clinical year and the additional complications related to entering the specialty via the National

Residency Match Program. The purpose of the National Residency Match Program is to provide a uniform time for both applicants and programs to make their training selections for residency admissions.¹⁴

- The field of public health is changing, partly as a result of the coronavirus disease 2019 (COVID-19) pandemic. One response by several stakeholders has been to develop the “Revised Essential Public Health Services.”¹⁵ The specialty of preventive medicine should consider these revisions as they apply to the specialty.

The number of preventive medicine specialists is declining and preventive medicine specialists are not well distributed in rural areas.¹⁶

- Funding for preventive medicine residency programs may come from different sources, and the specialty may benefit from a systematic assessment of the various funding sources.
- The specialty of preventive medicine needs to decide how best to move the specialty forward, and make use of the limited resources available.¹⁷

V. Selected Program Highlights

In academic year (AY) 2020-2021, the PMR Program awardees continued to provide assistance and learning experiences in state and local health departments and to address current public health issues. Each program focused on meeting the needs of underserved populations. In addition, all programs required their residents to have both academic and practicum experience focused on the proposed Healthy People 2030 Objectives, clinical preventive services, as well as clinical and population health practice.¹⁸ In an effort to address the needs of vulnerable and diverse populations, these awardees focused on training in prevention and public health that contributed to HRSA’s goals of improving access to quality services, building healthy communities, and reducing health disparities. The COVID-19 pandemic created unique learning opportunities for residents while they addressed the health care needs of underserved communities. Additionally, the public health crisis of opioid use and substance use disorders continued to be of growing concern during the pandemic.

In AY 2019-2020 (the most recent year with available data), the National Center of Health Workforce Analysis reported that the PMR Program financially supported 85 residents, the majority of whom received clinical or experiential training in a primary care setting (81 percent)

¹⁴ The Match: National Residency Match Program. (2021). Intro to Main Residency Match. Retrieved May 21, 2021, from <https://www.nrmp.org/intro-to-main-residency-match/>

¹⁵ Sellers K, Fisher JS, Kuehnert P, Castrucci B. (2021). Meet The Revised 10 Essential Public Health Services: Developed By The Field, Centering Equity. Health Affairs Blog. Retrieved August 9, 2021, from <https://www.healthaffairs.org/doi/10.1377/hblog20210319.479091/full/>.

¹⁶ Ricketts, Tom. (2019). University of North Carolina Health Workforce Research Center: Preventive Medicine Physician Supply and Distribution. Future of Preventive Medicine Stakeholder Meeting. Health Resources and Services Administration. November 7, 2019. Washington, DC. Retrieved on May 24, 2021 from <https://www.shepscenter.unc.edu/wp-content/uploads/2020/06/PM-Physician-Supply-Distribution-5-13-20.pdf>

¹⁷ Health Resources and Services Administration. (2020). Future of Preventive Medicine. Second Annual Stakeholder Meeting, Rockville, MD. Unpublished raw data.

¹⁸ Information about the proposed Healthy People 2030 Objectives can be found here: <https://www.healthypeople.gov/2020/About-Healthy-People/Development-Healthy-People-2030>.

and/or a medically underserved community (71 percent). Approximately 79 percent of residents received COVID-19 related training in response to the COVID-19 pandemic. Of the 57 residents who completed their residency training programs during the AY, 33 percent intended to pursue employment or further training in medically underserved communities. PMR awardees collaborated with 195 sites to provide 239 clinical training experiences for PMR residents (e.g., academic institutions, ambulatory care sites, state and local health departments, health centers, and hospitals).¹⁹

The National Center for Health Workforce Analysis reported an increase from the previous year in the percentage of PMR residents trained in HHS priorities in AY 2019-2020. Approximately 39 percent of residents received training in substance use treatment; 47 percent received training in opioid use treatment; 21 percent received training in medication assisted treatment; 67 percent of residents received training in telehealth; 7 percent received training on the waiver from the Substance Abuse and Mental Health Services Administration to administer, dispense, and prescribe certain medications; and 60 percent received training in integrated behavioral health in primary care.²⁰

