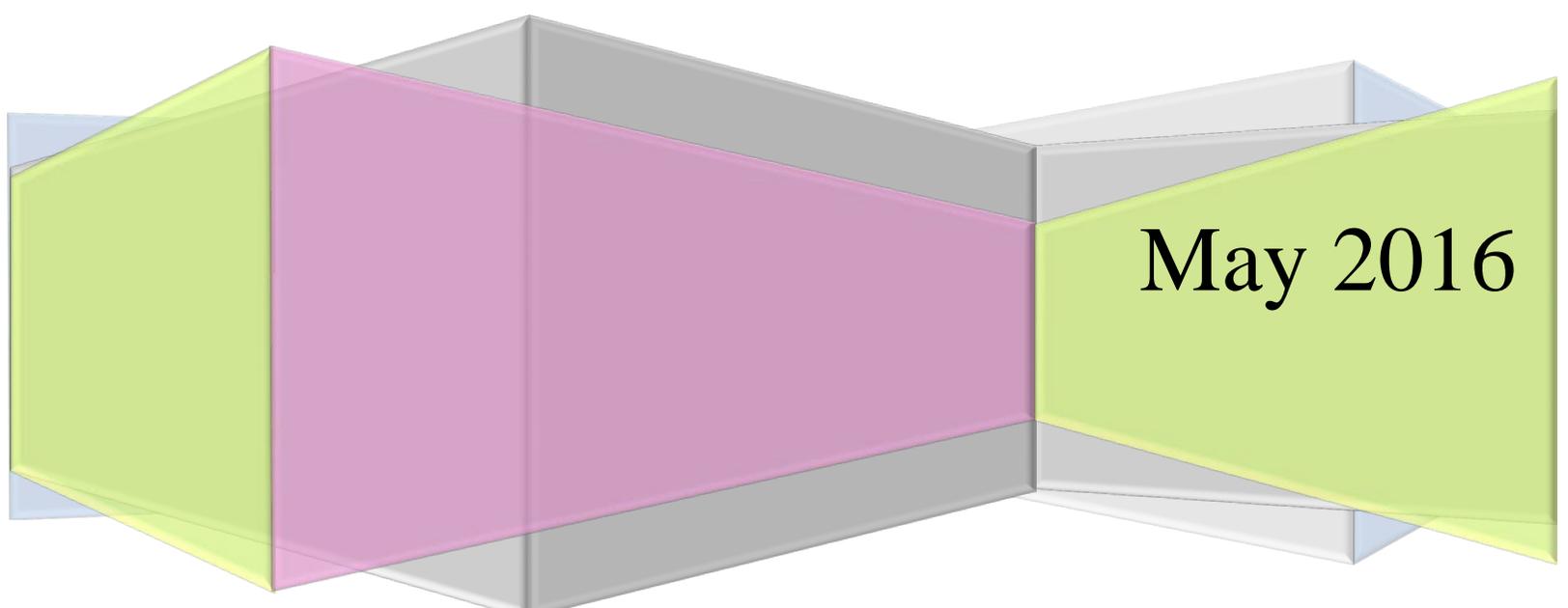


COUNCIL ON GRADUATE MEDICAL EDUCATION

Resource Paper

Supporting Diversity in the Health Professions



May 2016

COUNCIL ON GRADUATE MEDICAL EDUCATION

Resource Paper

Supporting Diversity in the Health Professions

May 2016



The views expressed in this document are solely those of the Council on Graduate Medical Education and do not necessarily represent the views of the U.S. Government.

Table of Contents

Council on Graduate Medical Education	4
Charge to the Council	4
COGME Publications	5
Council Membership.....	7
Acknowledgements	10
Executive Summary	11
Background	12
Overview of Title VII Health Workforce Diversity Programs	19
Health Workforce Diversity Programs: Review of Evidence	21
Other Efforts to Promote Diversity	28
Recommendations & Conclusion	31
Acronym and Abbreviation List	32
References	33

Council on Graduate Medical Education

The Council on Graduate Medical Education (COGME) was authorized by Congress in 1986 to provide an ongoing assessment of physician workforce trends, training issues, and financing policies and to recommend appropriate Federal and private-sector efforts to address identified needs. The legislation calls for COGME to advise and make recommendations to the Secretary of the U.S. Department of Health and Human Services (HHS); the Senate Committee on Health, Education, Labor, and Pensions; and the House of Representatives Committee on Energy and Commerce. The legislation specifies 17 members for the Council. Appointed individuals are to include representatives of practicing primary care physicians, national and specialty physician organizations, international medical graduates, medical student and house staff associations, schools of medicine and osteopathy, public and private teaching hospitals, health insurers, business, and labor. Federal representation includes the Assistant Secretary for Health (or designee), HHS; the Administrator (or designee) of the Centers for Medicare and Medicaid Services, HHS; and the Chief Medical Director (or designee) of the Department of Veterans Affairs.

CHARGE TO THE COUNCIL

The charge to COGME is broader than the name implies. Title VII of the Public Health Service Act, as amended, requires COGME to provide advice and recommendations to the Secretary and Congress on the following issues:

1. The supply and distribution of physicians in the United States;
2. Current and future shortages or excesses of physicians in medical and surgical specialties and subspecialties;
3. Issues relating to international medical school graduates;
4. Appropriate Federal policies with respect to the matters specified in items 1–3, including policies concerning changes in the financing of undergraduate and graduate medical education (GME) programs and changes in the types of medical education training in GME programs;
5. Appropriate efforts to be carried out by hospitals, schools of medicine, schools of osteopathy, and accrediting bodies with respect to the matters specified in items 1–3, including efforts for changes in undergraduate and GME programs;
6. Deficiencies in, and needs for improvements in, existing databases concerning the supply and distribution of, and postgraduate training programs for, physicians in the United States and steps that should be taken to eliminate those deficiencies;
7. Encouraging entities providing GME to conduct activities to voluntarily achieve the recommendations of the Council as warranted; and
8. Development of performance measures, longitudinal evaluations and recommendation of appropriation levels for programs under COGME's charge.

In addition to providing advice and making recommendations to both the Secretary and Congress, COGME shall also: encourage entities providing GME to conduct activities to voluntarily achieve the recommendations of the Council.

COGME PUBLICATIONS

REPORTS

Since its establishment, COGME has submitted the following reports to the HHS Secretary and Congress. These reports can be viewed at:

<http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/index.html>

- First Report of the Council (1988)
- Second Report: The Financial Status of Teaching Hospitals and the Underrepresentation of Minorities in Medicine (1990)
- Third Report: Improving Access to Health Care Through Physician Workforce Reform: Directions for the 21st Century (1992)
- Fourth Report: Recommendations to Improve Access to Health Care Through Physician Workforce Reform (1994)
- Fifth Report: Women and Medicine (1995)
- Sixth Report: Managed Health Care: Implications for the Physician Workforce and Medical Education (1995)
- Seventh Report: Physician Workforce Funding Recommendations for U.S. Department of Health and Human Services' Programs (1995)
- Eighth Report: Patient Care Physician Supply and Requirements: Testing COGME Recommendations (1996)
- Ninth Report: Graduate Medical Education Consortia: Changing the Governance of Graduate Medical Education to Achieve Physician Workforce Objectives (1997)
- Tenth Report: Physician Distribution and Health Care Challenges in Rural and Inner City Areas (1998)
- Eleventh Report: International Medical Graduates, The Physician Workforce, and GME Payment Reform (1998)
- Twelfth Report: Minorities in Medicine (1998)
- Thirteenth Report: Physician Education for a Changing Health Care Environment (1999)
- Fourteenth Report: COGME Physician Workforce Policies: Recent Developments and Remaining Challenges in Meeting National Goals (1999)
- Fifteenth Report: Financing Graduate Medical Education in a Changing Health Care Environment (2000)
- Sixteenth Report: Physician Workforce Policy Guidelines for the United States, 2000–2020 (2005)
- Seventeenth Report: Minorities in Medicine: An Ethnic and Cultural Challenge for Physician Training, an Update (2006)
- Eighteenth Report: New Paradigms for Physician Training for Improving Access to Health Care (2007)
- Nineteenth Report: Enhancing Flexibility in Graduate Medical Education (2007)
- Twentieth Report: Advancing Primary Care (2010)
- Twenty-First Report: Improving Value in Graduate Medical Education (2013)
- Twenty-Second Report: The Role of Graduate Medical Education in the New Health Care Paradigm (2014)

Letters to Congress

These letters can be viewed at:

<http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Publications/index.html>

- COGME Letter to HHS Secretary and Congress Concerning Primary Care Crisis and Health Care Reform (2009)
- COGME Recommendations Letter to Congress (2011)
- COGME Teaching Health Center Graduate Medical Education (THCGME) Support Letter to Congress and the Secretary, HHS (2013)
- COGME Letter Concerning 22nd Report to Congress (2014)
- COGME Letter Concerning Development of a Comprehensive National Strategic Plan for GME (2015)

