

REPORT TO THE DELAWARE HEALTH CARE COMMISSION
2019 Health Care Workforce Study

Respectfully submitted
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INTRODUCTION

In 1990, the Delaware General Assembly created the Delaware Health Care Commission (DHCC) as a public/private initiative to help the state meet the health care needs of the people of Delaware. As a policy setting body, it brings together key individuals in state government and the private community to consider various viewpoints and perspectives to achieve that goal.

DHCC Mission Statement¹: “The DHCC strives to foster initiatives, design plans, and implement programs that promote access to high-quality affordable care, improve health care outcomes for all Delawareans, and foster collaboration among the public and private sectors regarding health care.

Roles, Responsibilities and/or Goals²:

- Collaborate with other state agencies, instrumentalities, and private sector
- Convene stakeholders
- Initiate pilots
- Analyze the impact of previous and current initiatives
- Recommend policy changes to support improved access to high-quality, affordable care

Among the most important factors in DHCC’s work to achieve optimum care for the population of the state with access to high quality, affordable health care is the supply of health care providers throughout the state, especially for primary care. Efforts over time toward that end include the Delaware Institute of Medical Education and Research (DIMER), the Delaware Institute for Dental Education and Research (DIDER), and the Delaware State Loan Repayment Program (SLRP).

In 2012, the DHCC commissioned a study and report on DIMER, DIDER, and the SLRP to provide an assessment of their effects on health care workforce supply since their respective beginnings and also information about other health care workforce enhancement programs around the nation.³ The report provided information about the volumes of medical school and dental school applications, acceptances, and matriculation at the partner schools, Thomas Jefferson University Sidney Kimmel Medical College (TJUSKMC), Philadelphia College of Osteopathic Medicine (PCOM), and Temple University Kornberg School of Dentistry, and of SLRP awards and the associated effect on continuation of practice in the state.

¹ www.dhss.delaware.gov/dhcc.

² Ibid.

³ “Report to the Delaware Health Care Commission: Delaware Institute of Medical Education and Research, Delaware Institute for Dental Education and Research, Delaware State Loan Repayment Program; Student Participant and Loan Repayment Program Participant Tracking Report”, www.dhss.delaware.gov/dhcc, October 15, 2012.

The findings of the 2012 study indicated that the programs were generally effective in achieving their purposes, though the DIDER program was somewhat new at the time and any conclusions about its activities would have been premature.

The DHCC has requested an update on the 2012 study with regard to DIMER, DIDER, and the SLRP through 2018, plus information regarding surrounding states' loan repayment programs and WWAMI, the multi-state rural health program in the northwest U.S. This report provides that information in five sections, as follows:

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SUMMARY OF FINDINGS AND CONCLUSIONS

Each section of this report includes the purpose of the review, background information on the subject, the methodology used, the detailed findings, and the conclusions. Below are summaries of the findings and conclusions on each topic.

DIMER

- Since 2012, Thomas Jefferson University has significantly exceeded its commitment to admit at least 20 Delaware residents to the Sidney Kimmel Medical College each year with 24 to 29 acceptances.
- From 2012 to 2018, the rate of acceptances for Delaware applicants at Jefferson ranged from 28.9% to 39.2%, compared to an acceptance rate for non-Delaware applicants ranging from 3.9% to 4.8%. The average acceptance rate for Delaware applicants was 32.5%, while the average acceptance rate for applicants not from Delaware was 4.2%. The acceptance rate for Delawareans was over 7 times higher than that for non-Delawareans.
- Since 2012, the Philadelphia College of Osteopathic Medicine (PCOM) has far exceeded its commitment to admit at least 5 Delaware residents to its Medical School each year with 16 to 34 acceptances. It is already well exceeding the new commitment of 10 acceptances per year.
- From 2012 to 2018, the rate of acceptances for Delaware applicants at PCOM ranged from 40.0% to 60.7%, compared to an acceptance rate for non-Delaware applicants ranging from 3.9% to 6.1%. The average acceptance rate for Delaware applicants was 50.7%, while the average acceptance rate for applicants not from Delaware was 4.6%. The acceptance rate for Delawareans was over 11 times higher than for non-Delawareans.
- Based on these data and data on admissions to other medical schools for out-of-state applicants, DIMER has well achieved its objective of enabling access to medical school for qualified Delaware residents.
- The lists of individual names of the DIMER matriculants at Jefferson for 1970 to 2019 and at PCOM for 2000 to 2018 were reviewed in order to determine how many returned to Delaware to practice. By review of the Delaware professional licensing database, 30.3% of Jefferson DIMER students after residency training and 31.1% of such PCOM DIMER students were found to have had a license to practice medicine in the state. The overall return rate is 30.4%.
- Programs are underway to further enhance this strong return rate – most notably, the Delaware Branch Campus program spearheaded by Jefferson and ChristianaCare and now includes PCOM, where Jefferson and PCOM students are receiving significant parts of their training in Delaware.

