

WHO REALLY GOES INTO PRIMARY CARE?

**A STUDY OF THE UNIVERSITY OF NEVADA, RENO SCHOOL OF
MEDICINE GRADUATES – 2005 to 2014**

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March 2019



**NEVADA HEALTH
WORKFORCE**
RESEARCH CENTER

Who Really Goes Into Primary Care? A Study of the University of Nevada, Reno School of Medicine Graduates – 2005 to 2014 contains information about the University of Nevada, Reno School of Medicine (UNR Med) undergraduate medical education (UME) graduates who reported their intention to go into primary care at residency match and follow up with the graduates current training and medical practice to determine if primary care choice of occupation was retained upon entering into the health care workforce.

Key Findings

- 217 of the UNR Med graduates stated their intention of going into primary care at residency match, however, only 142 (65.4%) were practicing in primary care after GME training.
- Family medicine had the highest primary care retention when compared to pediatrics and internal medicine residency programs. Of the 74 graduates who stated their intention of going into family medicine, 62 (83.8%) are actively practicing in family medicine.
- Of 142 physicians who are practicing in primary care, 117 (82.3%) are practicing in Nevada and surrounding western states, of which 68 are practicing in Nevada.

Background

Nevada has a shortage of primary care physicians. Nevada ranks 48th for active primary care physicians in the U.S. ¹ Nevada has 62.8 primary care physicians per 100,000 population compared to 82.5 primary care physicians per 100,000 population in the U.S. ¹ Medical schools generally publicize their primary care graduation rates based on the residency choice of their graduates rather than their actual career upon entry into practice. During residency training many physicians choose to subspecialize, and using residency match rates dramatically overestimates a school's primary care production. In 2018, UNR Med joined in a multi-state study examining primary care production of the

medical school across ten years. This report summarizes the results of the 2005-2014 graduates' intention of entering into a primary care residency at match and actual practice of primary care medicine, as well as the state location of where the graduates are currently practicing.

Methods

Residency match data from UNR Med Alumni Association was used to identify graduates from 2005-2014 cohorts who entered nominal primary care residencies. Nominal primary care is defined as graduates who intend to go into a primary care residency at match. Actual primary care is defined as graduates who entered into the health care workforce as primary care physicians. For this study, primary care was classified using the Institute of Medicine's definition of physicians who trained in family medicine, general internal medicine, geriatrics, and general pediatrics.²

Nominal primary care graduates were excluded if they reported entering into a transitional year, medicine emergency, or medicine preliminary (Table 1). The actual primary care graduates were excluded if they practiced medicine in hospice/ palliative care, or were hospitalist with 50% of patient care in hospitals, urgent care, emergency medicine, or any subspecialty of internal medicine, pediatrics and family medicine (Table 1). Using the AAMC definition of active medical licenses, graduates who worked less than 20 hours per week in patient care were excluded from this study.³

Table 1. Nominal Versus Actual Primary Care

| Nominal Criterial | |
|--|---|
| Included | Excluded |
| <ul style="list-style-type: none"> • Family Medicine • Internal Medicine • Pediatrics • Geriatrics | <ul style="list-style-type: none"> • Transitional Year • Medicine-Emergency • Medicine-Preliminary • All other Specialties |
| Actual Criteria | |
| Included | Excluded |
| <ul style="list-style-type: none"> • Family Medicine • General Internal Medicine • General Pediatrics • Geriatrics | <ul style="list-style-type: none"> • Hospice/Palliative Care • Hospitalists • Urgent Care • Emergency Medicine • Any subspecialty of Peds, IM, FM • All other Specialties |

Using the residency match data it was determined that 98.0% of the nominal primary care graduates could be found via internet search utilizing the Federation of State Medical Boards website, multiple state boards of medical examiners websites, as well as other sources such as Google, Sharecare, social media (LinkedIn), institutional websites, and medical practice websites available to the public. The graduate’s current practice environment and training status were assessed, and re-classified as either primary care or non-primary care. Using the location of the graduate’s active license, the researchers created a map using Geographic Information Systems. (ArcGIS, Version 10.6.1) software to display where the graduates are practicing in the U.S.