Resource Papers

These resource papers can be viewed at:

<http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Publications/index.html>

- Assessing Physician Specialty Imbalances (1987)
- COGME, Public Hearing (1987)
- Reform in Medical Education and Medical Education in the Ambulatory Setting (1991)
- Physician Assistants in the Health Workforce (1994)
- Process by which International Medical Graduates are Licensed to Practice in the United States (1995)
- Report on Primary Care Workforce Projections (1995)
- Preparing Learners for Practice in a Managed Care Environment (1997)
- International Medical Graduates (1998)
- Collaborative Education to Ensure Patient Safety (2000)
- Evaluation of Specialty Physician Workforce Methodologies (2000)
- Compendium: Update on the Physician Workforce (2000)
- The Effects of the Balanced Budget Act of 1997 on Graduate Medical Education (2000)
- COGME: What Is It? What Has It Done? Where Is It Going? (2000)
- Proceedings of the GME Financing Stakeholders Meeting, Public Response to COGME's Fifteenth Report (2001)
- Summary Report to Congress and Secretary U.S. Department of Health and Human Services (2002)
- State and Managed Care Support for Graduate Medical Education: Innovations and Implications for Federal Policy (2004)

Council Membership

Chair

Gamini S. Soori, MD, MBA, FACP,
FRCP, CPE
President & CEO, MIPPA and Medical
Director, MHC ACO
Clinical Professor of Medicine
Creighton University School of Medicine
Nebraska Cancer Specialists
Omaha, Nebraska

Vice Chair

Kristin Goodell, MD, FAAFP
Director for Innovation in Medical
Education
Center for Primary Care
Harvard Medical School
Boston, Massachusetts

Peter B. Angood, MD, FRCS(C), FACS,
MCCM
Chief Executive Officer
President
American Association for Physician
Leadership
Tampa, Florida

Kirk Calhoun, MD
President
The University of Texas Health Science
Center at Tyler
Tyler, Texas

Michael Core, MD
Assistant Professor of Clinical
Family Medicine
Department of Family Medicine
Keck School of Medicine of the
University of Southern California
Los Angeles, California

Past Chair

H. David Reines, MD, FACS
Professor of Surgery
Virginia Commonwealth University
Vice Chair of Surgery
Inova Fairfax Hospital
Director of CME
Inova Health System
Falls Church, Virginia

Erin Corriveau, MD, MPH
Assistant Professor, Department of Family
Medicine
University of Kansas Medical Center
Kansas City, Kansas

Nida F. Degesys, MD
Resident Physician
Emergency Medicine
University of California, San Francisco
San Francisco General Hospital
San Francisco, California

Lois Margaret Nora, MD, JD, MBA
President and Chief Executive Officer
American Board of Medical Specialties
Chicago, Illinois

Mary Ellen Rimsza, MD, FAAP
Professor of Pediatrics
Tucson, Arizona

Beth M. Roemer, MPH
Senior Director
Kaiser Permanente Institute for
Health Policy
Oakland, California

Keya Sau, MD, PhD
Silver Spring Dermatology
Silver Spring, Maryland

Eric J. Scher, MD
 Chair
 Department of Medicine
 Henry Ford Hospital
 Vice President for Medical Education
 Henry Ford Health System
 Detroit, Michigan

Kenneth I. Shine, MD
 Professor of Medicine
 Dell Medical School
 University of Texas
 Austin, Texas

David Squire, MD
 Assistant Dean, Finance
 University of Utah
 School of Dentistry
 Salt Lake City, Utah

D. Keith Watson, DO
 President
 Pacific Northwest University of
 Health Sciences
 Administration, Iron Horse Lodge
 Yakima, Washington

Statutory Members

Assistant Secretary for Health
 Administrator, Centers for Medicare and
 Medicaid Services
 Chief Medical Officer, Department of
 Veterans Affairs

Designee of the Assistant Secretary for Health

J. Nadine Gracia, MD, MSCE
 Deputy Assistant Secretary for Minority
 Health
 Director, Office of Minority Health
 U.S. Department of Health and Human
 Services
 Rockville, Maryland

Designee of the Administrator of the Centers for Medicare and Medicaid Services

Miechal Lefkowitz
 Technical Advisor, Division of Acute Care
 Centers for Medicare and Medicaid
 Services
 Baltimore, Maryland

Designee of the Chief Medical Director of the Department of Veterans Affairs

Karen M. Sanders, MD
 Deputy Chief Academic Affiliations
 Officer
 Veterans Health Administration
 810 Vermont Avenue, NW.
 Washington, District of Columbia

Federal Staff

Candice Chen, MD, MPH
Director
Division of Medicine and Dentistry
Bureau of Health Workforce
Health Resources and Services
Administration
U.S. Department of Health and Human
Services
Rockville, Maryland

Joan Weiss, PhD, RN, CRNP, FAAN
Designated Federal Officer
Division of Medicine and Dentistry
Bureau of Health Workforce
Health Resources and Services
Administration
U.S. Department of Health and
Human Services
Rockville, Maryland

Kennita R. Carter, MD
Senior Advisor
Division of Medicine and Dentistry
Bureau of Health Workforce
Health Resources and Services
Administration
U.S. Department of Health and
Human Services
Rockville, Maryland

Crystal Straughn
Writer/Editor
Division of Medicine and Dentistry
Bureau of Health Workforce
Health Resources and Services
Administration
U.S. Department of Health and
Human Services
Rockville, Maryland

Raymond J. Bingham, MSN, RN
Writer/Editor
Division of Medicine and Dentistry
Bureau of Health Workforce
Health Resources and Services
Administration
U.S. Department of Health and
Human Services
Rockville, Maryland

Acknowledgements

COGME would like to acknowledge the University of Washington Health Workforce Research Center (UW HWRC), and the Division of Health Careers and Financial Support and the National Center for Health Workforce Analysis (NCHWA) of the Health Resources and Services Administration (HRSA), for their contributions to this resource paper.

The UW HWRC is funded through NCHWA under a Cooperative Agreement for a Regional Center for Health Workforce Studies (#U81HP27844). Under this cooperative agreement, they provided a rapid response brief on *Facilitating Racial and Ethnic Diversity in the Health Workforce*. The authors of this brief include:

Cyndy R. Snyder, PhD
Research Scientist
University of Washington School of Medicine

Bert Stover, PhD
Research Scientist
University of Washington School of Medicine

Sue Skillman, MS
Deputy Director, Center for Health Workforce Studies
University of Washington School of Medicine

Bianca K. Frogner, PhD
Director, Center for Health Workforce Studies
University of Washington School of Medicine

Language and select tables from their brief have been directly integrated into this resource paper. However, their full brief with a comprehensive description of their methods, additional analyses, and discussion is available at:

http://depts.washington.edu/uwrhrc/uploads/FINALREPORT_Facilitating%20Diversity%20in%20the%20Health%20Workforce_7.8.2015.pdf

HRSA's Division of Health Careers and Financial Support administers the Title VII Health Workforce Diversity Programs. Staff from this Division and from NCHWA provided updates on the Title VII, Part B, programs to the Council during their meeting in May 2015, and provided additional support in the development of this resource paper.

Executive Summary

On May 21, 2015, the Council on Graduate Medical Education (COGME) met to discuss programs of the Health Resources and Services Administration (HRSA) that support diversity in the health workforce. As part of its charge, COGME provides oversight and recommendations on Title VII, Part B, of the Public Health Service (PHS) Act, which focuses on health professions training for diversity and includes the Centers of Excellence, Scholarships for Disadvantaged Students, the Health Careers Opportunity Program, and the Faculty Loan Repayment Program. COGME is required by statute to:

- 1) Develop, publish, and implement performance measures for programs under Title VII, Part B of the PHS Act;
- 2) Develop and publish guidelines for longitudinal evaluations for programs under Title VII, Part B of the PHS Act; and
- 3) Recommend appropriation levels for programs under Title VII, Part B of the PHS Act.

COGME received updates on HRSA's health professions training for diversity programs, including recent changes to the programs, funding levels, and performance measures. Racial and ethnic diversity in the health workforce is critical to developing a better health care system that promotes access to quality health care for all. Despite significant public and private investment, improving the diversity of the physician workforce remains a challenge, and there is a lack of evidence regarding which programs are most effective. In support of the goal of promoting diversity in the physician workforce, COGME makes the following two recommendations:

Recommendation 1: Investments should be made in the longitudinal evaluation of health professions training for diversity programs.

Rationale: HRSA has made significant gains in collecting performance measures for its health professions training programs. However, performance measures are generally limited to short-term outcomes. As diversity programs often include investments in the educational pipeline that can precede entry into and success in health professions careers by many years, longitudinal evaluation is critical to understand the full impact of these programs.

