

Evaluating Teaching Health Center Planning and Development: Unlocking and Sustaining the Full Potential of the Teaching Health Center Program

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ABSTRACT

Background While many factors influence clinician supply and distribution, community-based training is an influential policy lever to increase health care access in underserved settings. The Teaching Health Center Graduate Medical Education (THCGME) program funds training in community-based settings. Recognizing the program's impact, Congress created the Teaching Health Center Planning and Development (THCPD) program to provide start-up funding to support community-based organizations in establishing new residency programs. To date, limited data are available on THCPD outcomes.

Objective To describe THCPD program outcomes and training sites and compare characteristics of teaching health center (THC) counties to other eligible counties.

Methods We analyzed differences in county-level characteristics among communities with THCs (THCGME [n=85] and/or THCPD [n=92] programs with training sites in 180 counties) to counties with community health centers that were not participating in THCGME/PD. We conducted univariate and multivariate regressions to identify county characteristics associated with having a THC program.

Results THCPD is supporting the development of new residency programs, projected to create 900 resident positions, in 13 states and 73 counties that previously did not have a THC. Thirty-nine THCPD-supported programs have attained accreditation, totaling 501 accredited positions at full complement. Forty-seven of the 180 counties (26.1%) with THCGME/PD sites are rural. In contrast to other eligible counties, THCs serve counties with greater proportions of Medicaid beneficiaries (adjusted OR=1.06; 95% CI, 1.04-1.08) and mental health professional shortage areas (adjusted OR=5.00; 95% CI, 1.10-22.7).

Conclusions THCPD is increasing the number of accredited residency programs in community-based settings with higher rates of Medicaid eligibility and a shortage of mental health care workforce.

Introduction

Improving access to primary care and behavioral health in rural and underserved communities is an urgent health care infrastructure challenge.^{1,2} While many factors influence the supply and distribution of clinicians, graduate medical education (GME) in community-based outpatient settings is an effective policy lever to increase the supply of physicians in areas that lack access to health care.³ Community health centers, which include Federally Qualified Health Centers, are community-based organizations that provide care for 1 in 3 people in poverty, 1 in 5 Medicaid beneficiaries, 1 in 5 uninsured persons, 1 in 7 rural persons, and 1 in 10 people in the United States.⁴ Yet most GME occurs in urban academic medical centers (98%) and does not reach rural

communities and community-based outpatient settings where underserved populations seek care.^{5,6}

Since 2010, the Health Resources and Services Administration (HRSA) has awarded Teaching Health Center Graduate Medical Education (THCGME) grants to fund residency training operations in community-based outpatient centers, given that these facilities are not able to directly access Medicare GME funding.^{6,7} Community-based outpatient centers include community health centers, mental health centers, rural health clinics, and tribal health clinics. Teaching Health Centers (THCs) are unique in that they are not sponsored by hospitals but instead by a community-based outpatient center or GME consortium where the community-based outpatient center plays an integral role in the financial, academic, and administrative operations of the residency program. Mounting evidence suggests the THC model produces physicians who are dedicated to caring for underserved populations and practicing in settings of need.^{3,7-11} Fifty-six

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Editor's Note: The online supplementary data contains a county map of new and existing teaching health centers.

percent of THC graduates practice in medically underserved areas after graduation, compared with 24.1% of all US residency medical graduates.^{8,9} THC family medicine graduates have a broader scope of practice compared to non-THC graduates, with a greater likelihood of providing treatment for opioid use disorder and offering behavioral health care.¹⁰

Recognizing the challenge of developing new GME programs in resource-limited settings¹²⁻¹⁴ and the fact that potential existed to increase the number of THC programs in more communities across the country, Congress developed the Teaching Health Center Planning and Development (THCPD) program in 2021. The goal of the HRSA-administered THCPD program is to increase the capacity of community health centers to launch new THCs by providing start-up funding and technical assistance to places that might otherwise not be able to develop programs.^{3,7} Development of a THC involves multiple steps, including but not limited to engaging community stakeholders, establishing training partnerships, recruiting faculty, achieving accreditation, securing sustainable funding, developing a governance structure, and recruiting residents. To date, there are limited data available on the outcomes of the THCPD program.