COVID-19 Surveillance and Prevention

The COVID-19 pandemic remains a public health emergency, declared by HHS on January 31, 2020.²¹ As of August 9, 2021, the COVID-19 virus has claimed 627,281 lives in the United States.²² HRSA's PMR Program grantees have approached these unprecedented times by contributing to COVID-19 response efforts through use of their unique knowledge and skills. A workgroup of external PMR Program Directors surveyed all 18 HRSA funded PH/GPM and occupational medicine programs to evaluate resident involvement in pandemic response activities from January 1 to June 30, 2020. During that time, of the 116 residents enrolled in the programs, 110 (95 percent) participated in the following COVID-19 response activities: screening, testing, contact testing surveillance, data analysis, incident command, provider support, reopening of health care organizations and facilities, direct patient care, and education and risk communication. These response activities took place in multiple settings such as state and local health agencies, hospital systems, long-term care facilities, academic centers, local businesses, labor unions, FQHCs, homeless shelters, and clinics. Some of the residents had direct responsibility of providing primary and specialty care services in inpatient settings and were involved in expanding telehealth usage, as well as the capacity for using virtual platforms. Several residents served at leadership levels in the response by serving as part of incident command structures, developing

¹⁹ HRSA National Center for Health Workforce Analysis. Annual Performance Report Academic Year 2019-2020. Retrieved from <https://dashboard.hrsa.gov>.

²⁰ Ibid.

²¹ Department of Health and Human Services. (2020). Secretary Azar Declares Public Health Emergency for the United States for 2019 Novel Coronavirus. Retrieved on February 8, 2021, from <https://www.hhs.gov/about/news/2020/01/31/secretary-azar-declares-public-health-emergency-us-2019-novel-coronavirus.html>.

²² Centers of Disease Control and Prevention. (2021). COVID Data Tracker. Retrieved August 10, 2021, from <https://www.bing.com/search?q=CDC+data+tracker+COVID&cvid=75e308923e804fb0a81932e75f6a31aa&aqs=edg.e.l.69i57j69i59.4294j0j4&FORM=ANAB01&PC=U531>.

program and policies, and developing new clinical and educational programs to address the pandemic.²³

Highlights from HRSA-funded Preventive Medicine Residency Programs

Emory University residents served in multiple roles during the COVID-19 pandemic. Residents served as members of the local health department incident command/leadership team. They engaged in various COVID-19 response activities such as drafting standard operating procedures for specimen collection sites and working with local community organizations and private partners to increase testing capacity in different sites (especially immigrant populations). The residents also participated in planning contact tracing within their respective jurisdiction and monitored testing kit inventory. Residents rotated on the CDC Global Migration Task Force's Traveler Health Team and participated in the development of CDC de-escalation criteria, with the goal of reducing international travel-related transmission risks among United States travelers by providing information on COVID-19 infection rates, screening and precaution measures to take during travel.²⁴ They amended clinical encounters involving high-risk patients to cover COVID-19 related issues, including risk reduction, prescriptions, and medical supplies, while rotating in Emory's Preventive Cardiology clinic. Residents also participated in the planning of mobile testing for persons experiencing homelessness.

Residents at the **University of California, San Diego** played major roles in the San Diego County Public Health Department's COVID-19 pandemic response by serving as lead physicians for the county's stand-up COVID-19 clinic for vulnerable populations who tested positive or were exposed and needed isolation. Residents performed client evaluations, provider training, and protocol development. The residents helped develop and conduct a community surveillance study in collaboration with San Diego State University faculty and Public Health Department staff. Additionally, the residents managed the county's nurse triage line, responding to questions from the general public and facilitated access to testing, in appropriate cases, based on the most up-to-date CDC guidelines. They also led data analysis from the Public Health Department's outbreak investigation of a skilled nursing facility.

