



Teaching Health Center Graduate Medical Education Program Evaluation

Academic Years 2018-2023

The Health Resources and Services Administration (HRSA) is the primary federal agency for improving health care to people who are geographically isolated or economically or medically vulnerable. HRSA programs help those in need of high-quality primary health care by supporting the training of health professionals – focusing on the geographical distribution of providers to areas where they are needed most.

The Teaching Health Center Graduate Medical Education (THCGME) program bolsters the primary care workforce through support for new and expanded primary care physician and dental residency programs, as well as improves the distribution of this workforce into needed areas through an emphasis on underserved communities and populations. In addition to increasing the number of primary care residents training in community-based patient care settings, the THCGME program seeks to increase health care quality and overall access to care.

This report summarizes the results of a retrospective evaluation of the THCGME program for Academic Years (AY) 2018-2023. It also includes a descriptive summary of accomplishments for those who received THCGME support during AY 2022-2023, as well as select outcomes that reflect all 12 years of the program (AY 2011-2023).

Key Findings

Since THCGME's inception in 2011, 2,237 new physicians and 131 new dentists entered the workforce. During the span of the program:

- THCGME reduced primary care provider shortages by an estimated 2% nationally. Pediatrics and family medicine specialties saw larger estimated shortage reductions (9% and 4%, respectively).

During AY 2018-2023:

- THCGME residents treated nearly 3.9 million patients through 6.1 million patient encounters. They also provided nearly 4.7 million hours of care in medically underserved communities and over 1.1 million hours of care in rural areas.
- Follow-up of graduates from the past five years showed that the majority of THCGME graduates (85%) are currently working in a medically underserved community and 13% are working in a rural area.
- Graduates with rural backgrounds were significantly more likely to work in rural areas compared with those who were not from rural backgrounds (31% vs. 15%). Graduates from disadvantaged backgrounds were significantly more likely to work in a medically underserved community and/or rural area compared with those who were not disadvantaged (65% vs. 53%).

PAST-YEAR HIGHLIGHTS: AY 2022-2023

How did the THCGME program perform in its most recent year?

During AY 2022-2023, the THCGME program supported 72 residency programs across seven primary care specialty areas at 72 teaching health centers (Table 1). A total of 1,096 primary care residents were supported by the program. Twenty-one percent came from a disadvantaged background and 19% came from a rural background.

Table 1. THCGME Programs and Trainees by Specialty, AY 2022-2023

Specialty	Supported Residency Programs	Residents in Training	Disadvantaged or Rural Residents	Residents Graduated
Family Medicine	45	670	265	205
Internal Medicine	10	238	42	84
Psychiatry	8	92	25	19
Pediatrics	3	51	17	14
Obstetrics and Gynecology	3	31	9	7
General Dentistry	2	10	1	9
Geriatrics	1	4	0	3
TOTAL	72	1,096	359	341

During this period, 341 residents graduated from THCGME residency programs, producing 332 new primary care physicians and nine new dentists:

- 32% reported disadvantaged and/or rural backgrounds.
- 20% were underrepresented minorities.
- 58% chose to remain and practice in the state where they completed their residency, 3% higher than the national average of 55%.¹

Patient Care

During their training, THCGME residents delivered patient care in primary care settings and medically underserved communities:

- 99% of residents trained in a primary care setting, providing care during 557,000 patient encounters and accruing more than 770,000 patient contact hours.
- 94% of residents trained in medically underserved communities and/or rural areas, where they provided nearly 1.3 million hours of patient care.