Results

Table 2 highlights the number of individuals in each cohort across ten years. The nominal column is the number of graduates who intended primary care training at residency match at the time of UME completion. The actual column is the number of graduates who upon GME completion practiced as a primary care provider in the health care workforce. The nominal number of graduates who reported primary care at

residency match varies from 17 (32.1%) in 2006 to 31 (56.4%) in 2012. The actual number of graduates who practice primary care upon GME completion varies from 9 (17%) in 2006 to 24 (43.6%) in 2012. Across ten years, the nominal total number of graduates who intended primary care training at residency match was 217 (40.9%), however, upon completion of GME and entering into the health care workforce only 142 (26.8%) of the graduates actually remained in primary care. Of the nominal graduates who reported primary care at residency match, 75 (14.1%) chose to subspecialize during their GME training.

Table 2. Nominal Primary Care Output Based on Residency Program and Actual Entry into Primary Care Practice After Residency Completion – 2005 to 2014

| Year of Graduation | Cohort Total | Number | | Percentage Retained in Primary Care | |
|--------------------|--------------|---------|--------|-------------------------------------|--------|
| | | Nominal | Actual | Nominal | Actual |
| 2005 | 51 | 23 | 12 | 45.1 % | 23.5 % |
| 2006 | 53 | 17 | 9 | 32.1 % | 17.0 % |
| 2007 | 52 | 20 | 14 | 38.5 % | 26.9 % |
| 2008 | 48 | 20 | 11 | 41.7 % | 22.9 % |
| 2009 | 50 | 19 | 13 | 38.0 % | 26.0 % |
| 2010 | 54 | 19 | 11 | 35.2 % | 20.4 % |
| 2011 | 54 | 20 | 11 | 37.0 % | 20.4 % |
| 2012 | 55 | 31 | 24 | 56.4 % | 43.6 % |
| 2013 | 59 | 25 | 19 | 42.4 % | 32.2 % |
| 2014 | 54 | 23 | 18 | 42.6 % | 33.3 % |
| Total | 530 | 217 | 142 | 40.9 % | 26.8 % |

Figure 1 displays trends over time of the UNR Med UME graduates nominal and actual primary care output. The total number of graduates in each cohort is represented in blue, the nominal number of graduates intending to go into a primary care residency at match is represented in orange, and the actual number of graduates entering into the health care workforce is represented in gray.

Figure 1. UNR Med UME Cohorts Nominal versus Actual Primary Care Graduates – 2005 to 2014