Recommendation 2: An evidence base should be developed to understand which programs are the most effective in supporting diversity in the health professions.

Rationale: Greater diversity in the health workforce is critical to improve health care delivery for an increasingly diverse population. Investments in health professions training for diversity programs are critical for achieving diversity in the workforce and should be continued. However, there are significant evidence gaps for the effectiveness of these programs, such as data on graduation rates, that limit the ability of policy-makers and educators to match interventions with community needs, determine appropriate investments in programs, and maximize limited resources. Quantitative data should be obtained to document success rates and allow year-to-year comparisons of the effectiveness of each program.

Background

Racial and ethnic diversity among health professionals has been shown to promote better access to healthcare and improved healthcare quality for underserved populations, and to better meet the health needs of an increasingly diverse population.^{1,2,3} In particular, a 2006 HRSA report found that efforts to promote workforce diversity through programs that enhance educational opportunities for underrepresented minority (URM) students could lead to improved public health through “greater access to care for underserved populations and better interpersonal interactions between patients and health professionals.”^{2, p. 19} Yet, racial and ethnic minorities remain underrepresented in certain health professions despite efforts to increase the diversity of the healthcare workforce.^{4,5,6} Several barriers to achieving a more diverse health workforce have been documented including cost, academic preparation, unwelcoming campus climates, and lack of social and emotional support.⁶

COGME’s own 17th Report, released in 2005, addressed the issue of *Minorities in Medicine* and made recommendations for strengthening the pipeline to medical school, strengthening upstream efforts in medical training, and ensuring cultural competence in medicine.⁷ Since the 17th Report, continuing investments have been made to improve diversity in the health workforce. This resource paper from COGME provides an update on the progress of and the evidence base for programs that aim to improve the diversity of the health workforce.

Update on the Diversity of the Health Workforce

Two recent reports summarized the current racial and ethnic mix of the health workforce. First, a 2015 report from the National Center for Health Workforce Analysis (NCHWA) showed that the racial and ethnic mix of the health workforce varied considerably by occupation, with a higher share of minorities among the lower skilled assistant, aide, and other healthcare support occupations.⁸ Second, a Joint Center report by Frogner and Spetz in 2013 identified occupations by health industry with the highest shares of minorities, also noting a predominance of minorities in lower skilled occupations, including direct and indirect care jobs. The authors then attempted to project the future racial and ethnic mix of the health workforce.⁹

This COGME resource paper draws on healthcare workforce diversity information provided by the University of Washington Health Workforce Research Center (UW HWRC). Using data from the American Community Survey (ACS), an annual nationally representative household survey conducted by the U.S. Census Bureau, a research team at UW HWRC examined changes to the racial and ethnic mix of the health workforce over the decade from 2004 to 2013. They used single year 1% samples of the ACS Integrated Public Use Microdata Series-USA (IPUMS-USA) database, which has harmonized data for consistency across these sample years (IPUMS-USA, University of Minnesota, www.ipums.org), and focused on a selected set of 41 health occupations from the ACS using the 2000 Standard Occupational Classification (SOC) system.

Key Findings

In 2013, the health workforce as a whole had greater racial diversity than the U.S. population. Among non-Hispanics, the health workforce had a higher share of African Americans (18.2%) and Asian/Pacific Islanders (8.1%), and a lower share of Whites (70.9%), when compared to the U.S. population, (14.8%, 6.2%, and 75.3%, respectively). However, the health workforce had a considerably lower share of Hispanics (10.9% vs. 17.1%) compared to the U.S. population.

From 2004 to 2013, the health workforce increased in diversity, although the physician workforce saw minimal advances in diversity. In particular, African Americans saw the largest gain in share of the health workforce (16.9% in 2004 to 18.2% in 2013), which was a larger increase as compared to the U.S. population trends (14.0% in 2004 to 14.8% in 2013). Hispanics gained increased representation in the health workforce (8.5% in 2004 to 10.9% in 2013), though at a slightly slower rate as compared to the U.S. population (14.2% in 2004 to 17.1% in 2014). The racial and ethnic mix of the U.S. population generally reflects the racial and ethnic mix of the overall labor force, with a slight underrepresentation of Hispanics in part due to the slightly younger age skew of this demographic.

As noted in earlier reports, the racial and ethnic mix varies considerably by occupation. Tables 1 and 2 show the diversity of the workforce by occupation in 2013, as well as the change from 2004. In Table 1, the five most racially diverse health occupations were *Nursing, Psychiatric, and Home Health Aides* (53.9% White Non-Hispanics), *Personal and Home Care Aides* (57.6%), *Miscellaneous Health Technologists and Technicians* (65.0%), *Licensed Practical Nurses and Licensed Vocational Nurses* (66.2%), and *Social Workers* (67.0%). In Table 2, the five occupations in which Hispanics are most represented are *Dental Assistants* (20.7% Hispanic), *Medical Assistants and Other Healthcare Support Occupations* (20.3%), *Personal and Home Care Aides* (18.6%), *Medical, Dental, and Ophthalmic Laboratory Technicians* (14.1%), and *Opticians, Dispensing* (14.1%). In 2013, the physician and surgeon workforce was 70.6% White Non-Hispanic, 10% Hispanic, 5.8% African American, and 0.1% American Indian/Alaskan Native; and only small gains were seen in African American physicians (1.1 percentage points from 2004 to 2013). Slightly greater gains were seen for Hispanic physicians (3.7 percentage points). American Indian/Alaskan Native physicians saw a decrease of 0.1 percentage points.

More information on the University of Washington's methods and analysis, including an analysis on annual rates of change in race and ethnic participation in each occupation over the 10-year period, is available in their full report at:

http://depts.washington.edu/uwrhrc/uploads/FINALREPORT_Facilitating%20Diversity%20in%20the%20Health%20Workforce_7.8.2015.pdf

Table 1: Racial Distribution of Non-Hispanics in Selected Health Occupations in 2013 and Change from 2004

	WHITE		AFRICAN-AMERICAN		ASIAN/PACIFIC ISLANDER		AMERICAN INDIAN/ALASKAN NATIVE		MIXED RACE	
	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004
PHYSICIANS AND SURGEONS	70.6	-4.5	5.8	1.1	21.4	2.5	0.1	-0.1	2.1	1.1
VETERINARIANS	93.8	0.4	1.6	-1.3	3.5	-0.1	0.0	0.0	1.1	1.1
SPEECH-LANGUAGE PATHOLOGISTS	92.8	-0.8	3.6	0.8	2.0	0.3	0.3	0.3	1.3	-0.5
CHIROPRACTORS	92.4	3.1	1.2	-2.2	3.8	-3.6	0.4	0.4	2.3	2.3
AUDIOLOGISTS	91.9	-2.7	1.8	-0.9	4.4	4.4	0.4	0.4	1.5	-1.3
OCCUPATIONAL THERAPISTS	89.7	2.0	3.9	-1.4	5.6	0.2	0.0	-0.6	0.7	-0.3
DENTAL HYGIENISTS	88.6	-6.4	4.9	3.0	4.9	2.8	0.0	-0.4	1.6	1.0
EMERGENCY MEDICAL TECHNICIANS AND PARAMEDICS	88.5	-2.3	5.7	1.7	3.0	1.4	0.5	-1.8	2.3	1.0
PSYCHOLOGISTS	88.2	-2.2	5.3	-0.8	4.1	2.2	0.1	-0.1	2.4	1.0
OCCUPATIONAL THERAPIST ASSISTANTS AND AIDES	88.1	8.4	9.0	1.0	2.3	-10.0	0.3	0.3	0.3	0.3
OPTICIANS, DISPENSING	85.8	-3.8	7.4	0.5	4.7	2.5	1.1	1.1	1.0	-0.4
OPTOMETRISTS	84.6	-2.5	1.5	-0.3	11.7	0.8	1.0	1.0	1.2	0.9
PHYSICAL THERAPIST ASSISTANTS AND AIDES	84.3	-0.1	8.0	-2.9	5.1	0.7	0.8	0.5	1.9	1.9
RADIATION THERAPISTS	83.1	8.1	10.3	-7.9	4.2	-2.7	0.0	0.0	2.4	2.4
PODIATRISTS	82.8	-6.3	6.8	0.4	9.4	4.8	0.0	0.0	1.0	1.0
PHYSICAL THERAPISTS	82.4	-1.2	3.8	-1.5	11.7	2.2	0.1	-0.1	1.9	0.6
OTHER HEALTHCARE PRACTITIONERS AND TECHNICAL OCCUPATIONS	81.4	-0.8	11.1	-2.9	4.2	2.6	0.5	0.3	2.8	0.8
DIAGNOSTIC RELATED TECHNOLOGISTS AND TECHNICIANS	81.0	-5.2	11.0	3.5	5.7	0.8	0.4	-0.5	2.0	1.4
RECREATIONAL THERAPISTS	80.8	2.3	16.2	-3.5	2.9	2.9	0.0	-0.9	0.0	-0.9
DENTAL ASSISTANTS	79.9	-1.4	9.0	-2.2	7.2	2.2	0.8	-1.0	3.1	2.5