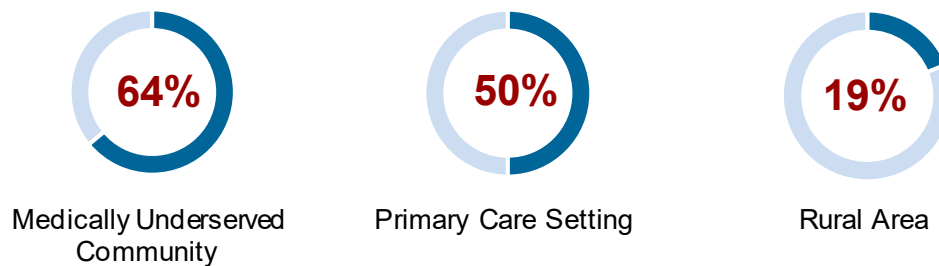
Together, THCGME residents treated more than 934,000 patients during more than 1.4 million patient encounters across all settings, greatly increasing access to care.

Resident Training

THCGME trains residents in community-based and underserved settings so that they are equipped to provide care in these settings after completing their programs. To achieve this goal, THCGME residency programs collaborated with 635 training sites to provide clinical training experiences for residents in medically underserved communities, primary care settings, and rural areas (Figure 1).

¹ Association of American Medical Colleges. (2022). *Report on Residents*. <https://www.aamc.org/data-reports/students-residents/interactive-data/report-residents/2022/table-c6-physician-retention-state-residency-training-state>

Figure 1. THCGME Clinical Training Site Settings, AY 2022-2023 (N=635)



Note: Training site settings are not mutually exclusive.

Fifty-three percent of training sites provided telehealth services, 33% offered opioid use treatment services, and 29% integrated behavioral health services into primary care.

The THCGME program also provided resident training in key programmatic areas. For example:

- 78% of residents received training in substance use treatment.
- 72% of residents received training in medications for opioid use disorder (MOUD).
- 8,639 students, residents, and other health care professionals from a variety of disciplines trained alongside THCGME residents while participating in interprofessional team-based care.

Finally, THCGME-funded residency programs developed or enhanced 2,189 courses and training activities, impacting over 20,000 health care trainees. Frequent topics included evidence-based practice, team-based training, and oral health.

FIVE-YEAR EVALUATION RESULTS: AY 2018-2023

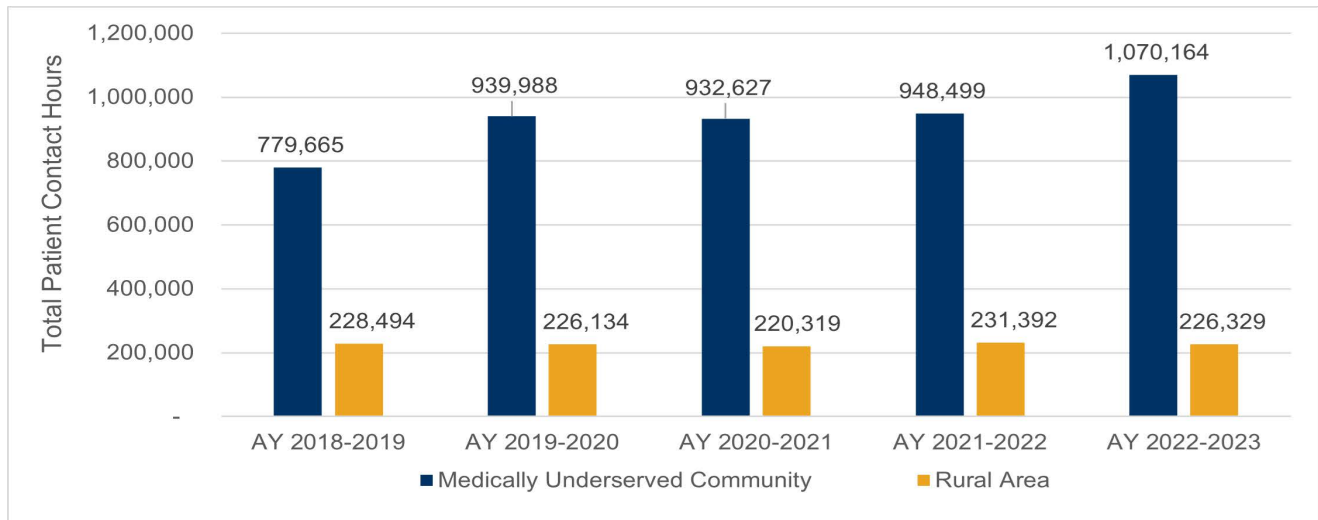
How many patients from underserved or rural areas received treatment from THCGME residents?