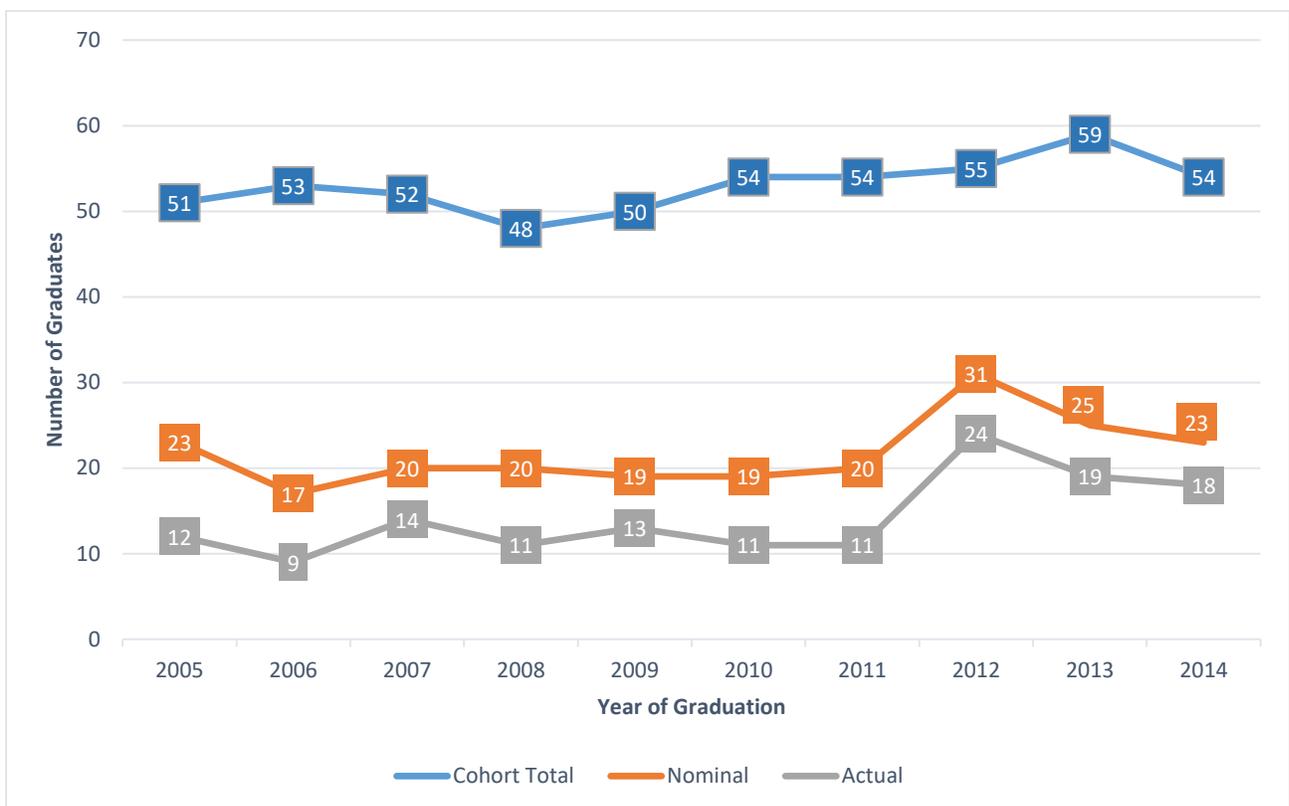


Figure 2 displays the distribution of the 2005-2014 UNR Med graduates who remained in primary care and are practicing in Nevada after GME completion. The total number of UNR Med UME graduates from 2005 to 2014 with active medical licenses is 513, the number graduates who intended primary care training at residency match was 217, the number of graduates who remained in primary care after GME completion is 142, the number of graduates who are practicing primary care out of state is 74, and the number of graduates who are practicing primary care in Nevada is 68.

Figure 2. The Distribution of UNR Med Graduates Who Have Remained in Primary Care and are Practicing in Nevada after GME Completion – 2005 to 2014