This study aims to (1) describe outcomes of the THCPD program and training sites, and (2) compare the characteristics of counties with THCs (THCPD and/or THCGME sites) to counties that had at least one community health center that could be eligible for the THC program but were not currently participating in the program.

Methods

Data on THCPD program specialties, training sites, accreditation, and recruitment status were obtained from the THCPD Technical Assistance Center. Estimates of the number of resident full-time equivalents (FTEs) anticipated through the THCPD program were determined by a methodology developed by the Technical Assistance Center based on length of specialty training, accreditation data, grant recipient stage of development, grant recipient self-reporting, and advisor analysis.¹² Funding projections were based on both a \$160,000 per-resident amount currently used by HRSA and a \$227,000 per-resident amount found in recent cost evaluation research.^{15,16} THCGME program data were obtained from HRSA. These data included unique Accreditation Council for Graduate Medical Education (ACGME) and Commission for Dental Accreditation program codes, program names, and specialties. The training site details, including their names, addresses, and training durations, were retrieved from the ACGME Accreditation Data

KEY POINTS

What Is Known

The Teaching Health Center Graduate Medical Education (THCGME) program funds residency training in community-based settings and has increased health care access in underserved settings. The Teaching Health Center Planning and Development (THCPD) program is supporting establishment of new residency programs in these settings.

What Is New

Analysis of eligible counties, with and without Teaching Health Center (THC) training sites, showed that counties with THC programs have a higher proportion of patients on Medicaid and are more often mental health shortage areas. Over one-quarter of counties with THC sites are rural.

Bottom Line

THCPD is supporting the development of new THC programs, projected to create more than 900 resident positions in 13 new states and 73 counties not previously served by THCs.

System. We merged the program data with training sites data by ACGME program code. We geocoded training site addresses and identified counties with training sites. For community characteristics, we used the 2022 Area Health Resource File, a publicly available data set that includes information on the population characteristics, health workforce supply, and health infrastructure for all US counties.¹⁷ Analyses were conducted in October 2024.

To answer the first research aim, we conducted a descriptive analysis of the specialties and training locations of THCGME and THCPD programs. To address the second research aim, we compared differences in county-level poverty rates, the percentage of Medicaid eligible population, race and ethnicity, Health Professional Shortage Area (HPSA) designation, and physician supply per population in counties with THCGME/PD training sites and comparison counties. Comparison counties were defined as counties with at least one community health center that could be eligible for the THCGME/PD program but not currently participating in it. We conducted Pearson's chi-square tests for categorical variables and Wilcoxon rank sum tests for continuous variables. Additionally, we performed univariate and multivariate logistic regression to explore the factors associated with counties that have THC sites. We presented coefficients as an odds ratio with 95% CIs. A *P* value of $<.05$ was considered statistically significant. We used Stata, Version 18 (StataCorp LLC) for statistical analysis. Maps were created to demonstrate the reach of THCGME/PD training sites at both the state and county levels. ArcGIS Pro 3.2.2 (Environmental Systems Research Institute Inc) was used for geocoding and creating maps.

The study received an exemption determination from the University of North Carolina at Chapel Hill's institutional review board (23-1222).

Results

TABLE 1 describes the specialties and training locations of new and existing THC programs. There were 85 existing THCGME programs with 450 unique training sites in academic years 2022-2023 and 2023-2024, predominantly medical residency programs with 3 dental programs across 28 states and 107 counties. Two cohorts of THCPD recipients received start-up funding from HRSA: 46 were awarded in December 2021 and another 46 were awarded in April 2023. The 92 THCPD programs are developing 69 medical and 23 dental new residency programs across 36 states and 104 counties. As shown in the FIGURE and in the online supplementary data FIGURE, THCPD is increasing the number of THC programs to 13 new states and 73 additional counties that did not previously have THC residency programs. As of March 2025, 73 of the THCPD grant recipients have obtained sponsoring institution accreditation, and 39 have achieved initial program accreditation, conferring approval for 501 resident positions when at full complement. Sixteen programs participated in the 2024 recruitment cycle, with a 100% fill rate, recruiting 82 residents (35 family medicine, 10 internal medicine, 14 pediatrics, and 23 psychiatry residents).