	WHITE		AFRICAN-AMERICAN		ASIAN/PACIFIC ISLANDER		AMERICAN INDIAN/ALASKAN NATIVE		MIXED RACE	
	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004
PHYSICIAN ASSISTANTS	79.5	1.2	9.1	-5.6	8.5	2.8	1.0	0.9	1.9	0.7
MASSAGE THERAPISTS	79.5	-9.4	7.8	2.5	8.7	5.1	1.0	0.7	3.0	1.1
MEDICAL AND HEALTH SERVICES MANAGERS	78.0	-3.5	14.2	2.9	6.0	1.4	0.3	-0.5	1.6	-0.4
REGISTERED NURSES	77.7	-4.7	11.1	2.3	9.1	1.7	0.4	0.0	1.7	0.8
DENTISTS	77.6	-5.9	3.7	-0.9	16.9	6.2	0.1	-0.5	1.7	1.2
THERAPISTS, ALL OTHER	77.4	-9.0	13.3	5.2	6.8	2.9	0.4	-0.1	2.0	1.0
MEDICAL, DENTAL, AND OPHTHALMIC LABORATORY TECHNICIANS	76.0	-3.6	7.6	-2.6	12.7	4.8	0.7	0.7	3.0	0.7
RESPIRATORY THERAPISTS	75.6	-4.8	13.8	1.8	8.8	3.8	0.2	-0.2	1.6	-0.6
DIETITIANS AND NUTRITIONISTS	75.6	3.2	16.1	-1.1	6.2	-1.8	0.4	-1.5	1.8	1.2
HEALTH DIAGNOSING AND TREATING PRACTITIONERS, ALL OTHER	74.7	20.4	2.5	2.5	21.4	-23.1	0.2	-0.4	1.2	0.7
HEALTH DIAGNOSING AND TREATING PRACTITIONER SUPPORT TECHNICIANS	74.2	-4.6	14.6	2.4	8.4	2.3	0.5	-0.5	2.3	0.4
PHARMACISTS	72.4	-8.5	6.8	0.8	18.7	6.9	0.1	0.0	2.0	0.8
MEDICAL ASSISTANTS AND OTHER HEALTHCARE SUPPORT OCCUPATIONS	71.3	-3.2	19.5	1.6	6.3	0.6	0.6	0.2	2.3	0.7
COUNSELORS	71.2	-2.1	23.1	1.1	2.6	0.4	0.9	0.1	2.3	0.5
MEDICAL RECORDS AND HEALTH INFORMATION TECHNICIANS	70.7	-3.9	19.6	1.2	6.5	2.0	0.9	-0.4	2.3	1.0
CLINICAL LABORATORY TECHNOLOGISTS AND TECHNICIANS	68.5	-1.9	15.8	-1.9	13.2	2.6	0.3	-0.1	2.2	1.3
SOCIAL WORKERS	67.0	-2.4	25.8	0.3	3.6	0.5	1.0	0.2	2.6	1.5
LICENSED PRACTICAL AND LICENSED VOCATIONAL NURSES	66.2	-5.3	26.6	2.7	4.7	1.8	0.7	-0.1	1.9	0.9

	WHITE		AFRICAN-AMERICAN		ASIAN/PACIFIC ISLANDER		AMERICAN INDIAN/ALASKAN NATIVE		MIXED RACE	
	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004	2013	CHANGE FROM 2004
MISCELLANEOUS HEALTH TECHNOLOGISTS AND TECHNICIANS	65.0	-5.5	24.1	0.0	7.4	3.2	0.7	0.6	2.9	1.7
PERSONAL AND HOME CARE AIDES	57.6	-6.1	28.2	1.6	10.2	4.0	1.4	0.1	2.6	0.4
NURSING, PSYCHIATRIC, AND HOME HEALTH AIDES	53.9	-3.0	37.3	0.5	5.5	1.8	1.0	0.0	2.4	0.7

Table 2: Percentage of Hispanics in Selected Health Occupations in 2013 and Change from 2004

HISPANIC		
	2013 (%)	% CHANGE FROM 2004
PHYSICIANS AND SURGEONS	10.0	3.7
VETERINARIANS	2.1	0.8
PHYSICAL THERAPISTS	2.8	-6.1
OCCUPATIONAL THERAPIST ASSISTANTS AND AIDES	3.5	-1.5
DIETITIANS AND NUTRITIONISTS	3.5	-2.8
THERAPISTS, ALL OTHER	3.6	2.1
OPTOMETRISTS	3.7	-0.6
SOCIAL WORKERS	4.2	-0.6
AUDIOLOGISTS	4.6	-0.4
REGISTERED NURSES	5.0	5.0
OCCUPATIONAL THERAPISTS	5.1	0.9
RADIATION THERAPISTS	5.3	-13.4
PODIATRISTS	5.5	1.5
PHARMACISTS	6.5	0.3
RESPIRATORY THERAPISTS	6.5	2.6
MEDICAL AND HEALTH SERVICES MANAGERS	6.7	1.8
CHIROPRACTORS	7.2	3.5
RECREATIONAL THERAPISTS	7.9	0.8
HEALTH DIAGNOSING AND TREATING PRACTITIONER SUPPORT TECHNICIANS	8.0	3.1
DENTISTS	8.1	5.6
PHYSICIAN ASSISTANTS	8.3	8.3
LICENSED PRACTICAL AND LICENSED VOCATIONAL NURSES	8.7	1.5
OTHER HEALTHCARE PRACTITIONERS AND TECHNICAL OCCUPATIONS	9.6	4.7
PHYSICAL THERAPIST ASSISTANTS AND AIDES	9.7	0.1
SPEECH-LANGUAGE PATHOLOGISTS	10.2	6.9
DIAGNOSTIC RELATED TECHNOLOGISTS AND TECHNICIANS	10.3	-0.5
HEALTH DIAGNOSING AND TREATING PRACTITIONERS, ALL OTHER	10.5	2.1
CLINICAL LABORATORY TECHNOLOGISTS AND TECHNICIANS	10.5	4.8
MISCELLANEOUS HEALTH	10.6	-3.8

HISPANIC		
	2013 (%)	% CHANGE FROM 2004
TECHNOLOGISTS AND TECHNICIANS		
DENTAL HYGIENISTS	10.8	1.7
MASSAGE THERAPISTS	11.1	5.6
PSYCHOLOGISTS	11.4	2.3
COUNSELORS	11.8	1.1
EMERGENCY MEDICAL TECHNICIANS AND PARAMEDICS	13.5	2.4
MEDICAL RECORDS AND HEALTH INFORMATION TECHNICIANS	13.5	2.7
NURSING, PSYCHIATRIC, AND HOME HEALTH AIDES	13.6	2.2
OPTICIANS, DISPENSING MEDICAL, DENTAL, AND OPHTHALMIC LABORATORY TECHNICIANS	14.1	6.1
PERSONAL AND HOME CARE AIDES	18.6	1.6
MEDICAL ASSISTANTS AND OTHER HEALTHCARE SUPPORT OCCUPATIONS	20.3	6.3
DENTAL ASSISTANTS	20.7	2.5

Overview of Title VII Health Workforce Diversity Programs

On May 21, 2015, COGME met to discuss programs of HRSA that support diversity in the health workforce. As part of its charge, COGME provides oversight and recommendation on Title VII, Part B of the PHS Act, which focuses on health professions training for diversity and includes the Centers of Excellence (COE), Scholarships for Disadvantaged Students (SDS), the Health Careers Opportunity Program (HCOP), and the Faculty Loan Repayment Program (FLRP). COGME supports the goal of developing a physician workforce that mirrors the population as a whole. COGME is required by statute to:

- 1) Develop, publish, and implement performance measures for programs under Title VII, Part B of the PHS Act;
- 2) Develop and publish guidelines for longitudinal evaluations for programs under Title VII, Part B of the PHS Act; and
- 3) Recommend appropriation levels for programs under Title VII, Part B of the PHS Act.

The section below provides an overview of the Title VII Health Workforce Diversity Programs, including fiscal year (FY) 2015 funding.

Centers of Excellence

The purpose of the COE program is to strengthen the national capacity to produce a healthcare workforce whose racial and ethnic diversity is representative of the U.S. population. The COE program provides grants to health professions schools and other public and nonprofit health or educational entities that meet the eligibility requirements and serve to increase the supply and competence of URM practitioners in the health professions workforce. Funds support programs of excellence that enhance the academic performance of URM students, promote URM faculty development, and facilitate research on minority health issues. Awardees include: (a) COEs at four designated Historically Black Colleges and Universities (HBCUs), (b) Hispanic COEs, (c) Native American COEs, and d) Other COEs. In FY 2015, the COE programs for the four HBCUs designated in the statute were recompeted. The funding opportunity announcement (FOA) focused on:

1. Increasing the number of underrepresented minority students who receive clinical training by 20% over the three year project period.
2. Implementing opportunities for interprofessional training among students and health professionals.
3. Facilitating faculty-student research that is centered on minority health issues in the United States.
4. Establishing an inter-institutional resource network between the four HBCUs.