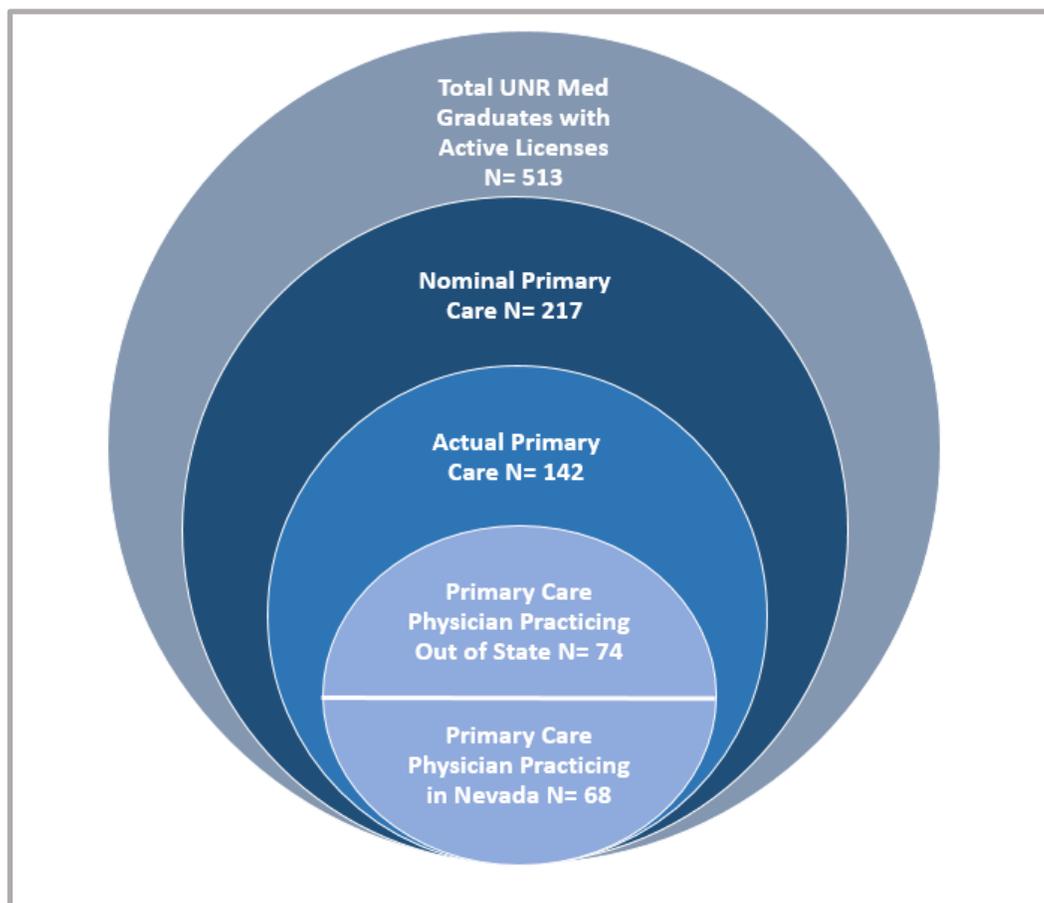


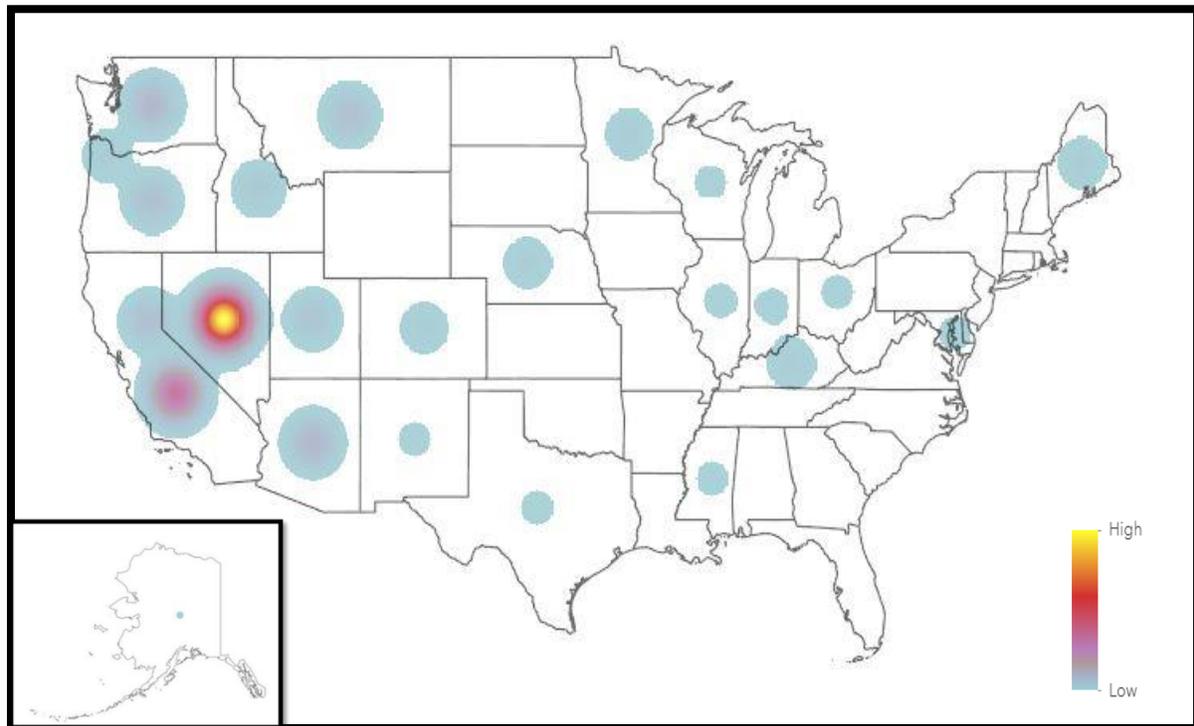
Table 3 displays the primary care retention rates separated by residency training type. The family medicine residency programs had the highest retention rate (83.8%) of the graduates who intended to enter into family medicine at residency match and remained in family medicine upon entry into the health care workforce. The pediatric residency programs had a retention rate (60.0%) of the graduates who intended to enter into pediatrics at residency match and remained in pediatrics upon entry into the health care workforce. The internal medicine residency programs had the lowest retention rate (53.8%) of the graduates who intended to enter into internal medicine at residency match and remained in internal medicine upon entry into health care workforce. The total primary care retention rate of the graduates who intended primary care at residency match and eventually practiced primary care medicine is 65.4%.