Residents at **Rutgers, The State University of New Jersey** initiated contact tracing in Newark and analysis of data from a large, New Jersey based, multispecialty medical group. Through the Rutgers School of Public Health, three faculty continue to work on this activity to understand the epidemiology of COVID-19-positive polymerase chain reaction and antibody tests in 2020. Residents at Rutgers also joined a serosurvey²⁵ of New Jersey Long Term Care Facilities, in

²³ Miller, Lisa, MD; The SARS-COV-2 Pandemic: Real-Time Training and Service for Preventive Medicine Residents, *Journal of Public Health Management and Practice Supplement*. HRSA's Investment in Public Health. 2021 Feb 16. doi: 10.1097/PHH.0000000000001304. Epub ahead of print. PMID: 33605672. Retrieved on February 25, 2021 from <https://pubmed.ncbi.nlm.nih.gov/33605672/>.

²⁴ Centers for Disease Control and Prevention. (2021). Travel: International Travel During COVID 19. Retrieved on May 21, 2021, from <https://www.cdc.gov/coronavirus/2019-ncov/travelers/international-travel-during-covid19.html>

²⁵ National Center for Advancing Translational Sciences. August 31, 2020: A different kind of COVID-19 (sero) survey. Surveying large numbers of people for the presence of such antibodies is therefore called a serosurvey. Retrieved April 16, 2021, from <https://ncats.nih.gov/director/august-2020>.

partnership with the New Jersey Department of Health and participated in daily monitoring of COVID-19 cases, screening, and control efforts.

The State University of New York, Stony Brook residents provided case investigations and contact tracing for the Nassau County Department of Health, the Suffolk County Department of Health Services, and the Stony Brook Employee Health Service. In addition, residents managed and reported on the patient and employee COVID-19 database for the Northport Veterans Affairs Medical Center. Residents served as medical consultants and providers at Points of Distribution vaccine site conducted by Stony Brook University Hospital for high-risk health care workers and the Suffolk County Department of Health Services for other high-risk personnel.

California Department of Public Health residents deployed to the frontlines of the public health COVID-19 response in Sacramento, Yolo, Alameda, and Los Angeles counties to serve as Medical Lead of the Sacramento County drive-through COVID-19 testing site, and manage a Los Angeles County warm line/email for related questions from community physicians. Residents also participated in COVID-19 clinical research, created reports summarizing outbreaks at different facilities for the state government, as well as led an outbreak investigation at an Alameda County hospital emergency room and at congregate living facilities in Yolo County.

Residents at the **University of Colorado** supported their state health department in the development and deployment of a COVID-19 hospital dashboard to allow for tracking of COVID-19 hospitalizations, along with development of a wide array of COVID-19 prevention guidance documents for dissemination statewide. Residents conducted research to answer clinical questions, performed COVID-19 contact tracing, developed infographics for social media campaigns, supported local health department COVID-19 case investigation and reporting, performed risk assessment of healthcare workers exposed to COVID-19 cases, and provided guidance to employers regarding exclusion from work and symptom monitoring. Residents facilitated health care worker testing early in the pandemic when testing was limited, investigated cases of multi-system inflammatory syndrome in children, assisted with state-wide COVID-19 death surveillance, and supported COVID-NET surveillance activities (a CDC-funded system for tracking hospitalizations due to the COVID-19 cases in the Denver metro area).

Griffin Hospital residents helped the New Haven Health Department in its pandemic preparedness and response efforts by planning for COVID-19 vaccination implementation, contact tracing, and outbreak investigations. They also participated in the Health Department's emergency preparedness, risk communication, COVID-19/pandemic regulations and protocols, and data analysis. Specific resident projects included updating the Public Health Internal and External Operations Emergency Preparedness and Response plans as there were no emergency coordinators at the local health department, as well as COVID-19 Education and Outreach to vulnerable populations. PH/GPM residents provided care in the primary care setting and the residents in the combined specialty of internal medicine and PH/GPM provided care in the inpatient setting (i.e., general medicine, telemetry, intensive care unit) to COVID-19 patients.