In FY 2015, the COE program received an annual appropriation of \$21,711,000, and awarded 17 grants.

Scholarships for Disadvantaged Students

The purpose of the SDS is to increase workforce diversity in nursing and other health professions. SDS provides grants to eligible nursing and health professions schools for use in awarding scholarships to students from disadvantaged backgrounds who have financial need, many of whom are URM students. SDS aims to increase: 1) the number of graduates practicing in primary care, 2) enrollment and retention of URM students, and 3) the number of graduates working in medically underserved communities.

In Academic Year 2013-2014, SDS provided scholarships to 4,913 students from disadvantaged backgrounds. In FY 2015, the SDS program received an annual appropriation of \$45,970,000.

Health Careers Opportunity Program

The purpose of HCOP is to increase the diversity of the non-nursing health professions workforce by providing grants that improve the recruitment into the health professions and enhance the academic preparation of students from economically and educationally disadvantaged backgrounds. HCOP grants focus on three key milestones of education:

1. graduation from high school
2. graduation from college
3. completion of a health professions degree program.

HCOP aims to: 1) promote the recruitment of qualified individuals from educationally or economically disadvantaged backgrounds, including non-traditional students and veterans, into health and allied health professions programs; 2) improve retention and matriculation rates by implementing tailored enrichment programs designed to address the academic and social needs of disadvantaged trainees; and 3) provide opportunities for community-based health professions training, emphasizing experiences in underserved communities.

In FY 2015, HCOP was redesigned to direct grantees to focus on specific entry points along a shorter educational pipeline beginning in the latter years of high school. Applicants were required to address the academic and social support needs of one or more of the following target populations from disadvantaged backgrounds at one of the following educational levels: rising high school juniors/seniors, undergraduate freshman and/or sophomores enrolled in two year programs, undergraduate baccalaureate students in their 2nd, 3rd, or 4th year, adult/non-traditional students (including veterans), and health professions degree students.

In FY 2015, HCOP received an annual appropriation of \$14,189,000 and awarded 17 grants.

Faculty Loan Repayment Program

The FLRP supports careers for health professions educators from disadvantaged backgrounds, and is vital for preparing the next generation of health care professionals to serve in communities in need. FLRP offers loan repayment assistance for health profession graduates from disadvantaged backgrounds who serve as faculty at an eligible health professions college or university for a minimum of two years. In return, the Federal Government agrees to pay up to \$20,000 of the outstanding principal and interest on the individual's health professions education loans for each year of service. The employing institution must also make payments to the faculty member that match the principal and interest amount paid by the U.S. Department of Health and Human Services (HHS) for each year in which the recipient serves as a faculty member, although the Secretary may waive this matching requirement if the Secretary determines it will impose an undue financial hardship.

In FY2015, FLRP received an annual appropriation of \$1,190,000, and made 21 new loan repayment awards.

Health Workforce Diversity Programs: Review of the Evidence

Previous studies by HRSA have examined the impact of diversity programs in the health workforce.

HRSA and the Office of Public Health and Science

In 2009, HRSA and the Office of Public Health and Science (OPHS) of HHS conducted a study to explore evidence for health workforce diversity pipeline programs. The report noted that, while more rigorous evaluation is needed, summer enrichment programs and academic support programs are promising interventions to improve academic performance and increase interest and enrollment in health profession programs.¹⁰ The report concluded by stating, "high quality studies suggest that pipeline program interventions can exert a meaningful, positive effect on student outcomes."^{10, p. 37}

National Center for Health Workforce Analysis: State of the Evidence

In 2015, NCHWA sent a rapid response request to UW HWRC to summarize the state of the evidence on efforts to recruit and retain a racially and ethnically diverse health workforce. In response, UW HWRC conducted literature searches on the PubMed and the Educational Resources Information Center online databases. In addition, a search of the grey literature was conducted via internet search engines, organization websites, and the Grey Literature Report in Public Health (<http://www.greylit.org/>). Articles and reports were selected for review if they met the following criteria: (1) published between 2010 and 2015, (2) described an intervention (program, effort, change) specifically designed to target and increase racial and ethnic diversity in the health professions, and (3) focused on evaluating a program/intervention or provided some

outcome data related to how effective the program was at meeting its intended goals and contributing to the diversity of the health professions. This section summarizes the state of the evidence from the peer-review and grey literature over the past five years on the effectiveness of pipeline programs that seek to recruit and retain minorities into the health workforce. Table 3 briefly summarizes the evidence for each type of program that was identified and met the criteria. While additional example programs may exist, the table focuses on those identified in through the literature search.

Similar to the 2009 HRSA and OPHS study, the UW HWRC study found that many published articles were primarily descriptive in nature, focusing on components of the program and theory underlying the program with little emphasis on evaluation or demonstrating effectiveness. When data were provided, most reported participant demographics or general enrollment and graduation rates of racial and ethnic minorities at their institution. A majority of the evaluated programs were at the undergraduate level with the intent to create a pathway of support and encouragement for students to pursue health professions.

This study found that the professions with the most recent evaluation studies included medicine and dentistry. The emphasis on dental schools could be explained by the Robert Wood Johnson Foundation (RWJF) and California Endowment's initiative, "Pipeline, Profession, and Practice: Community-Based Dental Education" (Dental Pipeline Program). This initiative focused on increasing underrepresented minorities in dental schools and outlined a comprehensive evaluation plan for grantees. The Dental Pipeline Program was in place from 2001-2010. Many subsequent reports after 2010 highlighted the success of individual programs and may have sparked additional interest in diversity in dentistry.

A significant body of literature focuses on approaches to recruit and retain racially and ethnically diverse students at the undergraduate level, with an increasing emphasis on the Science, Technology, Engineering, and Math (STEM) fields. Such efforts include: financial support, academic support such as supplemental instruction and academic enrichment programs, summer bridge transitional programs for entering freshmen, social support such as student organizations and clubs, building a more inclusive campus climate, recruiting a more diverse faculty, mentoring programs, targeted recruitment, collaborative school partnerships, and holistic admissions programs that account for each student's experiences and attributes and not just grade point average and test scores.

At the graduate and professional levels, a small body of literature has evaluated the efforts to recruit and retain racially and ethnically diverse students particularly in the health professions (e.g., medicine, dentistry, nursing, pharmacy, physician assistant, and behavioral health). The efforts discussed in the literature at the graduate and professional level are similar to those at the undergraduate level, and include mentoring, financial assistance, holistic admissions, targeted recruitment, and career development opportunities. For about half of the programs, at least one or two studies were found in the last five years that provided empirical evidence, but the other

half had limited or no evidence in the peer-review or publicly available grey literature. An important aspect of these promising programs is that many are *multifaceted and comprehensive*, employing a combination of interventions such as financial supports, social supports, mentoring, and intensive training opportunities. A few promising examples are provided below.

Promising Programs in Promoting Health Workforce Diversity

Research and evaluation suggest that *targeting recruitment and restructuring admissions policies to be more holistic and comprehensive* are promising practices to increase the number of racially and ethnically diverse students who apply and are admitted to health profession schools. An evaluation of the RWJF's Dental Pipeline Program used a quasi-experimental design to compare outcomes from the Pipeline schools with those from non-Pipeline schools. The study found that strategic outreach to underrepresented populations and changing admissions procedures were commonly used approaches among participating schools, which resulted in an increase in applications from and enrollment of URM students at all fifteen participating institutions.¹¹ Institutional level case studies of admissions models also support the idea that restructuring the admissions process to be more holistic was useful in recruiting and admitting more racial and ethnic minorities.¹²

There is also promising evidence that *summer enrichment programs* are useful in facilitating entry to health professional schools. The RWJF's Summer Medical and Dental Education Program (SMDEP) was designed to increase the number of students from underrepresented backgrounds who become physicians and dentists. Mathematica Policy Research produced an evaluation of the RWJF SMDEP in 2015 using mixed methods including a quasi-experimental design to assess the impact of the program on student recruitment, education outcomes, career trajectories, and institutional culture, and to identify key components of success. The evaluation found that more than half of participants applied to medical or dental school and over a third matriculated. Additionally, SMDEP participants were more likely than non-participants to apply to and matriculate in either medical or dental schools.¹³