- The Delaware Health Science Alliance, under the leadership of Dr. Omar Khan, is also working to enhance interest in careers in medicine and service to Delaware through education and support programs throughout the state.
- The Alliance is also performing more detailed analysis of the DIMER participants that should be very helpful in continuing to support DIMER.

DIDER

- Since 2012, Temple University has met or exceeded its commitment to admit at least 5 Delaware residents to the Kornberg School of Dentistry each year with 5 to 11 acceptances.
- From 2014 to 2018, the rate of acceptances for Delaware applicants ranged from 31.8% to 47.6%, compared to an acceptance rate for non-Delaware applicants ranging from 9.6% to 11.4%. The average acceptance rate for Delaware applicants was 42.6%, while the average acceptance rate for applicants not from Delaware was 10.5%. The acceptance rate for Delawareans was over 4 times higher than for non-Delawareans.
- The lists of individual names of the DIDER matriculants at Temple for 2000 to 2018 were reviewed in order to determine how many returned to Delaware to practice. By review of the Delaware professional licensing database, over 54% of those who have completed dental school and a post-graduate year are licensed and practicing dentistry in Delaware – a very strong return rate.
- Based on these data, DIDER has well achieved its goal to obtain dental school admission for Delaware residents and to achieve a strong rate of return to practice in Delaware and should continue to be strongly supported.

SLRP Awards and Retention

- From 2012 to 2019 (year-to-date), Delaware has made 59 loan repayment awards for a total of \$2,529,000. Of the 44 awards for which the service commitment has been completed, 40 awardees are providing services in Delaware, 3 are working outside of Delaware, and 1 could not be located. With 40 of the 43 located providers working in Delaware, that is an exceptionally strong 93% retention rate.
- This very strong retention rate supports expansion and further development of the program. See next section summary.

SLRPs in Surrounding States

- In order to further assess the Delaware State Loan Repayment Program, the loan repayment programs of the 3 surrounding states of Maryland, New Jersey, and Pennsylvania were reviewed.
- In summary, Delaware has a joint Federal/State loan repayment program. The federal government provides matching funding and has certain criteria for awards. The criteria relate to the types of professional providers eligible, the types of loan debts eligible, and the locations of practice service. The surrounding states each have both a Federal/State program and a State-only program. Any loan repayment award that does not meet the strict federal requirements is funded under the state-only program by additional funds or funds not used for the Federal/State awards.
- The state-only program provides each surrounding state additional flexibility to enhance its supply of health care providers beyond the limits of the Federal/State program in situations where some aspect of the health care provider's qualifications, the nature of the provider's loan, the nature of the provider site, etc. does not meet the federal requirements. This additional flexibility in the surrounding states puts Delaware's loan repayment program at a competitive disadvantage in recruitment.