The THCPD program provides one-time funding that supports program development, but once the community-based residency is established, funds for covering ongoing residency operations are needed from sources such as THCGME grants. Only 15 of the 39 THCPD programs that have obtained ACGME accreditation have been awarded THCGME grants.

TABLE 2 shows the projected THCGME funding needed based on program development outcomes. Unlike other federal GME programs which are supported by direct mandatory streams such as Medicare or Medicaid, THCGME is funded through periodic extensions of statutory authorization and federal appropriations by Congress, currently set to expire in September 2025.¹⁸ The current annualized funding level that Congress has set for the THCGME program (\$175 million) does not account for the full number of residents now participating across existing and newly awarded programs. TABLE 2 shows that to complete its investment in starting up residency programs through the THCPD program, Congress would need to increase and sustain THCGME funding for approximately 900 additional medical and dental accredited resident positions at full complement. By academic year 2028-2029, the THC program (existing and new programs) is estimated to need funding for 2271 resident FTEs each year and projected to cost \$363 to \$516 million (depending on per resident amounts) in THCGME grant funding on an annual basis.

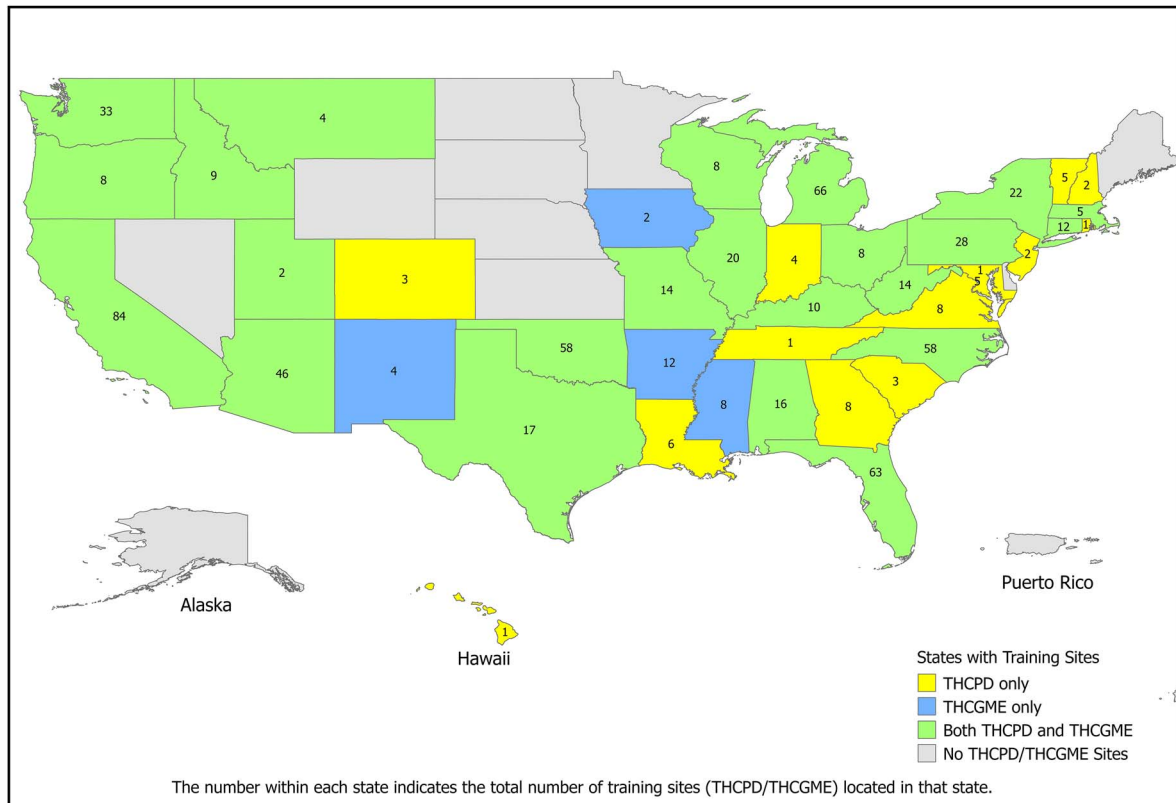
TABLE 3 compares characteristics of the counties with THCGME and THCPD (n=180) to US counties (n=1956) eligible for the THCGME/PD program but not currently participating in the program. Forty-seven of the 180 counties (26.1%) with THCGME/PD training sites are rural. In contrast to eligible, non-participating counties, THCGME and/or THCPD programs are more likely to serve minority groups, including communities with a greater proportion of the population that identifies as Black/African American (median: 5.80; IQR: 2.00-14.90 vs median: 3.80;