Curriculum change and enhanced program offerings are also promising practices that have increased the level of interest in health professions and application to health professional schools. Bailey and colleagues studied the impact of offering a program that trains physicians to work in underserved communities on applications from underrepresented minority students and found URM students were more likely than non-underrepresented minority students to indicate interest in that specific program.¹⁴ The Dental Pipeline Program also focused heavily on changing curriculum to be more community-based in the hopes of recruiting a more diverse student population. Vela and colleagues conducted a survey to assess impact of a health disparities course in the medical school curriculum on recruitment of underrepresented minority students at the University of Chicago. They found that URM students were more likely than non-underrepresented minority students to report that the existence of the course influenced their decision to attend that specific school.¹⁵

Table 3: Evidence for Effectiveness of Diversity Programs

Type of Program	Evidence for Effectiveness of Program Type	Example Programs
Comprehensive Programs (programs that offer a combination of interventions)	<ul style="list-style-type: none"> – Undergraduates in a comprehensive program that incorporates academic support, mentoring, and social supports had higher acceptance rates to medical school than non-participants^{16*} – Undergraduates in a comprehensive training program that incorporates coursework, advising, mentoring, and practicum experiences was correlated with increase interest and confidence in future career in Maternal and Child Health career¹⁷ – Dental students in a comprehensive program that incorporates advising, tutoring, psychological counseling, extended curriculum and peer support had retention rates higher than the school average¹⁸ – Undergraduate students who participated in a comprehensive program that incorporated summer institute, targeted recruitment, and internships reported the program influenced their decision to pursue a career as a cancer researcher¹⁹ – Participation in a comprehensive post-baccalaureate program resulted in improved DAT scores, acceptance to dental schools, and graduation rates higher than the national average for dental schools^{20*} 	<p>UCSF Interprofessional Health Post-Baccalaureate Certificate Program**</p> <p>Undergraduate Science Students Together Reaching Instructional Diversity and Excellence (USSTRIDE)</p> <p>Pathways for Students into Health Professions at UCLA***</p> <p>Bridge to Dentistry at TAMHSC-Baylor College of Dentistry**</p> <p>Pipeline, Profession, and Practice: Community-Based Dental Education (RWJF funded)</p>
Targeted recruitment	<ul style="list-style-type: none"> – Deliberate recruitment activities help programs meet diversity goals in health profession graduate programs²¹ – URM specific recruiters correlated with higher URM student enrollment in PA programs^{22*} – Comprehensive, targeted, recruitment and admissions program led to higher than average enrollment of URM students into dental school¹² 	<p>Bridge to Dentistry at TAMHSC Baylor College of Dentistry**</p>

Type of Program	Evidence for Effectiveness of Program Type	Example Programs
Holistic Admissions Review/Redesigned Admissions Process	<ul style="list-style-type: none"> – Employing a more holistic admissions process increased applications and admission offers for URM dental students^{11,12} (RWJF 2013) 	<p>Pipeline, Profession, and Practice: Community-Based Dental Education</p> <p>Bridge to Dentistry at TAMHSC-Baylor College of Dentistry**</p>
Summer Enrichment	<ul style="list-style-type: none"> – Summer Math and Dental Education program participants were more likely to apply to and matriculate in dental school than non-participants^{13*} – Summer enrichment programs focused on preparing for the Dental Admissions Test (DAT) led to significant improvements in DAT scores among disadvantaged students^{23*} – Undergraduates in an intensive summer program that incorporates academic coursework, test prep, tutoring, and social activities had higher than average medical school graduation rates^{24*} 	<p>Summer Medical and Dental Education Program (SMDEP; RWJF funded)</p> <p>Profile for Success (PFS) Program at the University of Michigan School of Dentistry***</p> <p>Medical Education Development program at University of North Carolina</p>
Curriculum Revision	<ul style="list-style-type: none"> – URM students more likely to express interest in program that prepares them to work with underserved communities¹⁴ – URM students more likely than non-URM students to report that the inclusion of a health disparities course in the medical school curriculum influenced their decision to attend that particular medical school^{15*} 	<p>UCSD MD-master's degree Program in Medical Education-Health Equity (PRIME-HEq)***Pipeline, Profession, and Practice: Community-Based Dental Education</p>
Research Experiences and Internships	<ul style="list-style-type: none"> – Participating in postsecondary research opportunities may increase the likelihood of pursuing academic faculty career in medicine^{25*} – 97% of undergraduate students in a summer research program for native American 	<p>Research and Mentorship Program (RAMP; NIH Funded program)</p>

Type of Program	Evidence for Effectiveness of Program Type	Example Programs
	<p>students went on to receive a science degree and 50% continued on to graduate programs in science or medical school²⁶</p> <ul style="list-style-type: none"> – Participation in a research and mentoring program increased medical students' research skills, knowledge about career opportunities, and interest in future HIV vaccine research²⁷ – Summer research programs may help undergraduates pursue graduate and profession degrees and become employed in the public health sector²⁸ 	Imhotep at Morehouse
Career and Professional Development	<ul style="list-style-type: none"> – Medical schools with highly intensive minority faculty development programs are associated with increased URM faculty representation^{29*} 	
Mentoring	<ul style="list-style-type: none"> – Faculty mentoring program for psychiatry students promoted scholarship and leadership activities³⁰ – Mentorship from students currently in a dental program increased undergraduate mentees' interest in pursuing oral health related careers³¹ – See also above section on comprehensive programs 	Texas Regional Psychiatry Minority Mentor Network (TRPMMN) Program
Institutional Commitment /Leadership & Dedication of Resources	<ul style="list-style-type: none"> – Developing and implementing a comprehensive strategic plan for diversity increased URM enrollment and URM faculty³² – The establishment of an Office of Recruitment, Development, and Diversity Initiatives in the School of Pharmacy that provided comprehensive recruitment programs helped increase the enrollment of URM students³³ 	Office of Recruitment, Development, and Diversity Initiatives at the UNC Eshelman School of Pharmacy
Academic Support	<ul style="list-style-type: none"> – See above section on comprehensive programs 	

Type of Program	Evidence for Effectiveness of Program Type	Example Programs
Social Support	– See above section on comprehensive programs	
Financial Support	– Included as part of many recruitment and comprehensive programs	Pipeline, Profession, and Practice: Community-Based Dental Education HRSA - Scholarships for Disadvantaged Students (SDS) HRSA - Loans for Disadvantaged Students (LDS)
Community Engagement	– No recent evaluations or assessment	Pipeline, Profession, and Practice: Community-Based Dental Education
Increasing Faculty Diversity	– No recent evaluations or assessment	

* Articles or reports with more robust study designs, including quasi-experimental designs such as pre-post assessments or employ the use of non-participant comparison groups.

** Program was supported by the HRSA Centers of Excellence program.

*** Program was supported by the HRSA Health Careers Opportunity Program.

Other Efforts to Promote Diversity

In addition to the programs discussed above, several organizations and programs examined the issue of diversity in the physician and healthcare workforce. The following are a few examples.

American Academy of Pediatrics Policy Statement: Diversity in the Pediatrician Workforce

In 2013, the American Academy of Pediatrics (AAP) published a policy statement on the need to enhance diversity in the pediatrician work force. According to the AAP, there is a significant racial and ethnic gap between the pediatrician workforce and the patients and families they serve, despite longstanding efforts to increase diversity. The U.S. population is growing increasingly diverse – according to census data almost 45% of children in the country under 19 years of age belong to a racial or ethnic minority group. Evidence has shown that individuals from minority groups experience significant health disparities and more barriers to accessing health care than whites; patient care and patient compliance with medical recommendations improve when patients and physicians share a common background or language; and physicians from URM groups are more likely to practice in underserved communities. Good, high-quality pediatric care can have a particular impact, as it promises to improve patient health and well-being over an entire lifespan. The AAP recommends greater education of physicians in culturally effective health care at every level, from entry into medical school to lifelong learning through continuing education programs. According to the AAP, medical schools should increase efforts to recruit students from underserved areas and populations, and increase the number of bilingual educational opportunities. Medical school curricula and pediatric residencies should include educational programs that address low English proficiency and health literacy among patients.

However, the AAP has also recognized that lack of data impairs the ability of the medical profession to assess the current status of physician workforce diversity, design programs to improve diversity, and measure the effectiveness of these programs. AAP is taking steps to improve data collection through its membership surveys, its annual survey of graduating pediatric residents, a new Pediatrician Life and Career Experience Study, and collaborations with external organizations.³⁴

Association of American Medical Colleges: African American Men in Medical School

A recent report from the Association of American Medical Colleges (AAMC) showed a decline in the number of African American men applying to and enrolled in medical schools from 1978 to 2015. The AAMC characterized this finding as a “discouraging trend.”^{35, p. 6} The medical school learning environment benefits from a student population with diverse experiences and backgrounds. In addition, diversity in the physician workforce is an important factor for improving access to and compliance with care among patients from low-income or ethnic minority backgrounds.³⁵ A National Public Radio segment on the AAMC report explored some of the difficulties African American men face in choosing to enter medicine, including the long

educational path, the expense of medical school compared to other professions, rigid admissions criteria, and a lack of role models. Efforts to attract more African American men into medicine include expanded financial aid, mentoring programs, and more holistic admissions processes. As a current medical student stated, one key to getting more young African American men interested in a career in medicine is to see more black men in white coats.³⁶

As applied to medical school admissions, the AAMC defines holistic review as “a flexible, individualized way of assessing an applicant’s capabilities by which balanced consideration is given to experiences, attributes, and academic metrics.”³⁷ The holistic process encourages admissions officers and committees to consider how each applicant will function, not just as a student, but as a future physician.