THCGME improves access to care for patients in medically underserved communities and rural areas by expanding the number of primary care residents training and providing services in these settings.

To further assess THCGME's ability to reach patients in underserved areas, NCHWA analyzed detailed data from the past five years (AY 2018-2023). During this timeframe, THCGME trained between 858 and 1,096 residents per year. Family medicine comprised the largest proportion of residents (60%), followed by internal medicine (23%), psychiatry (7%), pediatrics (5%), obstetrics and gynecology (2%), general dentistry (2%), and geriatrics (<1%).

Combined, THCGME-funded residents provided nearly 4.7 million hours of care in medically underserved communities and over 1.1 million hours in rural areas (Figure 2).

Figure 2. Total Patient Contact Hours in Medically Underserved Communities and Rural Areas, by Academic Year

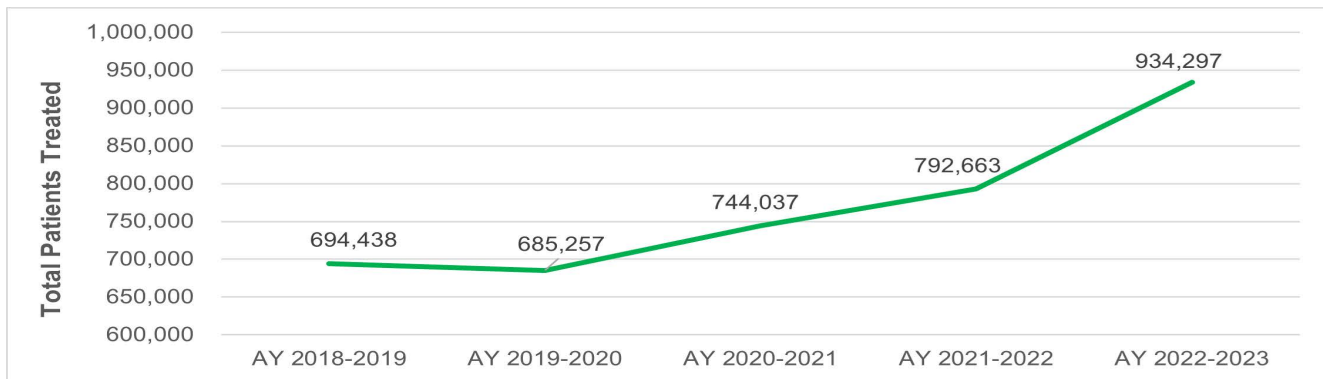


Note: Training settings are not mutually exclusive.

During the five-year period, the number of patients treated across all settings rose from nearly 700,000 in AY 2018-2019 to over 900,000 in AY 2022-2023 (Figure 3), a 35% increase. This increased included almost 3.9 million patients served through 6.1 million patient encounters. Fifty-five percent of patient encounters were in medically underserved communities and 12% were in rural areas.

Collectively, these figures reflect millions of patients in underserved areas who may not have received care without the residents supported through the THCGME program.

Figure 3. Total Unique Patients Treated by THCGME Residents, by Academic Year



Are THCGME graduates working in underserved settings?

THCGME's training prepares residents to provide high-quality care where it is needed most, in medically underserved areas. To assess where THCGME graduates are currently practicing, national provider identifier data from AY 2018-2023 were analyzed.