TABLE 1
Characteristics of Teaching Health Center Programs and Training Sites

Program Specialty	New Teaching Health Centers (THCPD; N=92 Residency Programs in 240 Training Sites ^a , n (%))	Existing Teaching Health Centers (THCGME; N=85 Unique Residency Programs in 450 Unique Training Sites ^a , n (%))
Family medicine	47 (51.1)	54 (63.5)
General dentistry	20 (21.7)	3 (3.5)
Psychiatry	12 (13.0)	9 (10.6)
Internal medicine	4 (4.4)	11 (12.9)
Pediatrics	4 (4.4)	4 (4.7)
Pediatric dentistry	3 (3.3)	0 (0)
Geriatrics	1 (1.1)	1 (1.2)
Obstetrics and gynecology	1 (1.1)	3 (3.5)
Training Site Locations		
States	36	28
Counties	104	107

^a Unique programs and their unique training sites were included from Cohort 1 (2021-2023) and Cohort 2 (2023-2025) of the THCPD program and the THCGME grantees from 2 fiscal years (2022-2023 and 2023-2024).

Abbreviations: THCPD, Teaching Health Center Planning and Development; THCGME, Teaching Health Center Graduate Medical Education.

**FIGURE****State Map of New and Existing Teaching Health Centers**

Abbreviations: THCPD, Teaching Health Center Planning and Development; THCGME, Teaching Health Center Graduate Medical Education.

IQR: 0.80-14.40) or Hispanic (median: 9.00; IQR: 4.15-21.55 vs median: 4.90; IQR: 2.30-11.30). Seventy-four percent of counties with THCGME/PD training sites are urban compared to 42.2% of other eligible, non-participating counties. Counties with THCGME/PD programs are more likely to be designated as part-county primary care, dental, and mental health HPSAs ($P<.001$), a geographic, population, or facility designated as having a shortage of providers.

TABLE 4 shows the community characteristics associated with counties that have THCGME/PD sites, based on univariate and multivariate logistic regressions. After adjusting for several county characteristics, we found that counties with THCGME/PD have a larger population size (adjusted OR=1.18; 95% CI, 1.12-1.24) and a greater percentage of Medicaid-eligible population (adjusted OR=1.06; 95% CI, 1.04-1.08) in contrast to comparison counties. Further,

TABLE 2**Estimated THCGME Funding Needs Based on Projections from Program Development Outcomes**

Variable	Number of Resident FTE	Funding Amount Based on Per-Resident Amount of \$160,000	Funding Amount Based on Per-Resident Amount of \$227,000
Currently funded resident FTEs in AY 2024-2025	1212	\$193,920,000	\$275,124,000
Needs for AY 2025-2026	1557	\$249,120,000	\$353,439,000
Projections for AY 2026-2027 if funding is received in time for recruitment	1885	\$301,600,000	\$427,895,000
Projections for AY 2027-2028 if funding is received in time for recruitment	2165	\$346,400,000	\$491,455,000
Projections for AY 2028-2029 if funding is received in time for recruitment	2271	\$363,360,000	\$515,517,000

Abbreviations: THCGME, Teaching Health Center Graduate Medical Education; FTE, full-time equivalent; AY, academic year; HRSA, Health Resources and Services Administration.

Note: The table does not reflect the federal 5% administrative cost to administer the THCGME program.