In 2014, Urban Universities for HEALTH, with funding from the National Institutes of Health and HRSA, conducted a survey of over 100 public universities that had two or more schools of health professions, including schools of medicine, dentistry, nursing, pharmacy, and public health. The survey found that 91% of medical schools in the United States reported using elements of holistic review in their admissions process. Among all schools surveyed, a majority of those that used holistic admissions processes reported an increase in the diversity of their student body, with at least 90% reporting that the academic quality of their incoming classes, student retention rates, and student academic performance either remained unchanged or improved. In addition, many respondents reported that students were more engaged in community outreach and in serving underserved populations, and that a more diverse student body enriched the learning environment for all students.³⁸

Centers for Disease Control and Prevention: Project Imhotep

One effort to develop a public health workforce reflective of the diversity of the U.S population is Project Imhotep, sponsored by the Centers for Disease Control and Prevention (CDC) Office of Minority Health and Health Equity.

Project Imhotep is an 11-week summer internship program for college juniors and seniors and recent college graduates from URM populations who have an interest in a career in public health service or the health care sciences. Students take classes in public health, statistics, ethics, and science communication, engage in community service, and complete a research internship at CDC or a partner institution. From 1982 to 2010, the Project trained over 480 students, of whom almost two thirds reported current or former employment in health care or the public health sector. While minority populations face a disproportionate burden of disease, most are under-represented among the health care and public health professionals. Pre-professional programs like Project Imhotep are working to expand the educational pipeline for URM students. Research has shown that a health care workforce which more closely represents the population promises to expand access to care, improve health education and communication, and enhance research and policy devoted to promoting health equity and reducing disparities.³⁹

Medicine for the Greater Good Curriculum in Baltimore, MD

The directors of an internal medicine residency program at Johns Hopkins Bayview Medical Center in Baltimore, Maryland, sought ways to help improve the inner city neighborhoods around their hospital, where inhabitants have faced long-term structural racism and contend with poverty, crime, unemployment, environmental toxins, and unhealthy living conditions. Those residing in poorer areas of the city have a significantly shorter life expectancy and lower quality of life compared to those residing in wealthier areas. The directors believed that medical residency programs “have a duty to raise awareness of the socioeconomic determinants of health and to train young physicians to recognize and change the circumstances responsible for poor health outcomes.”⁴⁰ (p. 1999) As a result, they designed a curriculum called *Medicine for the Greater Good (MGG)*, started in 2011, which aims to increase the awareness of medical residents to social and cultural factors that impact the health of their patients, provide them with tools to improve population health, and work to reduce health disparities. The MGG curriculum consists of 12 one-hour workshops on topics including behavioral counseling, epidemiology, health literacy, health policy, interprofessional care, and medical journalism. Residents in this program must also complete at least one community project during their three-year residency, but many have surpassed this level. The residents believe that their work in this curriculum has not only enhanced their medical knowledge and skill, it has improved their ability to communicate with their patients.

As the directors of the Bayview MGG curriculum indicate, physicians have a historical role of addressing issues of social justice, and can influence the health of populations through such measures as improving sanitation, promoting healthy behaviors such as screenings and vaccinations, and reducing exposure to environmental toxins. By addressing socioeconomic, racial, and health disparities, residency training programs such as MGG can enhance the visibility of medical programs and encourage more individuals from URM communities to enter medicine, while increasing the community’s confidence and trust in the health care system and promoting greater health and prosperity for all.⁴⁰

Recommendations and Conclusion

Improving racial and ethnic diversity in the health workforce is a critical step in developing a better health care system that promotes access to quality health care for all. Some areas of health care, particularly the lower skilled occupations such as home health aides and technicians, have made progress in achieving a diverse workforce that reflects the general U.S. population. In other professions, including the physician workforce, achieving diversity remains a challenge. Both public and private institutions are making investments in programs to continue to improve diversity in the health care workforce. However, we have insufficient evidence regarding which programs support best practices and are most effective, and thus policy makers and educators have insufficient information to develop effective programs and maximize investments.

In support of the goal of developing a physician workforce that mirrors the U.S. population, COGME has concluded that better evidence is needed to understand the effectiveness of programs to support diversity in the health workforce. COGME makes the following two recommendations:

Recommendation 1: Investments should be made in the longitudinal evaluation of health professions training for diversity programs.

Rationale: HRSA has made significant gains in collecting performance measures related to diversity for its health professions training programs. However, these performance measures are generally limited to short-term outcomes, while training programs often include investments in the educational pipeline that can precede entry into and success in health professions careers by many years. Longitudinal evaluation is critical to understand the full impact that HRSA's training programs have on promoting diversity in the health workforce.

Recommendation 2: An evidence base should be developed to understand which programs are the most effective in supporting diversity in the health professions.

Rationale: Greater diversity in the health workforce is critical to improve health care delivery for an increasingly diverse population. Investments in health professions training programs that promote inclusion of students from all racial and ethnic backgrounds are critical for diversifying the workforce, and these investments need to continue. However, there are significant evidence gaps, such as data on graduation rates, for the effectiveness of most current programs. These gaps limit the ability of policy-makers and educators to match interventions with community needs, determine appropriate investments in different programs, and maximize limited resources in this critical area. Wherever feasible, quantitative data should be obtained to document success rates and allow year-to-year comparisons of the effectiveness of each program.

Acronym and Abbreviation List

AAMC	Association of American Medical Colleges
AAP	American Academy of Pediatrics
ACS	American Community Survey
CDC	Centers for Disease Control and Prevention
COE	Centers of Excellence
COGME	Council on Graduate Medical Education
FLRP	Faculty Loan Repayment Program
FOA	Funding Opportunity Announcement
FY	Fiscal year
GME	Graduate medical education
HBCUs	Historically Black Colleges and Universities
HCOP	Health Careers Opportunity Program
HHS	U.S. Department of Health and Human Services
HRSA	Health Resources and Services Administration
MGG	Medicine for the Greater Good
NCHWA	National Center for Health Workforce Analysis
OPHS	Office of Public Health and Science
PHS	Public Health Service
RWJF	Robert Wood Johnson Foundation
SDS	Scholarships for Disadvantaged Students
SMDEP	Summer Medical and Dental Education Program
SOC	Standard Occupational Classification
STEM	Science, Technology, Engineering, and Math
URM	Underrepresented minority
UW HWRC	University of Washington Health Workforce Research Center

References

- ¹ Grumbach, K., & Mendoza, R. (2008). Disparities in human resources: addressing the lack of diversity in the health professions. *Health Affairs*, 27(2):413-422.
- ² U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions. (2006). *The rationale for diversity in the health professions: A review of the evidence*. Retrieved from <http://bhpr.hrsa.gov/healthworkforce/reports/diversityreviewevidence.pdf>
- ³ Smedley, B. D., Butler, A. S., & Bristow, L. R. (eds). (2004). *In the nation's compelling interest: Ensuring diversity in the health care workforce*. Washington, DC: National Academies Press.
- ⁴ Agency for Healthcare Research and Quality. (2014). *2013 National healthcare disparities report*. AHRQ Publication No. 14-0006. Retrieved from <http://www.ahrq.gov/sites/default/files/publications/files/2013nhdr.pdf>
- ⁵ Brown, D. J., DeCorse-Johnson, A. L., Irving-Ray, M., & Wu, W. W. (2005). Performance evaluation for diversity programs. *Policy, Politics, & Nursing Practice*, 6(4):331-334.
- ⁶ The Sullivan Commission. (2004). *Missing persons: Minorities in the health professions, a report of the Sullivan Commission on Diversity in the Healthcare Workforce*. Retrieved from <http://www.aacn.nche.edu/media-relations/SullivanReport.pdf>
- ⁷ Council on Graduate Medical Education. (2005). *Minorities in medicine: An ethnic and cultural challenge for physician training. An update*. Retrieved from <http://www.hrsa.gov/advisorycommittees/bhpradvisory/cogme/Reports/seventeenthrrpt.pdf>
- ⁸ U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. (2015). *Sex, race, and ethnic diversity of U.S. health occupations (2010-2012)*. Retrieved from <http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/diversityushealthoccupations.pdf>
- ⁹ Frogner, B., & Spetz, J. (2013). *Affordable Care Act of 2010: Creating job opportunities for racially and ethnically diverse populations*. Retrieved from [http://nationalcollaborative.org/sites/default/files/pictures/Final%20ACA%20Jobs%20Report%20\(1\).pdf](http://nationalcollaborative.org/sites/default/files/pictures/Final%20ACA%20Jobs%20Report%20(1).pdf)
- ¹⁰ U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, & Office of Public Health and Science, Office of Minority Health. (2009, April). *Pipeline programs to improve racial and ethnic diversity in the health professions: An inventory of federal programs, assessment of evaluation approaches, and critical review of the research literature*. Rockville, MD. Retrieved from <http://bhpr.hrsa.gov/healthworkforce/reports/pipelineprogdiversity.pdf>