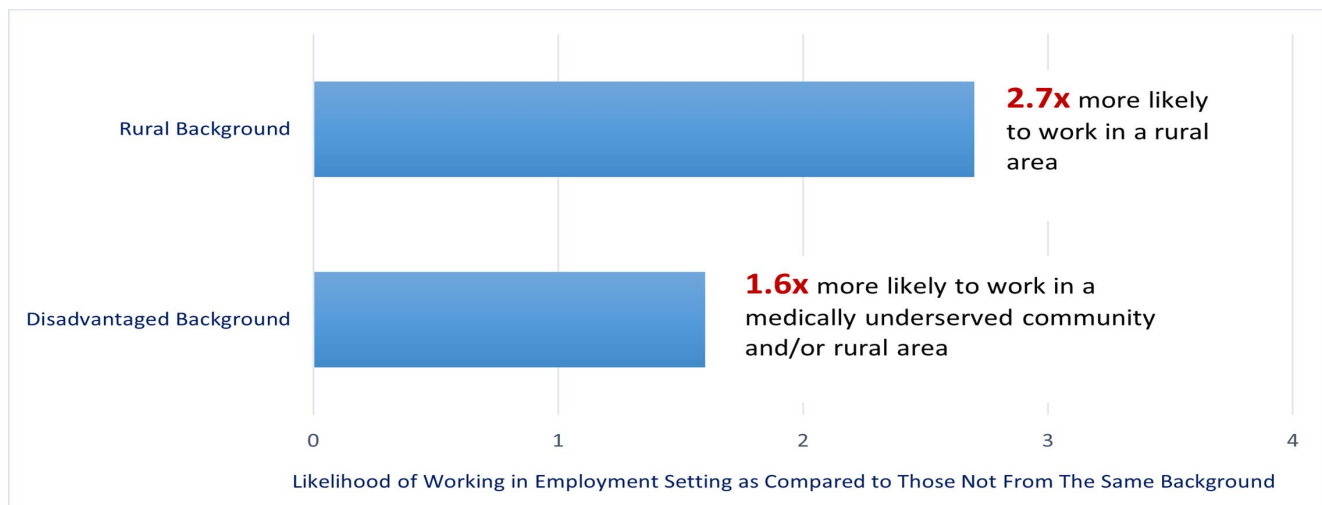
Present-day employment information was available for 1,059 graduates who completed their training during this five-year period.^{2,3} Time elapsed since completing the THCGME program ranged from one year to more than four years. The majority of graduates (85%) are currently working in a medically underserved community and 13% are working in a rural area. These results indicate that THCGME is meeting its aim to improve the distribution of primary care providers to underserved and rural communities.

Predicting Which THCGME Graduates Will Become Employed in Underserved Settings

Studies examining primary care physician employment outcomes indicate that coming from a rural or disadvantaged background is associated with working in underserved settings after completing a primary care residency program.^{4,5,6} THCGME's results are consistent with these findings.

When examining employment outcomes for the 1,186 graduates who reported employment information one year after completing THCGME, NCHWA found that graduates from a rural background were 2.7 times more likely to work in a rural area compared to those who were not from a rural background (Figure 4).⁷ Similarly, those from a disadvantaged background were 1.6 times more likely to work in a medically underserved community and/or rural area compared to those who were not disadvantaged.⁸

Figure 4. Predicting Employment Setting for THCGME Graduates from Rural and Disadvantaged Backgrounds, One Year After Graduation, AY 2018-2023 (n=1,186)



² U.S. Centers for Medicare & Medicaid Services. (January, 2023). National Plan & Provider Enumeration System (NPPES) NPI Registry. <https://npiregistry.cms.hhs.gov/search>

³ Health Resources and Services Administration. *Federal Office of Rural Health Policy (FORHP) Data Files*. U.S. Department of Health and Human Services. <https://www.hrsa.gov/rural-health/about-us/what-is-rural/data-files>

⁴ Duffrin, C., Diaz, S., Cashion, M., Watson, R., Cummings, D., Jackson, N. (2014). Factors associated with placement of rural primary care physicians in North Carolina. *Southern Medical Journal*, 107(11), 728-33. DOI: 10.14423/SMJ.0000000000000196

⁵ Talib, Z., Jewers, M.M., Strasser, J.H., Popiel, D.K., Goldbert, D.G., Chen, C., Kepley, H., Mullan, F., Regenstein, M. (2018). Primary care residents in teaching health centers: their intentions to practice in underserved settings after residency training. *Academic Medicine* 93(1), 98-103. DOI: 10.1097/ACM.0000000000001889