WWAMI Program

- The other states that do not have a medical school besides Delaware are Alaska, Montana, and Wyoming, plus, until last August, Idaho. (Idaho established the Idaho College of Osteopathic Medicine in Meridian, ID, near Boise. Those states established a Rural Health program with the University of Washington School of Medicine (UWSOM) to enhance enrollment in medical school for their residents and increase the number of physicians, especially in primary care in underserved areas. The Commission was interested to learn if there are any aspects of the WWAMI program that may inform Delaware efforts.
- Each WWAMI state has an agreement for a fixed number of admission slots at the University of Washington School of Medicine. The number varies by state.
- The education model:
 - First year: Students complete a three-term Foundations Phase at their home state university
 - Second year: Students attend UWSOM in Seattle
 - Third year and fourth year: Students complete required and elective clerkships; they are not required to be in the WWAMI states, but most do at least some clerkships in their home states.
 - Residency: students are not required to take their graduate medical education (residencies) in WWAMI states, but a strong majority of them do.
 - Practice: approximately half of the students choose primary care specialties and a significant percentage practice in underserved areas

- Dozens of clerkship sites are established in clinics and private practices around the participating states and the local preceptors are on the adjunct faculty at UWSOM.
- Costs, which include support for the local state training in the first, third and fourth years, is approximately \$5+ million per state per year.
- With the combination of access to medical school admission and extensive portions of medical school training taking place in underserved areas of the home state, the participating states have achieved significant success in recruiting physicians to practice in the state.
- Based on this model, inasmuch as Delaware has resolved the issue of access to medical school admission through the DIMER program and with DIMER already achieving a strong one-in-three return rate, continuing to establish and develop in-state training experiences will likely enhance physician recruitment.

The Delaware Branch Campus program, spearheaded by Jefferson and Christiana, now including PCOM, is doing precisely that and is growing each year. Continuing to develop the program should be beneficial. An additional possibility to increase Delaware-based training would be to partner with the six acute care hospitals, which all have community-based clinical sites. The new residencies at Bayhealth will likely also be beneficial in this regard.

DELAWARE INSTITUTE OF MEDICAL EDUCATION AND RESEARCH (DIMER)

The Delaware Health Care Commission has requested an update from the 2012 report regarding DIMER and its program to increase opportunities for admission to medical school for Delaware residents and increase the supply of physicians providing services, especially primary care services, to Delawareans.

Background about DIMER from the DIMER website⁴:

Created in 1969 as an alternative to a state-supported medical school, DIMER provides an opportunity for Delaware residents to obtain a high-quality medical education.

Through DIMER, Delaware has a relationship with Sidney Kimmel Medical College of Thomas Jefferson University of Philadelphia, PA, and Philadelphia College of Osteopathic Medicine (PCOM) resulting in Sidney Kimmel Medical College and PCOM functioning as Delaware's medical schools. [Delaware pays Jefferson \$1.0 million and PCOM \$500,000 annually.] Each year twenty (20) admission slots at Sidney Kimmel Medical College and ten (10) admission slots at PCOM are reserved for [qualified] first year applicants from Delaware, which has increased the odds of acceptance for students from the First State. [Prior to 2019, PCOM was paid \$250,000 for five (5) admission slots. In addition, a total of \$280,200 is provided for tuition assistance.]

Methodology

TJUSKMC and PCOM were asked to provide (1) summary data on total applications, acceptances, and matriculations and the same data for applications from Delaware residents for 2012 to 2018 and (2) a list of DIMER matriculants for each year for 2012 to 2018.

The summary data were analyzed to assess the overall admission experiences at each school from 2012 to 2018.

The matriculant names provided for the 2012 report were combined with the names for 2012 to 2018 in order to have the most comprehensive list possible. Each name was checked on the Professional and Occupational Licensing section of the Delaware Open Data Portal data site⁵ maintained by the Division of Professional Regulation to determine if the person is or has been licensed to practice medicine in Delaware.