-
- ¹¹ Brunson, W. D., Jackson, D. L., Sinkford, J. C., & Valachovic, R. W. (2010). Components of effective outreach and recruitment programs for underrepresented minority and low-income dental students. *Journal of Dental Education*, 74(10 Suppl):S74-86.
- ¹² Lacy, E. S., McCann, A. L., Miller, B. H., Solomon, E., & Reuben, J. S. (2012). Achieving student diversity in dental schools: a model that works. *Journal of Dental Education*, 76(5):523-533.
- ¹³ Cosentino, C., Speroni, C., Sullivan, M., & Torres, R. Mathematica Policy Research. (2015). *Impact evaluation of the RWJF Summer Medical and Dental Education Program (SMDEP)*. Retrieved from Mathematica Policy Research website: http://www.mathematica-mpr.com/~media/publications/pdfs/education/smdep_impacteval.pdf
- ¹⁴ Bailey, J. A., & Willies-Jacobo, L. J. (2012). Are disadvantaged and underrepresented minority applicants more likely to apply to the program in medical education-health equity? *Academic Medicine*, 87(11):1535-1539.
- ¹⁵ Vela, M. B., Kim, K. E., Tang, H., & Chin, M. H. (2010). Improving underrepresented minority medical student recruitment with health disparities curriculum. *Journal of General Internal Medicine*, 25 Suppl 2:S82-85.
- ¹⁶ Campbell, K. M., Berne-Anderson, T., Wang, A., Dormeus, G., & Rodriguez, J. E. (May 23, 2014). USSTRIDE program is associated with competitive Black and Latino student applicants to medical school. *Medical Education Online*, 19:24200. DOI: 10.3402/meo.v19.24200.
- ¹⁷ Guerrero, A. D., Holmes, F. J., Inkelas, M., Perez, V. H., Verdugo, B., & Kuo, A. A. (2015). Evaluation of the pathways for students into health professions: the training of underrepresented minority students to pursue maternal and child health professions. *Maternal and Child Health Journal*, 19(2):265-270.
- ¹⁸ Lacy, E. S., Miller, B. H., Hornback, S. A., McCann, A. L., & Reuben, J. S. (2011). Retention of underrepresented minority students in dental school: One dental school's story. *Journal of the American College of Dentists*, 78(4):40-47.
- ¹⁹ Pasick, R. J., Kagawa-Singer, M., Stewart, S. L., Pradhan, A., & Kidd, S. C. (2012). The Minority Training Program in Cancer Control Research: Impact and outcome over 12 years. *Journal of Cancer Education*, 27(3):443-449.
- ²⁰ Wides, C. D., Brody, H. A., Alexander, C. J., Gansky, S. A., & Mertz, E. A. (2013). Long-term outcomes of a dental postbaccalaureate program: Increasing dental student diversity and oral health care access. *Journal of Dental Education*, 77(5):537-547.
- ²¹ Cahn, P. S. (2015). Do health professions graduate programs increase diversity by not requiring the graduate record examination for admission? *Journal of Allied Health*, 44(1):51-56.

-
- ²² DiBaise, M., Salisbury, H., Hertelendy, A., Muma, R. D. (2015). Strategies and perceived barriers to recruitment of underrepresented minority students in physician assistant programs. *Journal of Physician Assistant Education*, 26(1):19-27.
- ²³ Johnson, K. P., Woolfolk, M., May, K. B., & Inglehart, M. R. (2013). Effect of an enrichment program on DAT scores of potential dental students from disadvantaged backgrounds. *Journal of Dental Education*, 77(8):1063-1071.
- ²⁴ Keith, L., & Hollar, D. (2012). A social and academic enrichment program promotes medical school matriculation and graduation for disadvantaged students. *Education for Health*, 25(1):55-63.
- ²⁵ Jeffe, D. B., Yan, Y., & Andriole, D. A. (2012). Do research activities during college, medical school, and residency mediate racial/ethnic disparities in full-time faculty appointments at U.S. Medical schools? *Academic Medicine*, 87(11):1582-1593.
- ²⁶ Holsti, M., Hawkins, S., Bloom, K., White, R., Clark, E. B., & Byington, C. L. (2015). Increasing diversity of the biomedical workforce through community engagement: The University of Utah Native American Summer Research Internship. *Clinical and Translational Science*, 8(2):87-90.
- ²⁷ Sopher, C. J., Adamson, B. J., Andrasik, M. P., Flood, D. M., Wakefield, S. F., Stoff, D. M., & Fuchs, J. D. (2015). Enhancing diversity in the public health research workforce: the research and mentorship program for future HIV vaccine scientists. *American Journal of Public Health*, 105(4):823-830.
- ²⁸ Duffus, W. A., Trawick, C., Moonesinghe, R., Tola, J., Truman, B. I., & Dean, H. D. (2014). Training racial and ethnic minority students for careers in public health sciences. *American Journal of Preventive Medicine*, 47(5 Suppl 3):S368-375.
- ²⁹ Guevara, J. P., Adanga, E., Avakame, E., Carthon, M. B. (2013). Minority faculty development programs and underrepresented minority faculty representation at US medical schools. *Journal of the American Medical Association*, 310(21):2297-2304.
- ³⁰ Harris, T. B., Mian, A., Lomax, J. W., Scott-Gurnell, K., Sargent, J. A., Phillips, J. L., & Coverdale, J. H. (2012). The Texas Regional Psychiatry Minority Mentor Network: A regional effort to increase psychiatry's workforce diversity. *Academic Psychiatry*, 36(1):60-63.
- ³¹ Inglehart, M. R., Stefanac, S. J., Johnson, K. P., Gwozdek, A. E., May, K. B., Piskorowski, W., & Woolfolk, M. W. (2014). Recruiting underrepresented minority and low-income high school students into dentistry while educating dental and dental hygiene students about academic careers. *Journal of Dental Education*, 78(3):423-436.
- ³² Deas, D., Pisano, E. D., Mainous, A. G., Johnson, N. G., Singleton, M. H., Gordon, L., Reves, J. G. (2012). Improving diversity through strategic planning: A 10-year (2002-2012)

-
- experience at the Medical University of South Carolina. *Academic Medicine*, 87(11):1548-1555.
- ³³ White, C., Louis, B., Persky, A., Howell, D. T., Griffin, L. M., Simmons-Yon, A., & Scolaro, K. L. (2013). Institutional strategies to achieve diversity and inclusion in pharmacy education. *American Journal of Pharmaceutical Education*, 77(5):97.
- ³⁴ Pletcher, B. A., Rimsza, M. E. (2013). Enhancing pediatric workforce diversity and providing culturally effective pediatric care: implications for practice, education, and policy making. *Pediatrics*, 132, e1105-e1116.
- ³⁵ Association of American Medical Colleges (AAMC). (2015). *Altering the course: Black males in medicine*. AAMC: Washington, D.C.
- ³⁶ Silverman, L. (October 24, 2015). There were fewer black men in medical school in 2014 than in 1978. National Public Radio. Retrieved from <http://www.npr.org/2015/10/24/449893318/there-were-fewer-black-men-in-medical-school-in-2014-than-in-1978>
- ³⁷ Association of American Medical Colleges. *About holistic admissions*. Retrieved from <https://www.aamc.org/initiatives/holisticreview/about/>
- ³⁸ Urban Universities for HEALTH. (2014). *Holistic admissions in the health professions: findings from a national survey*. Washington, D.C.: Urban Universities for HEALTH. Retrieved from [http://urbanuniversitiesforhealth.org/media/documents/Holistic Admissions in the Health Professions.pdf](http://urbanuniversitiesforhealth.org/media/documents/Holistic_Admissions_in_the_Health_Professions.pdf)
- ³⁹ Dean, H. D. (April 29, 2015). *National Minority Health Month: Training the Public Health Work Force*. AIDS.GOV blog. Retrieved from <https://blog.aids.gov/2015/04/national-minority-health-month-training-the-public-health-work-force.html>
- ⁴⁰ Zakaria, S. Johnson, E. N., Hayashi, J. L., & Christmas, C. (2015). Graduate medical education in the Freddie Gray era. *New England Journal of Medicine*, 373(12):1998-2000.