Table 3. Primary Care Retention of the UNR UME Graduates by the Primary Care Residency Training Type – 2005 to 2014

| Primary Care Retention by Residency Program | | | |
|---|---------|--------|---------------------|
| Residency Training | Number | | Percentage Retained |
| | Nominal | Actual | |
| Internal Medicine | 93 | 50 | 53.8 % |
| Family Medicine | 74 | 62 | 83.8 % |
| Pediatrics | 50 | 30 | 60.0 % |
| Total | 217 | 142 | 65.4 % |

Figure 3 is a heat map of the locations of UNR Med UME Graduates with active licenses in primary care. The locations with the red/yellow colors indicate a higher concentration of UNR Med UME graduates in the area. Of the 142 graduates who remained in practice primary care, 68 (47.9%) are in Nevada, followed by 23 (16.2%) in California, 8 (5.6%) in Washington, 7 (4.9%) in Arizona, 6 (4.2%) in Oregon, and 5 (3.5%) in Utah. The majority (82.3%) of the UNR Med UME graduates working in primary care are practicing in western states. The remaining 25 (17.6%) UNR Med UME graduates are located in various states across the US.

Figure 3. The location of UNR UME Graduates with Active Licenses in Primary Care



Conclusion

Using the graduate's intended residency match over-estimates UNR Med UME primary care output. The number of graduates from UNR Med who eventually enter careers in primary care is lower than the intended primary care residency choice at UME completion. Of the graduates who remained in primary care after GME completion, the majority now practice in Nevada and surrounding western states. Medical schools should report primary care physician output based on actual career upon entry into practice rather than the residency choice of the graduates.

Future Direction

Recommendations for medical schools to increase primary care output:

- Use applicant characteristics known to predict future primary care to recruit and admit a larger portion of each into incoming medical school classes.
- Involve community based primary care providers early in the curriculum, including pre-clinical years, as role models.
- Shift more clinical training into nonhospital outpatient clinics that demonstrate the value of primary care.
- Develop more primary care provider tracks within internal and pediatric programs.

Recommendations for graduate medical education to increase primary care output:

- Target more resources and training positions to family medicine, which is the specialty that is most likely to produce primary care physicians in meaningful numbers.
- Develop internal medicine and pediatrics programs that emphasize primary care.
- Advocate for state and federal graduate medical education funding to expand primary care residency in Nevada.
- Allocate more funds for loan forgiveness for primary care providers in Nevada.

Sources:

1. Griswold T, Gunawan A, Packham J. Physician Workforce in Nevada 2018 Edition. In. Reno, NV: University of Nevada, Reno School of Medicine Office of Statewide Initiatives; 2018
2. Institute of Medicine (US) Committee on the Future of Primary Care; Donaldson MS, Yordy KD, Lohr KN, et al., editors. Primary Care: America's Health in a New Era. Washington (DC): National Academies Press (US); 1996. 2, Defining Primary Care. Available from:
<https://www.ncbi.nlm.nih.gov/books/NBK232631/Sources>:
3. Association of American Medical Colleges Workforce: Data and Analysis. Association of American Medical Colleges; 2019.
<https://www.aamc.org/data/workforce/reports/458472/definitions-acronyms-specialties.html>.

Additional Information:

Nevada Health Workforce Research Center
Office of Statewide Initiatives
University of Nevada, Reno School of Medicine
www.med.unr.edu/statewide



University of Nevada, Reno
School of Medicine

Office of Statewide Initiatives