All **Morehouse College** residents participated in outbreak investigation and evaluated aspects of COVID-19 surveillance for local district public health agencies. Residents also participated in COVID-19 mass testing events, where they collected samples with the epidemiology team of a Georgia Department of Health district. The residents also actively took part in COVID-19

strategic health equity meetings in which they used outbreak control evaluation findings to recommend strategic and operational improvements for pandemic/outbreak control. The residents used data to combat further spread of COVID-19 and to identify barriers to population-based health services. Public health and preventive medicine residents developed protocols for COVID-19 testing and treatment, facilitated communication among clinic staff, homeless shelter staff, and homeless shelter residents regarding handling of suspected COVID-19 cases. Residents identified health equity gaps that leave African Americans and other populations disproportionately at high-risk for experiencing severe COVID-19 outcomes. Residents assisted Atlanta's Veterans Affairs Occupational Medicine Director with vaccine safety monitoring.

Residents at the **University of Michigan** deployed to provide ongoing support to the local health departments (Washtenaw County, Wayne County, and Detroit Health Department) in many aspects of the pandemic response. Resident efforts included contact tracing and case investigation; coordinating COVID-19 prevention efforts at long term care facilities; organizing and participating in community COVID-19 testing and preparation for vaccination efforts; analyzing data and preparing educational material for health systems, long term care facilities and clinicians; and assisting community organizations to adapt to executive orders and prevention efforts. Resident scholarly projects included monitoring and follow-up of travelers returning from China and reporting findings in the health department outbreak management systems for Washtenaw County Health Department. They created and distributed protocols for COVID-19 prevention in transitional housing for Washtenaw County Health Department, developed training materials for contact tracing teams at the Wayne County Health Department and presented clinicians with information on topics such as COVID-19 vaccination, testing, clinical syndromes, and maternal health. Residents are currently planning activities to implement future vaccination campaigns.

The **West Virginia University** increased the frequency in which residents received instructional materials, webinars, and group discussions on COVID-19 by moving its didactic, journal club, and grand rounds to an online platform. The Program Director, in collaboration with the West Virginia Department of Health and Human Resources, Bureau of Public Health, led a statewide online training program for COVID-19 contact tracing and successfully trained 223 individuals between May and September of 2020. Residents supported employees of West Virginia University Health System who reported COVID-19 exposures or sought information and direction. Residents also worked with faculty on the development of guidelines on the different levels of personal protective equipment and use of personal protective equipment in the West Virginia University Health System during the pandemic.

The **University of New Mexico** PH/GPM program is successfully leveraging institutional and community expertise in public health and preventive medicine to provide training in improving the health of patients and communities through collaboration with stakeholders that include community supporting organizations. The project is working on increasing the number of well-trained preventive medicine physicians through interprofessional partnerships and innovations to advance access to preventive medicine for American Indian, Hispanic, rural, and medically underserved communities. The program collaborated with the New Mexico Department of Health, the City of Albuquerque, and Health Care for the Homeless, by providing medical direction on providing care to persons with the COVID-19 disease at hotel sites.

Residents at the **Maine Medical Center** program, in partnership with community health workers at Catholic Charities and the Maine Access Immigrant Network, created three short videos for patients recently tested for COVID-19. These videos provide guidance on prevention, what to expect before, during, and after a COVID-19 test, what to do after a positive test result, how to isolate/self-quarantine, and available social support services. The program translated the videos into eight different languages and made them available on public websites. They disseminated the videos statewide for use by testing centers, emergency departments, providers' offices, and community organizations. Residents have also collaborated to create an Ask the Doc series to provide health information to underserved populations with limited healthcare access.

The **University of Mississippi** presented an abstract titled, "Role of Epigenetics in COVID-19 Susceptibility and Treatment in High Risk Populations: A Qualitative Review" at the Public Health Foundation of Bangladesh International Conference in December 2020. The project focused on teaching the next generation of preventive medicine physicians to respond to the epidemic by understanding and addressing social determinants of health; developing, implementing, and monitoring community health interventions to address chronic disease disparities, especially in rural and other medically underserved populations; and implementing lifestyle medicine.