Findings

Below are data for applications, acceptances, and matriculations at TJUSKMC for individuals from Delaware and from outside Delaware:

⁴ <https://dhss.delaware.gov/dhss/dhcc/dimer>

⁵ data.delaware.gov

Thomas Jefferson University Sidney Kimmel Medical College										
School Year	Total Number of All Applicants	Total Number of Non-Delaware Applicants	Total Number of Delaware Applicants	Total Number of All Acceptances	Total Number of Non-Delaware Acceptances	Total Number of Delaware Acceptances	Total Number of All Enrollees	Total Number of Delaware Enrollees	Rate of Non-Delaware Acceptances	Rate of Delaware Acceptances
2012-2013	10,118	10,044	74	452	423	29	256	22	4.2%	39.2%
2013-2014	10,276	10,203	73	423	396	27	260	23	3.9%	37.0%
2014-2015	10,540	10,460	80	446	421	25	267	22	4.0%	31.3%
2015-2016	10,726	10,634	92	454	426	28	266	25	4.0%	30.4%
2016-2017	10,052	9,967	85	459	433	26	272	20	4.3%	30.6%
2017-2018	9,907	9,828	79	455	430	25	268	19	4.4%	31.6%
2018-2019	9,443	9,360	83	477	453	24	270	20	4.8%	28.9%

The data show that TJUSKMC has met its DIMER obligation with over 20 admission acceptances to Delaware residents in every year since 2012-2013. The acceptance rate for Delaware applicants was over 6 times the acceptance rate for non-Delawareans every year. Over all 7 years, the average acceptance rate for applicants not from Delaware was 4.2% while the acceptance rate for Delaware applicants was 32.5%.

Below are data for applications, acceptances, and matriculations at PCOM for individuals from Delaware and from outside Delaware:

Philadelphia College of Osteopathic Medicine										
School Year	Total Number of All Applicants	Total Number of Non-Delaware Applicants	Total Number of Delaware Applicants	Total Number of All Acceptances	Total Number of Non-Delaware Acceptances	Total Number of Delaware Acceptances	Total Number of All Enrollees	Total Number of Delaware Enrollees	Rate of Non-Delaware Acceptances	Rate of Delaware Acceptances
2012-2013	7,700	7,660	40	421	405	16	270	16	5.3%	40.0%
2013-2014	8,360	8,305	55	416	391	25	270	22	4.7%	45.5%
2014-2015	9,768	9,714	54	433	411	22	270	15	4.2%	40.7%
2015-2016	9,859	9,803	56	413	379	34	270	20	3.9%	60.7%
2016-2017	9,235	9,180	55	434	402	32	270	18	4.4%	58.2%
2017-2018	9,185	9,129	56	589	560	29	270	20	6.1%	51.8%
2018-2019	10,062	10,003	59	441	409	32	268	18	4.1%	54.2%

PCOM has well exceeded its DIMER obligation to admit at least 5 Delaware residents each admission year. It is also admitting much higher numbers of applicants from Delaware than its future obligation to admit at least 10 Delawareans each year. The acceptance rate for Delaware applicants is at least 8 times higher than the rate for residents of other states every year. Over all 7 years, the average acceptance rate for applicants not from Delaware was 4.6% while the acceptance rate for Delaware applicants was 50.7%.

Note: at both TJUSKMC and PCOM, the number of Delaware enrollees is lower than the number of Delaware acceptances each year. It is very likely that the applicants who were accepted, but did not attend, instead chose to attend another medical school to which they were accepted rather than not attend medical school at all. It is not possible

To identify and track those applicants within the scope of this study, but they are also a possible source of practitioners for Delaware.

To determine the rate of return of DIMER students to practice in Delaware, the names of the individual matriculants as provided by TJUSKMC and PCOM were compared with names as listed in the Delaware state professional licensing database for physicians⁶. If a DIMER graduate ever obtained a full physician license to practice in the state, he/she is regarded as having returned. Notes: (1) a person who has held a Delaware license may currently have an active license or the license may have become inactive due to expiration, death, retirement, or other reason; (2) instances of a TJUSKMC or PCOM DIMER graduate with a name change or difference such as from a marriage, divorce or other reason would not be detected unless the name change was provided by the school.