TABLE 3

Community Characteristics of Counties With Teaching Health Center Sites and Comparison Counties

Variables	Category	THCPD and/or THCGME Counties, N=180	Comparison Counties, N=1956
% of persons below poverty level 2016-2020, median (IQR)		14.40 (11.20-18.20)	15.20 (11.40-19.50)
% Medicaid eligible population, median (IQR)		24.56 (18.76-31.13)	24.25 (18.52-30.12)
% Black/African American population 2020, median (IQR)		5.80 (2.00-14.90)	3.80 (0.80-14.40)
% Hispanic/Latino population 2020, median (IQR)		9.00 (4.15-21.55)	4.90 (2.30-11.30)
Rurality (RUCA: rural ≥ 4), n (%)	Urban	133 (73.9)	825 (42.2)
	Rural	47 (26.1)	1131 (57.8)
Population (in 100 000), median (IQR)		2.16 (0.61-8.49)	0.35 (0.16-0.93)
HPSA code: primary care, n (%)	Not	5 (2.8)	220 (11.3)
	Part	165 (91.7)	1330 (68.0)
	Whole	10 (5.6)	406 (20.8)
HPSA code: mental health, n (%)	Not	2 (1.1)	154 (7.9)
	Part	135 (75.0)	863 (44.1)
	Whole	43 (23.9)	939 (48.0)
HPSA code: dentists, n (%)	Not	10 (5.6)	343 (17.5)
	Part	165 (91.7)	1406 (71.9)
	Whole	5 (2.8)	207 (10.6)
Primary care physicians per 100 000 population, median (IQR)		72.79 (51.61-94.26)	45.33 (27.89-67.96)
Psychiatrists per 100 000 population, median (IQR)		7.58 (3.11-14.29)	1.50 (0.00-5.68)

Abbreviations: THCPD, Teaching Health Center Planning and Development; THCGME, Teaching Health Center Graduate Medical Education; RUCA, rural urban commuting area; HPSA, health professional shortage area.

Note: Comparison counties were US counties eligible for the THCGME/THCPD program, had at least one community health center in 2021, but were not participating in the program. Categorical variables are presented as frequencies and percentages, and continuous variables are described using the median and IQR. All variables are statistically significant between the 2 groups, except for percent of persons below poverty level and percent of Medicaid eligible population.

TABLE 4

Community Characteristics Associated With Counties That Have Teaching Health Center Sites Using Logistic Regressions

Variables	Category	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
% of persons below poverty level 2016-2020		0.97 ^a (0.95-1.00)	-
% Medicaid eligible population		1.01 (0.99-1.03)	1.06 ^b (1.04-1.08)
% Black/African American population, 2020		1.00 (0.99-1.01)	0.99 (0.97-1.00)
% Hispanic/Latino population, 2020		1.01 ^a (1.00-1.01)	1.00 (0.98-1.01)
Rurality (RUCA: Rural ≥ 4)	Rural	0.26 ^b (0.18-0.36)	0.46 ^b (0.29-0.72)
Population (in 100 000)		1.29 ^b (1.23-1.35)	1.18 ^b (1.12-1.24)
HPSA code: primary care	Whole	1.08 (0.37-3.21)	1.41 (0.41-4.86)
	Part	5.46 ^b (2.22-13.44)	2.76 (0.96-7.95)
HPSA code: mental health	Whole	3.53 (0.85-14.70)	3.56 (0.77-16.51)
	Part	12.05 ^b (2.95-49.17)	5.00 ^a (1.10-22.7)
HPSA code: dentists	Whole	0.83 (0.28-2.46)	0.53 (0.16-1.76)
	Part	4.03 ^b (2.10-7.70)	0.84 (0.38-1.84)
Primary care physicians per 100 000 population		1.02 ^b (1.01-1.02)	1.01 ^b (1.00-1.02)
Psychiatrists per 100 000 population		1.05 ^b (1.04-1.07)	1.00 (0.98-1.03)

^a $P < .05$.

^b $P < .01$.

Abbreviations: RUCA, rural urban commuting area; HPSA, health professional shortage area; OR, odds ratio; THCPD, Teaching Health Center Planning and Development; THCGME, Teaching Health Center Graduate Medical Education.