Residents at the **University of Pennsylvania's** occupational medicine program designed and implemented a SARS-CoV-2 layered defense strategy for training sites, created return to work protocols for employees who test positive for COVID-19, and developed screening criteria for seeing patients in-person versus via telemedicine. Residents placed at the Hospital of the University of Pennsylvania developed procedures for in-person versus telemedicine screening for employees, contact tracing, and isolation/quarantine of positive contacts and sick employees. Residents also provided support at their clinical training sites by improving communication among leadership, various departments and employees; helped write and edit numerous articles and frequently asked questions for distribution to frontline workers on a variety of COVID-19 related occupational health issues; and participated in departmental meetings, daily huddles, a COVID-19 hotline, virtual town-hall meetings, and one-on-one patient encounters.

The **University of North Carolina's** PH/GPM residency program collaborated with the Occupational Health department at the University of North Carolina Hospital to give residents experience in the challenges of translating scientific evidence into policy implementation at the institutional level. Residents were deployed to assist and support the department by providing guideline updates, crafting a data gathering instrument, assisting with conducting research and data management, crafting visual tools for exposure risk categories, making phone calls to assess exposure risk, and providing furlough and return to work guidance to employees. Residents also collaborated with the North Carolina Division of Public Health's Preparedness and Response Branch on COVID-19 response and planning for vaccine rollout efforts.

The University of California, San Francisco's Occupational and Environmental Medicine training program is vital to addressing critical needs of vulnerable populations, where factors such as lack of training, poor safety precautions, over representation in dangerous industries, language barriers, piece-rate pay, and undocumented status place workers at increased risk for occupationally related injuries and illnesses. The program has taken concrete steps to increase the competency of their residents in effective preventive health strategies, in particular in relation to

Occupational and Environmental Medicine-related health disparities. Examples include an elective through the University of California, Berkeley Labor Occupational Health to gain training in outreach to at risk-workers, a rotation with Concentra to increase exposure to industrial and construction workers, and environmental rotations at the Natural Resources Defense Council and Center for Environmental Health to emphasize at-risk communities and environmental justice. The Continuing Medical Education course targeted multiple presentations thematically tied to health disparities and is required of the occupational medicine residents.

Program Efforts towards Addressing HRSA Priority Areas

Many of the PMR programs addressed other HRSA priorities such as telehealth, opioid use disorder, substance use disorder, behavioral health, and provider and community wellness and collaboration.

Telehealth

HRSA-funded PMR Programs integrate training on alternative communication modalities such as telehealth for education and population health, to ensure residents are equipped to use these technologies to increase access to care. Telehealth is the use of electronic information and telecommunication technologies to provide care when patient and provider are not in the same place at the same time.²⁶ This section highlights the various ways programs have integrated this technology into clinical practice and public health to ensure continued access to health care services and health communication during the COVID-19 pandemic.

Residents at the **University of New Mexico** participated in a telehealth rotation with a peer education program within correctional facilities and with community organizations through their community wellness rotation. Residents and faculty also provided clinical care using telehealth to reduce in-person clinic visits.

Residents at the **California Department of Health** continued to see low-risk patients in-person at a FQHC and via telehealth, ensuring that infants and children continued to get the care they needed despite the pandemic.

Griffin Hospital residents provided primary care via telemedicine. Both PH/GPM residents and the combined specialty internal medicine and PH/GPM residents served as primary care providers as part of their continuity care clinic.

An **Emory University** resident developed a process map and flowchart for emergency department patient interactions and for triaging possible COVID-19 affected patients using the Department of Veteran's Affairs (VA) Video Connect platform.

University of Colorado residents participated in virtual sessions as part of the Project Extension for Community Healthcare Outcomes Project, *Colorado Implementing a Successful Telehealth*

²⁶ Telehealth.HHS.Gov. (2021). What is Telehealth? Retrieved from <https://telehealth.hhs.gov/patients/understanding-telehealth/>.

Program Series, a VA Video Connect software-training program, which is required prior to delivering telehealth care through the Rocky Mountain Regional Veterans Affairs Medical Center.