The lists of individual names of the DIMER matriculants provided by TJUSKMC and PCOM were reviewed in order to determine how many returned to Delaware to practice. By review of the Delaware professional licensing database, 30.3% of TJUSKMC DIMER students available to practice and 31.1% of such PCOM DIMER students were found to have had a license to practice medicine in the state. The data are below:

Thomas Jefferson University Sidney Kimmel Medical College	
Total number of DIMER matriculants 1970-2019	987
In post-graduate training* (entered 2013-2015)	61
Still in school (entered 2016-2019)	87
Net number of practitioners	839
Have held Delaware medical license**	254
Licensed/practicing in Delaware	30.3%

* based on 3-year residency; some may be in longer residencies or fellowships

** including 82 persons whose license later expired for various reasons

Philadelphia College of Osteopathic Medicine	
Total number of DIMER matriculants 2000-2018	211
In post-graduate training* (entered 2013-2015)	52
Still in school (entered 2016-2018)	56
Net number of practitioners	103
Have held Delaware medical license**	32
Licensed/practicing in Delaware	31.1%

* based on 3-year residency; some may be in longer residencies or fellowships

** including 6 persons whose license later expired for various reasons

Conclusions

⁶ data.delaware.gov

The data show significant effectiveness of DIMER contributing to the enhancement of the physician workforce in Delaware. Without DIMER, Delaware residents would be at a significant disadvantage in gaining admission to medical school.

Having a home-state medical school greatly increases the possibility of medical school acceptance. Of the 151 medical schools listed by the Association of American Medical Colleges (AAMC)⁷, 75 have at least 70% of matriculants from the school's state and 103 have at least 50% of matriculants from the school's state. The average percent of in-state students in the AAMC medical schools list is 60.6%; that is, on average, applicants from states, like Delaware, without a medical school are vying for only 39.4% of all slots. If they can't get out, they can't come back. With acceptance rates of over 32% at TJUSKMC and over 50% at PCOM, DIMER has effectively eliminated that barrier to getting out to a medical school.

The Delaware return to practice rate is already a very strong one-in-three DIMER graduates. The number of these returns would be significantly less if DIMER had not achieved those medical school admission rates.

The other half of the challenge to increase the physician workforce, after achieving medical school admission, is influencing the practice location decision-making of the newly graduated physician. Studies have shown that the location of graduate medical education is among the highest reasons, along with proximity to family, in physician practice location decisions. DIMER is working with TJUSKMC and PCOM, plus the Delaware Health Sciences Alliance, to increase the return rate to Delaware even further by increasing in-state training.

Please note: The benefits of these most recent efforts for physician workforce enhancement are not yet seen because those physicians who are and will be most involved in them are either still in medical school or still in residencies.

The efforts include the following:

- Delaware Branch Campus: A major effort in increasing the medical school training experiences in Delaware is the development of the Delaware Branch Campus of TJU Sidney Kimmel Medical College seven years ago spearheaded by ChristianaCare and Jefferson. The Branch Campus model was expanded to include PCOM in 2018. Participating hospitals are ChristianaCare, Nemours/A.I. duPont Hospital for Children, and the Veterans Administration Hospital.

Medical students choosing the Delaware Branch Campus option are assigned all third year rotations in Delaware and nearly all required fourth year courses in Delaware. Receiving more of their clinical training at Christiana Care and Nemours

⁷ "Table A-1: U.S. Medical School Applications and Matriculants by School, State of Legal Residence, and Sex, 2018-2019", www.aamc.org/download/321442/data/factstablea1.pdf, Association of American Medical Schools, November 9, 2018.

increases the likelihood that these students will remain to practice in Delaware when they complete their residency training.

Possible future expansion of graduate training experiences to HPSA areas in Kent and Sussex counties with the new Bayhealth residencies and possible Nanticoke/PRMC residencies will potentially enhance this benefit further.

