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Examining the Characteristics of Physicians That Leave Georgia After Medical School TrainingEmmanuel Akowuah, MS¹, Imaobong Ekpo, MBBS¹, Samuel Opoku, Ph.D¹, and Bettye Apenteng, Ph.D¹¹Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro, GA.Corresponding Author: Emmanuel Akowuah • 1332 Southern Drive, Statesboro GA 30458 • (912) 678-6116 • ea01286@georgiasouthern.edu.**ABSTRACT****Background:** We sought to examine the characteristics of physicians who leave Georgia after graduating from a Georgia medical school.**Methods:** Using the 2017 National Physician Compare data merged with the 2015-2016 Area Resource File, we compared the individual and practice location characteristics of physicians who went to medical school in Georgia and practice in the state to those who left.**Results:** Less than half of physicians who had their medical school training in Georgia still practice here; those who leave are typically specialists practicing in older, affluent and less racially diverse counties.**Conclusions:** Strategies to retain physicians in Georgia after their medical school training will go a long way to enhance Georgia's physician-to-population ratios.**Keywords:** Medical school training, shortage of physicians, medical schools in Georgia, physician practice locations, medical training policy<https://doi.org/10.20429/jgpha.2019.070211>**INTRODUCTION**

Georgia, like other states in the US, is experiencing a shortage of physicians (Kane et al., 2009; Peterson et al., 2012). Compared to other states, Georgia has one of the lowest physician-to-population ratios (Sweeney, 2016). Low physician-to-population ratios directly impact access to care of patients, especially in rural areas (American Academy of Family Physicians, 2015). While various strategies (such as increasing the number of medical students) have been proposed to improve these ratios (Sweeney, 2016), not much is known about the practice locations of physicians who graduated from medical schools in Georgia. We, therefore, seek to examine the characteristics of physicians that practice in or leave Georgia after their graduation from medical school.

METHODS

The 2017 National Physician Compare (NPC) data, downloaded in February 2018, were used for this study. The Centers for Medicare and Medicaid Services derives this data from the Medicare Provider Enrollment, Chain and Ownership System (PECOS) (CMS, 2016). The data provides individual physician information including medical school, gender, primary specialty and year of graduation from medical school. We merged our NPC data to the 2015-2016 Area Resource File which contains information on county-level practice location characteristics.

We restricted our analysis to physicians who graduated from any of Georgia's traditional four medical schools. We categorized physicians who had their medical school education and practice in Georgia as "stayed". Conversely, those who graduated from Georgia but practice in other states other than Georgia were designated as "left". To understand the differences between the two groups, we compared their individual and current practice location characteristics, using chi-square and t-tests as appropriate. All data management and statistical analyses were conducted in Stata MP 15 and statistical significance was assessed at $p < 0.05$.

RESULTS

8664 physicians who graduated from one of Georgia's four allopathic schools were identified in the database. Of these, only 3,995 (45.65%) currently practice in Georgia. Compared to those who stayed, physicians who left were more likely to practice in specialties other than primary care (71.97% vs. 61.49%; $p < 0.001$), and to be graduates of a private medical college (54.18% vs. 44.17%; $p < 0.001$). Years of medical practice for physicians practicing outside of Georgia were shorter (22.67 vs. 23.94 years; $p < 0.001$) compared to those practicing in Georgia (Table 1). In addition, compared to physicians who stayed, physicians who left the state practiced in counties designated as rural (22.43% vs 14.77%; $p < 0.001$), with lower unemployment rate (5.95% vs 7.32%; $p < 0.001$), lower uninsurance rates

(13.86% vs 17.84%; $p < 0.001$), lower proportion of females (51.19% vs 51.38%; $p < 0.001$), higher proportion of older population (14.92% vs 12.51%; $p < 0.001$), higher percentage

of white population (71.95% vs 57.81%; $p < 0.001$) and with more hospitals (9.80 vs 5.03; $p < 0.001$) (Table 2).

Table 1. Differences in Individual Characteristics

Characteristics	Left N (percent)	Stayed N (percent)	P-value
Gender			
Male	3,326 (70.65)	2,845 (71.93)	0.187
Female	1,382 (29.35)	1,110 (28.07)	
Specialty			
Primary Care	1,320 (28.03)	1,523 (38.51)	<0.001
Specialty Care	3,389 (71.97)	2,432 (61.49)	
Medical School			
Emory (Private)	1,887 (40.08)	1,029 (26.02)	<0.001
MCG(Public)	2,157 (45.82)	2,208 (55.83)	
Mercer (Private)	358 (7.60)	491 (12.41)	
Morehouse (Private)	306 (6.50)	227 (5.74)	
	Mean	Mean	
Years of Practice	22.67	23.94	<0.001

Table 2. Differences in Practice Location Characteristics

	Left N (percent)	Stayed N (percent)	P-value
Rural-Urban Classification			
Rural	1,056 (22.43)	584 (14.77)	<0.001
Urban	3,653 (77.57)	3,371 (85.23)	
	Mean	Mean	
Unemployment rate	5.95	7.32	<0.001
Percent Uninsured	13.86	17.84	<0.001
Percent of population-Female	51.19	51.38	<0.001
Percent of population 65 years and older	14.92	12.51	<0.001
Percent white population	71.95	57.81	<0.001
Number of hospitals	9.80	5.03	<0.001

DISCUSSION/CONCLUSIONS

Less than half of physicians who graduated from a Georgia medical school currently practice in the state, even though about three-quarters of medical school students are Georgia residents (Georgia Board for Physician Workforce, 2012). Medical students who leave the state are typically specialists practicing in older, affluent, rural and less racially diverse counties. The data did not have information on residency status during medical school. Assuming that all out-of-state residents who trained in Georgia left the state upon graduation, the findings from the study suggest that the state is still losing about four out of ten in-state medical students to other states and effective interventions targeting retention are warranted. In 2011, the retention rate for Georgia medical schools was reported to be 46.3% (Georgia Board for Physician Workforce, 2012).

These results are timely as the state examines ways to enhance the number of physicians in the state, particularly in rural and underserved areas. Past studies have identified the following factors as influencing physicians' decision to leave the state: residency opportunities, better remuneration, family considerations, and more favorable job opportunities

(Georgia Board for Physician Workforce, 2011). Therefore, strategies that financially incentivize physicians to practice in the state (particularly in rural and underserved communities) and those that increase the capacity of the state's medical education system, such as increasing the number of residency spots may increase the retention of physicians in the state after their medical school and residency training.

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