Stony Brook Preventive Medicine Residency Program accomplished full implementation of a Tele-Preventive Medicine service operated by their preventive medicine residents. Patients are referred to the service when they have not met the metrics for preventive services or have gaps in care, specifically breast and colorectal cancer screening and pneumococcal vaccination. Residents provide motivational counseling, facilitate referral for these clinical preventive medicine services, and provide lifestyle modification counseling when indicated.

The **University of California, Los Angeles** successfully piloted the first year of individual lifestyle medicine consults and leveraged telehealth consults. The program continues to offer lifestyle medicine group visits virtually and has expanded patient outreach to include all age groups (pediatric and adult).

Residents at **Rutgers, The State University of New Jersey** participated in the provision of telemedicine counseling to COVID-19-positive persons during the early periods of the pandemic. The residents are also providing primary care through telemedicine.

Residents at the **University of Pennsylvania** provided virtual visits and virtual consultations through the University of Pennsylvania's centralized telemedicine health care delivery system.

Opioid Use Disorder/Substance Use Disorder and Behavioral Health

The nation's opioid crisis remains a public health emergency.²⁷ The total overdose deaths for the 12 months ending May 2020 exceeded 81,000.²⁸ Illicitly manufactured fentanyl appears to be the primary driver of the increase in overdose deaths.²⁹ There was a 38.4 percent increase in overdose deaths from the prior year.³⁰ The PMR awardees took notable steps to address this crisis. The awardees provided the following examples:

The **University of California, Los Angeles** established an addiction medicine and detox rotation at the West Los Angeles Veterans Administration, which has been completed by all six of the program's current trainees.

Morehouse School of Medicine expanded didactic and experiential experiences for its PH/GPM residents on the prevention of opioid use disorder and overdose, resident stress management, and wellness.

²⁷ Department of Health and Human Services. (2017). HHS Acting Secretary Declares Public Health Emergency to Address National Opioid Crisis. Retrieved on May 24, 2021, from <https://public3.pagefreezer.com/browse/HHS.gov/31-12-2020T08:51/https://www.hhs.gov/about/news/2017/10/26/hhs-acting-secretary-declares-public-health-emergency-address-national-opioid-crisis.html>.

²⁸ Centers for Disease Control and Prevention. (2020). Overdose Deaths Accelerating During COVID-19: Expanded Prevention Efforts Needed. Retrieved on May 24, 2020, from <https://www.cdc.gov/media/releases/2020/p1218-overdose-deaths-covid-19.html>.

²⁹ Ibid.

³⁰ Ibid.

The **University of Michigan** incorporated didactic topics into preventive medicine seminars, including a journal club focused on the opioid epidemic, a session on public health law and opioids, and inter-professional workshops including a presentation from a guest speaker who is an addiction medicine specialist.

The University of New Mexico implemented an innovative interprofessional resident training for behavioral and lifestyle intervention: inclusive of Community Wellness, Addiction Medicine, and telehealth rotations, engaging residents with American Indian, Hispanic, and medically underserved communities through team-based behavioral and lifestyle intervention training. Residents also provided clinical care in the University of New Mexico Addiction and Substance Abuse Program.

Residents at **Maine Medical Center** supported the development of Screening, Brief Intervention, Referral to Treatment curriculum modules and participated in the Maine Medical Center's Annual Implementation Plan. The goal is to include Screening, Brief Intervention, Referral to Treatment curriculum modules in primary care practices, rotate in weekly clinical visits as a resource at Preble Street Learning Collaborative, and rotate through a Suboxone³¹ treatment group.

Residents at the **University of North Carolina, Chapel Hill** program continue to attend presentations on Addiction Medicine, and co-lead with the Addiction Medicine Fellows in a journal club addressing the opioid epidemic.

The University of California, San Diego Preventive Medicine Residency program added new activities to their opioid addiction curriculum, including new workshops conducted by a residency program graduate who is also a fellow in their Addiction Medicine program. They also recruited a current resident to serve as medical review officer for the county's new Opioid Initiative project.