Note: Comparison counties were US counties eligible for the THCGME/THCPD program, had at least one community health center in 2021, but were not participating in the program. In logistic regressions, the reference group for rurality is urban (RUCA < 4), and the reference category for primary, mental, and dental HPSA is "not." For the unadjusted OR, we conducted univariate logistic regressions. For the adjusted OR, we included all variables except the percent of persons below poverty level, which was excluded due to its high collinearity with the percent Medicaid eligible population.

THCGME/PD counties are more likely to be designated as part-county mental HPSAs (adjusted OR=5.00; 95% CI, 1.10-22.7) and less likely to be rural (adjusted OR=0.46; 95% CI, 0.29-0.72).

Discussion

THCPD funding has been instrumental in supporting the establishment of 92 new THC programs, which are projected to create an additional 900 physician and dentist positions in health centers at full complement, in 13 new states and 73 additional counties not previously served by THCs. Compared to counties with community health centers that are not THC sites, counties with THCs are more likely to serve underserved patients, including communities with a greater proportion of population that are eligible for Medicaid (adjusted OR=1.06; 95% CI, 1.04-1.08) and designated mental health HPSAs (adjusted OR=5.00; 95% CI, 1.10-22.7). These THCPD programs were given 2 years of start-up funding, but most require additional funding through THCGME grants (ie, operating costs through a fixed per resident amount) from HRSA to adequately launch and sustain these community-based residency programs.

Supporting graduate medical training in rural and underserved areas is needed to ensure access to care in these settings, and accordingly, has been the focus of significant federal and state investment and legislative action recently. Understanding the return-on-investment of policies, such as the THC program, as well as better understanding the characteristics of people and places served by these new programs, is needed as federal policymakers and regulators consider program expansion and funding renewal. Most prior studies of the THC program have focused on the THCGME program, rather than the THCPD program. Our study offers an important description of THCPD program outcomes and training site characteristics and compares characteristics of counties served by THCPD and/or THCGME programs compared to counties not served by these programs. This study's findings demonstrate the outcomes of HRSA's recent \$46 million investment into the THCPD program that provides seed funding and technical assistance to expand the THC model. The THCPD program is expanding the reach of the THC model which has played a critical role in improving access to health care, yet the gains made by the THCPD program in increasing the number of residencies in underserved communities are at risk without increased and long-term THCGME funding.

Financial feasibility is a key programmatic and policy concern for the THC program. Community health centers operate on thin financial margins, and

they need support to recruit faculty and stand-up training partnerships to meet subspecialty requirements for accreditation. Start-up funding and technical assistance are critical to support successful growth of programs, yet it still typically takes 3 to 5 years to start a dental or medical residency program.^{3,12-14} Our findings demonstrate that the THCPD grant program is successfully creating new accredited residency programs in community-based outpatient settings and in 47 rural counties. While achieving program accreditation is a key measure of success, ultimately securing THCGME funds prior to matriculating an inaugural resident class is critical to these programs operating residency programs. Uncertainty related to THCGME funding has negatively impacted individual programs' ability to plan for accreditation and matriculation of residents.

There are THCPD grant recipients, such as Tampa Family Health Center Pediatrics Residency Program in Florida, who attained ACGME program accreditation and were ready to commence training but have not launched due to lack of THCGME funding. Their delayed participation is a missed opportunity to begin training dozens of new physicians in underserved communities. Other programs have made the difficult decision to embark in training their inaugural class by self-funding the costs of training in this first year until they secure THCGME grant funding for program continuation. Programs like DePaul Family Medicine Residency received program accreditation by the ACGME in 2023, conducted interviews to recruit residents initially in 2024, but withdrew from the 2024 Match days before submitting a rank list due to the lack of certainty around the future of THCGME funding. The aforementioned program recruited a class for the 2025 academic year despite unclear funding and will expand access to care in New Orleans, Louisiana, with its curriculum centered on incarcerated, homebound, and homeless care.¹⁹ El Rio Health serves 130 000 patients in Tucson, Arizona, and trains pediatricians, internists, family medicine physicians, nurse practitioners, dentists, and pharmacists in community health centers. A THCPD grant helped them launch a new psychiatry residency with the aim of more comprehensively addressing mental health needs in their communities.²⁰ Despite halting matriculation in 2024, El Rio Health recruited a class for the 2025 academic year, demonstrating their commitment to expanding mental health training despite current uncertainties in securing necessary THCGME funding.