⁶ Goodfellow, A., Ulloa, J. G., Dowling, P. T., Talamantes, E., Chheda, S., Bone, C., & Moreno, G. (2016). Predictors of primary care physician practice location in underserved urban and rural areas in the United States: a systematic literature review. *Academic Medicine*, 91(9), 1313-1321. DOI: 10.1097/ACM.0000000000001203

⁷ OR=2.7, 95% CI 1.96-3.65, p < .001

⁸ OR=1.6, 95% CI 1.22-2.22, p = .001

TWELVE-YEAR OUTCOMES: AY 2011-2023

Has THCGME Reduced Primary Care Provider Shortages since its inception?

THCGME increases the supply of physicians working in primary care, an area of medicine experiencing nationwide physician shortages that are projected to increase over the next 15 years.^{9,10} During this period, THCGME produced 2,368 graduates, including 2,237 physicians and 131 dentists (Table 2), comprising 1% of all primary care graduates nationwide.¹¹ Those specializing in family medicine comprised 3% of all family medicine graduates during this period.

THCGME graduates also represent new primary care physicians who have entered the workforce, indicating an expansion beyond current training caps and a reduction in provider shortages. During AY 2011-2023, THCGME reduced primary care provider shortages by an estimated 2%¹² (Table 2). Specialties such as pediatrics and family medicine saw larger estimated shortage reductions (9% and 4%, respectively).

Table 2. THCGME Graduate Count and Estimated Provider Shortage Reduction, by Primary Care Specialty, AY 2011-2023 (N=2,368)

Specialty	Total Graduate Count	Estimated Provider Shortage Reduction
Family Medicine	1,440	4.4%
Internal Medicine	550	2.1%
Psychiatry	88	0.3%
Pediatrics	121	9.2%
Obstetrics and Gynecology	28	0.6%
General Dentistry	131	2.2%
Geriatrics	10	1.0%
TOTAL	2,368	2.4%

Collectively, these figures demonstrate that THCGME-trained primary care physicians, upon graduation, address the shortages in primary care and increase access to care.

Conclusion

In summary, studies examining primary care physician employment outcomes have shown that those who train in underserved settings are more likely to practice in these settings later.¹³ THCGME

⁹ Health Resources and Services Administration. (Nov 2023). *State of the Primary Care Workforce*. U.S. Department of Health and Human Services. <https://bhwh.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/state-of-primary-care-workforce-2023.pdf>

¹⁰ Health Resources and Services Administration. (Oct 2023). *Physician Workforce: Projections, 2021-2036*. U.S. Department of Health and Human Services. <https://bhwh.hrsa.gov/sites/default/files/bureau-health-workforce/physicians-projections-factsheet-10-23.pdf>

¹¹ Accreditation Council for Graduate Medical Education. *GME Data Resource Book 2022-2023*. https://www.acgme.org/globalassets/pfassets/publicationsbooks/2022-2023_acgme_databook_document.pdf. Note: Calculation does not include AY 2022-2023; ACGME graduate counts for that year aren't available until 2024.

¹² Health Resources and Services Administration. *Projected Supply and Demand of Healthcare Workers through 2036*. U.S. Department of Health and Human Services. Note: Shortage reduction figures are estimates, which are based on projected supply and demand estimates for 2028. <https://data.hrsa.gov/topics/health-workforce/workforce-projections>

¹³ Phillips, R.L., Petterson, S., Bazemore, A. Do residents who train in safety net settings return for practice? (2013). *Academic Medicine*, 88(12), 1934-40.

provides community-based training in underserved areas; by doing so, the program not only produces primary care physicians who graduate and continue to practice in underserved settings where their services are needed most, but it also reduces the provider shortages that have plagued primary care, particularly in rural and other underserved areas.

For more information, visit the website: bhw.hrsa.gov