Provider and Community Wellness

The health professional workforce faces many challenges that can bring about mental health issues or challenges that are related to personal (relationship issues, death of a loved one, isolation) and professional (heavy workloads, long hours, toxic work environment, isolation, and rapidly changing health care systems) stressors that result in depression, anxiety, addictions, burnout, and suicide. Efforts to address burnout are usually focused on the individual; however, the work environment can also contribute to the problem. To decrease the incidence of burnout of their health care workforce, a number of PMR grantees contributed to promote a culture that supports resilience, mental health, and wellness.

The **University of Pennsylvania** program prioritized provider wellness, providing residents with individual coaching sessions with a Wellness Coach to address personal well-being issues. Residents also participated in interactive virtual lectures given by the Wellness Coach.

³¹ SUBOXONE® (buprenorphine and naloxone) Sublingual Film (CIII) is a prescription medicine used to treat adults who are addicted to (dependent on) opioid drugs (either prescription or illegal) as part of a complete treatment program that also includes counseling and behavioral therapy. Retrieved April 16, 2021, from <https://www.suboxone.com/https://www.suboxone.com/>.

Additionally, the University of Pennsylvania Health System offered residents immediate access to curated mental health and wellness content, live groups, and individual virtual support through a digital platform.

The **Griffin Hospital** Preventive Medicine Residency Program emphasized chronic disease prevention especially during the COVID-19 pandemic. Two of the program's preventive medicine residents hosted group medical visits during which they taught patients in the Wellness for Life Program about the importance of sleep health, cancer and other chronic disease screenings. Wellness for Life is a 12-week lifestyle change program offered to patients.

PH/GPM faculty and residents at the **University of California, Los Angeles** hosted a Park Summit, in collaboration with the Los Angeles Department of Public Health and Los Angeles Parks and Recreation. The summit focused on bringing together community partners to leverage local parks to improve physical and mental health for families.

The **University of California, San Diego** Preventive Medicine Residency program further developed its Lifestyle Medicine curriculum with the addition of workshops on Brief Action Planning, the development of new clinical practicum experiences in Cardiac Rehabilitation, group clinic visits for patients with obesity, and a Diabetes Prevention Program.

The **University of Mississippi Medical Center** preventive medicine residents participated in a rotation through the Office of Well-Being led by the residency program director and assisted with the development of the annual health risk assessment. The residents emailed the assessment to all employees and students. This rotation provided a valuable learning experience and contributed to employee well-being.

Maine Medical Center's Preventive Medicine Program continued to focus its attention on developing an overall approach to Food for Health and Healing, creating environments at home, work, and in the community where food is treated as a tool for a vibrant and healthy life. The program has embedded resident training on childhood obesity prevention in education about culinary medicine, cooking strategies for families, physical activity, and community engagement. The program also adjusted its curricula to focus on cross-disciplinary approaches to prevent and treat childhood and adult obesity as it relates to family structures, behavioral medicine, and nutrition and wellness. Maine Medical Center's PMR Program collaborated with Good Shepherd Food Bank to expand access to the Cooking Matters course, which is a 6-week class taught by a dietitian to pediatric patients (and their families) referred by a local obesity clinic in Maine rural communities.

Collaboration

HRSA's PMR awardees continued relationships with FQHCs and other community health centers that provide primary care to underserved communities. Rotations at these organizations train residents to recognize and address social determinants of health, including patients' living situations, access to health care resources, and the environment's effect on health. Preventive Medicine rotations in FQHCs provided residents the opportunity to integrate public health into primary care.

The **West Virginia University** program established a partnership with a FQHC, Cabin Creek Health Systems, which consists of a network of four primary care centers and four school-based health centers located in Kanawha County, West Virginia. Services provided include primary care with emphasis on the U. S. Preventive Services Task Force-mandated screening and preventive medicine guidelines. Residents also provided services at a medication-assisted treatment clinic, the Grace Anne Dorney Pulmonary Rehab clinic, and a federally approved Black Lung Center. Residents spent 2 months working in these clinics providing care to underserved populations in West Virginia.