Healthy Rural California started a new accredited residency program in a rural community impacted by wildfires that, until the residency program, had no practicing child and adolescent psychiatrist. The

leaders of the community health center made the decision to embark in training their inaugural class of 4 psychiatry residents by self-funding the costs of training in this first year until they secured THCGME grant funding for continuation. Fortunately, due to Congressional action, HRSA was able to provide THCGME funding in October 2024 for the first academic year; however, additional THCGME funding is needed to cover the costs of training the full ACGME-approved complement of residents.¹⁸ In the case of the Healthy Rural California, they recruited another class size of 4 residents in the 2025 recruitment cycle with a goal to train their full accreditation complement of 16 residents each year, yet they need THCGME funding to achieve this potential (ie, 4 residents $\times$ 4 years of training).²¹ Recent funding increases are not enough to support all THCPD grantees' entry into the THCGME program,¹⁸ meaning years of hard work to stand up these residency programs and millions of taxpayer dollars could be lost. Congress has not provided long-term stability for the THCGME program, extending the program only through September 2025.¹⁸ The frequent threat of federal grant funds expiring (ie, "funding cliff") may disincentivize the development of new THC and jeopardize the sustainability of current programs.

While our study provides valuable insights into the outcomes of expanding THC in high need areas, it has a few limitations. First, our comparison counties were selected based on the presence of at least one community health center, thus they are not generalizable to other settings. Second, while comparing county characteristics, we focused solely on the counties with and without training sites of THCGME and THCPD programs; many of these counties may have other training residency sites funded through Medicare, Medicaid, or state funds. It takes years to establish a new residency program in underserved settings. Nearly half of THCPD grant recipients have attained program accreditation; for grant recipients not yet accredited, resident projection estimates are based on anticipated accreditation status. Although community-based outpatient settings are not able to directly access Medicare GME funds and need THCGME grants to cover residency operating costs, other sources of funding may be available, such as state appropriations or Medicaid GME. Despite these limitations, our study offers updated information on THCPD and THCGME programs and their training site expansion at the county level.

Consistent with existing research that underscores the need for an adequate supply of patients and preceptors to support a training program in underserved settings,¹³ our study finds that THCGME and THCPD grant recipients are in settings with higher population and higher primary care physicians per

population compared to other eligible counties. These findings will be useful to identify additional counties fitting similar profiles and target outreach to communities with community health centers that may have potential to launch residency programs. Future research will also be directed to evaluate distribution and supply of graduates from the existing and new THC programs, including access to care in these underserved areas.

Conclusions

THCPD is increasing the number of accredited residency programs in community-based settings with higher rates of Medicaid eligibility and a shortage of mental health care workforce. It has the potential to nearly double the reach of the existing THC model by creating a projected over 900 new resident positions, but there is inadequate THCGME funding to cover residency operations after attaining accreditation.

References

1. Basu S, Berkowitz SA, Phillips RL, Bitton A, Landon BE, Phillips RS. Association of primary care physician supply with population mortality in the United States, 2005-2015. *JAMA Intern Med.* 2019;179(4):506-514. doi:10.1001/jamainternmed.2018.7624
2. Health Resources and Services Administration. Behavioral Health Workforce Report. Published December 2023. Accessed April 10, 2025. <https://bhwhrsa.gov/sites/default/files/bureau-health-workforce/Behavioral-Health-Workforce-Brief-2023.pdf>
3. Hawes EM, Rains J, Chen C, Fraher E. Training the primary care workforce to deliver team-based care in underserved areas: the Teaching Health Center Program. *The Milbank Memorial Fund.* Published June 5, 2023. Accessed April 10, 2025. <https://www.milbank.org/publications/training-the-primary-care-workforce-to-deliver-team-based-care-in-underserved-areas-the-teaching-health-center-program/>
4. National Association of Community Health Centers. America's Health Centers: by the numbers. Accessed October 28, 2024. <https://www.nachc.org/resource/americas-health-centers-by-the-numbers/>
5. United States Government Accountability Office. Graduate medical education: programs and residents increased during transition to single accretor; distribution largely unchanged. Published April 2021. Accessed May 1, 2024. <https://www.gao.gov/assets/gao-21-329.pdf>
6. Congressional Research Service. Medicare graduate medical education payments: an overview. Published September 2022. Accessed May 20, 2024. <https://crsreports.congress.gov/product/pdf/IF/IF10960>

7. Health Resources and Services Administration. Teaching Health Center Graduate Medical Education (THCGME): expanding the primary care workforce. Published 2023. Accessed May 1, 2024. <https://bhwh.hrsa.gov/funding/apply-grant/teaching-health-center-graduate-medical-education>
8. Health Resources and Services Administration. Teaching Health Center Graduate Medical Education Program: academic year 2021-2022. Accessed April 10, 2025. <https://bhwh.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/teaching-health-center-graduate-medical-education-annual-report-2021-2022.pdf>
9. Association of American Medical Colleges. Table C2. Number of Individuals Who Completed Residency and Are Practicing in Federally Designated Medically-Underserved Areas, by Last Completed GME Specialty. Published 2022. Accessed April 10, 2025. <https://www.aamc.org/data-reports/students-residents/data/report-residents/2022/table-c2-number-individuals-who-completed-residency-and-are-practicing>
10. Davis CS, Roy T, Peterson LE, Bazemore AW. Evaluating the teaching health center graduate medical education model at 10 years: practice-based outcomes and opportunities. *J Grad Med Educ.* 2022;14(5): 599-605. doi:10.4300/JGME-D-22-00187.1
11. Association of American Medical Colleges. Table B5. Number of Active MD Residents, by Race/Ethnicity (Alone or in Combination) and GME Specialty. Published 2022. Accessed April 10, 2025. <https://www.aamc.org/data-reports/students-residents/data/report-residents/2022/table-b5-md-residents-race-ethnicity-and-specialty>
12. Hawes EM, Weidner A, Page C, et al. A roadmap to rural residency program development. *J Grad Med Educ.* 2020;12(4):384-387. doi:10.4300/JGME-D-19-00932.1
13. Fraher E, Page CP, Hawes EM, et al. Bolstering the rural physician workforce in underserved communities: are rural residency planning and development programs finding the sweet spot? *J Rural Health.* 2023;39(3): 521-528. doi:10.1111/jrh.12735
14. Hawes EM, Fraher E, Crane S, et al. Rural residency training as a strategy to address rural health disparities: barriers to expansion and possible solutions. *J Grad Med Educ.* 2021;13(4):461-465. doi:10.4300/JGME-D-21-00274.1
15. Health Resources & Services Administration. FAQ: Teaching Health Center Graduate Medical Education (THCGME) Program. Accessed October 28, 2024. <https://bhwh.hrsa.gov/funding/apply-grant/childrens-hospitals-graduate-medical-education/faq-teaching-health-center-graduate-medical-education-thcgm-program>
16. Regenstein M, Trott J, Ku J, et al. A new formula for teaching health center graduate medical education payments based on a comprehensive cost evaluation [published online ahead of print January 7, 2025]. *Acad Med.* doi:10.1097/ACM.0000000000005961
17. Health Resources and Services Administration. Area Health Resources File. Accessed May 1, 2024. <https://data.hrsa.gov/topics/health-workforce/ahrf>
18. Consolidated Appropriations Act, H.R.436, 118th Cong, (2023-2024).
19. Depaul Family and Social Medicine Residency Program. Accessed April 10, 2025. <https://www.dchcfamily.medicineresidency.org/>
20. El Rio Health. Accessed May 24, 2024. <https://elrio.org/careers/teaching-health-center>
21. Healthy Rural California, Inc. Accessed April 10, 2025. <https://healthyruralca.org/>



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