Morehouse College provides training opportunities for all preventive medicine residents through the VA Quality Scholars Program. A preventive medicine resident completed a rotation in patient safety/quality improvement and health administration through this program. As part of this rotation, the resident developed, implemented, and evaluated a patient safety and quality improvement project to improve telemetry within the VA Hospital. Preventive medicine residents are currently assisting the Atlanta VA's Occupational Medicine Director with COVID-19 vaccine safety monitoring.

Rutgers, The State University of New Jersey Preventive Medicine Residency Program is in their tenth year of sharing resident training with the VA New Jersey Health Care System. Their Health Promotion and Disease Prevention team, Whole Health Flagship, and War Related Illness and Injury programs have supported resident training and increased residents' competency in many areas such as patient care, systems-based practice, and professionalism. Two residents published their work with the VA (one on smoking cessation and one on colon cancer screening). Residents also participated in and supported the many VA Whole Health and Integrative Medicine Groups, all provided virtually.

Residents at the **University of Colorado** participated in a number of partnership activities with their respective Veterans Affairs Medical Centers. Residents participated in multiple quality improvement projects aimed at increasing VA Video Connect utilization, identifying and reducing barriers to mass telehealth usage, and improving data collection and analysis. Residents provided care to Tobacco Cessation patients at the Rocky Mountain Regional Veterans Affairs Medical Center during weekly phone clinics where residents used medical and behavioral management, including motivational interviewing, to prescribe appropriate medications and develop behavioral strategies to assist veterans with smoking cessation. Residents also assisted with the development of VA outpatient drive through COVID-19 testing and the VA's Emergency Department's emergency management plan.

Residents at the **University of California, Los Angeles** participated in a homeless street medicine rotation with the West Los Angeles Veterans Administration, where trainees help develop activities based on understanding and application of opioid addiction and mental health programs for homeless persons. The social determinants of health served as the framework for the programs. Residents also help establish an addiction medicine and detox rotation as well as a homeless street medicine rotation.

VI. Summary and Conclusions

The PMR Program accomplishes HRSA's goals of fostering a health care workforce capable of addressing current and emerging needs, achieving health equity, and enhancing population health while ensuring underserved communities have access to quality health care and support services.

Health priorities, such as emerging infectious diseases and non-communicable chronic diseases, present tremendous challenges and require solutions involving prevention, public health strategies, and leadership. Preventive medicine physicians, through their clinical and public health preparation, provide this essential leadership and expertise in many areas of health care including integrating public health with primary care, providing leadership in governmental public health, and conducting outbreak investigations to prevent the spread of emerging diseases. Preventive medicine physicians and residents have provided and continue to provide this leadership during the current COVID-19 pandemic.³²

This report describes the efforts undertaken by HRSA's PMR programs to increase the number and quality of preventive medicine physicians who address public health needs. These efforts demonstrated how the funded programs advance key components of health service delivery and strengthen the health care system's focus on prevention and health promotion. Such efforts increase interprofessional training and improve the quality of care delivered through community health centers by strengthening their collaboration with public health systems.

The preventive medicine physicians that complete these programs contribute to HRSA's mission to improve health and reduce health disparities by increasing patients' access to quality services, strengthening the skilled health workforce, and engaging in innovative programs. The residents, after graduation, practice in and lead local and state health departments, and federal public health agencies; serve as medical directors in community health centers; research and teach in academic settings; and work as quality improvement specialists and medical informatics specialists (specialists in health information technology, such as electronic medical records and data analysis).³³ They also assume leadership positions in the uniformed services. Program participants, through their clinical and public health roles in a wide variety of settings, promote the incorporation of public health and preventive health care into primary care and the improvement of population health.

³² Miller, Lisa, MD. The SARS-COV-2 Pandemic: Real-Time Training and Service for Preventive Medicine Residents, *Journal of Public Health Management and Practice Supplement*. HRSA's Investment in Public Health. 2021 Feb 16. doi: 10.1097/PHH.0000000000001304. Epub ahead of print. PMID: 33605672. Retrieved on February 25, 2021, from <https://pubmed.ncbi.nlm.nih.gov/33605672/>.

³³ Information received from residency directors during regular project monitoring.