- TJUSKMC: The most recent DIMER annual report from TJUSKMC notes that there were 295 third year clerkships made available at Delaware affiliated hospitals. Further, twelve students matched for first year postgraduate residencies in Delaware at Christiana and Nemours. TJUSKMC is also the sponsoring institution for residencies and fellowships at Christiana and Nemours. These numbers continue to increase Delaware-based training each year.
- PCOM: In addition to its mission to train primary care physicians and its commitment to meeting rural health care needs, plus its high rate of acceptances for Delaware applicants, PCOM is continually increasing educational activities for its students in Delaware. Third and fourth year DO students completing rotations in Delaware during the 2019-2020 academic year:
 - Number of sites in Delaware - 14 (ChristianaCare, Bayhealth, Beebe Healthcare, Nemours/A.I. duPont Hospital for Children, St. Francis Hospital, Coastal Direct Primary Care, Delaware Back Pain Rehab Center, Delaware Health Services, Delaware Psychiatric Center, Trinity Medical Associates, Total Care Physicians, Nicholas Biasoto DO, Anthony Clay DO, Vincent Lobo DO)
 - Number of student rotations - 177 students
 - PCOM's most recent DIMER annual report also notes clinical training sites at La Red Community Health Center in Kent and Sussex Counties.
- Delaware Health Science Alliance: Finally, the Delaware Health Sciences Alliance (DHSA), a collaboration of ChristianaCare, Nemours/A.I. duPont Hospital for Children, Thomas Jefferson University, and the University of Delaware established in 2009, is working actively to analyze and support DIMER in enhancing the physician workforce in Delaware. Under the leadership of Omar Khan MD, DHSA is performing in-depth data gathering and analysis of various demographic, practice pattern, and economic factors associated with the DIMER physician workforce.

In addition, DHSA is working to support DIMER and its goals throughout the state. High school outreach events have been held in New Castle and Kent counties and an event is being scheduled in Sussex County. Also, a "Delaware Day" event was held to promote practice in Delaware to physicians in residency in Delaware and at the Delaware Branch Campus. This work will support further achievement of the DIMER mission to increase the supply of physicians and improve access to quality care throughout the state.

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Following is information excerpted from the 2012 report to the Commission regarding physician recruitment and health care workforce enhancement that may be useful:

Recruitment Strategies

There are many strategies used by the federal government, state governments, professional societies, employers, the military, etc. to enhance the effectiveness of recruitment of individual health care providers, particularly to address shortages in rural and underserved communities. When a debt relief strategy is used, it is usually provided in exchange for service and it is usually for a minimum of two years. The strategies include:

- Loans to providers in training in exchange for service upon completion of training
- Loan repayments for providers who have completed training in exchange for service
- Scholarships for training (with and without requirements for service)
- Stipends for living expenses during training (with and without requirements for service)
- H-1 Visa sponsorship
- J-1 Visa waiver
- Sign-on bonuses
- Income guarantees
- Relocation allowances
- Spouse/partner job transition support
- Career development opportunities
- Continuing medical education support
- Practice start-up support (capital and operating expenses)

The most common strategy used is loan repayment/scholarship/forgiveness programs. The AAMC lists 81 such programs for physicians, provided by federal agencies, states, and other entities. Funding of the various programs is by the federal government, states, and joint federal-state funding. The University of Albany reports that there are 38 state-sponsored loan repayment/scholarship programs for non-physician health care providers. (See individual reports in the body of this report.)

Broader level efforts to increase the supply of physicians reported by the AAMC include:

- Increasing the number of state subsidized medical school seats in other states
- Increasing the number of residency positions in the state
- Removing the cap on GME positions
- Establishing or expanding loan repayment assistance programs for physicians practicing in the state
- Establishment of one or more new medical schools
- Increasing the class sizes at existing medical schools
- Establish regional campus(es) for existing medical schools

- Offering other incentives for practice in underserved areas or specialized populations
- New models of care
- Improved compensation/reimbursement for practice in underserved areas

The State University of New York - Albany reports the following state efforts to address shortages of non-physician providers (number of states):

Task Force, Commission or Panel	44
Scholarships, Loan Repayment	38
Career Ladder Development	14
Health Career Marketing	25
Labor Department/Workforce Investment Board	7
Job Design	5
Workforce Data Collection	27

Effectiveness of Recruitment Strategies/Reasons for Decreased Retention

There have been several studies, reports, and surveys on the effectiveness of recruitment programs and on reasons for poor retention. Summaries of selected studies are below in this report and full copies of some are in the Appendix of this report. The significant conclusions, with parenthetical note of the study organization(s) or author, are:

- Physicians who attend high school in a state (i.e., were previous residents of the state) and medical school in that state are most likely to practice in the state. (Albany; AAMC)
- The strongest recruitment incentive by far was income guarantees, followed by career development; all other factors, including educational loan repayment, were considerably less effective as incentives. (Albany)
- The strongest reasons for not staying in a state after completing training there were better pay, perceived better jobs, cost of living/taxes, and proximity to family. (Albany)
- Multi-factorial recruitment programs, that is, combinations of financial incentives, family considerations, lifestyle considerations, community support/culture, etc. were more effective than financial considerations alone. (Shannon; Sempowski; Jutzi; Hancock)
- Recruitment of rural-raised and community-oriented individuals was more effective for rural locations. (Hancock)
- Physicians who voluntarily choose a rural community in which to practice are far more likely to stay than those who located there as a “return of service” commitment. (Sempowski)
- “Return of service” programs for rural and underserved areas generally achieve their primary recruitment goal in the short term, but have less success in the long term. (Sempowski)
- One medical school program and one interstate program where the medical training and graduate medical training emphasize primary care have had very significantly

positive effect on recruitment and retention to practicing in rural/underserved areas. (Rabinowitz; WWAMI)

- Financial incentive programs have placed substantial numbers of health workers in underserved areas. 71% of incentive recipients fulfilled their service obligation. Incentive program participants are more likely than non-participants to work in underserved areas in the long run, though they are less likely to remain at the original placement location. (Conflicts with Sempowski article.) (Barnighausen)

The Center for the Health Professions at the University of California at San Francisco has prepared what may be the most comprehensive report on health care workforce ... A more effective approach will be more comprehensive and will consider all aspects of the health care system including its structure, financing, technology, care models, provider training and practice scope, and long term planning.

Policy suggestions aimed to meet the expected increase in demand ... include the following:

- “Because professionals tend to practice where they train, increasing training and residency opportunities in under-represented fields and communities is a good investment.
- Expand loan repayment programs for practicing in underserved areas and for high-need professions.
- Enhance telehealth to improve communications between clinicians and patients, and between clinicians, particularly in remote areas.
- Strengthen the capacity of safety net providers who serve under-represented patient populations.
- Expand the legal scopes of practice for select professions such as nurse practitioners and physician assistants.
- Invest in training and health information technology that would allow the safe delegation of tasks to clinical support staff in team-based models.
- Develop financing models that mitigate income differences between primary and specialist providers and that reward patient outcomes-based services by teams of providers.
- Improve, standardize, and streamline workforce data collection and availability to enhance regional and statewide planning.
- Promote ongoing statewide and regional partnerships for health workforce planning. Adequate responses to changes in demand can only be met through coordinated planning efforts beyond the level of individual organizations or communities.”⁸

The report makes the following policy suggestions for meeting the demand related to the educational pipeline,

⁸ “California’s Health Care Workforce – Are We Ready for the ACA?” (Research Brief) by Tim Bates, Lisel Blash, Susan Chapman, Catherine Dower, and Edward O’Neil, Center for the Health Professions, University of California at San Francisco, December 1, 2011.

- “Increasing the number of primary care physicians is an important, but long-term goal that cannot be achieved fast enough to meet the upcoming increase in demand. However, investing in strategies to encourage medical students to practice in primary care is an important step.
- Refocus some education resources on professions such as nurse practitioner and physician assistant, which require less training time than medical school and could help meet some of the more immediate demand for primary care providers.
- Promoting and supporting innovations in California’s community colleges to increase completion of health professions programs and enhance retention of historically underrepresented students would also help increase diversity and meet workforce demands.
- Investing more equitably in primary and secondary (K-12) education programs would help prepare a more diverse group of students to enter the health professions in the first place.”⁹

In addition, in the full report, the participant individuals and organizations involved in developing the UCSF report made comments on aspects of the ACA that have the most potential to support meeting the increasing demand. Excerpts¹⁰ follow:

“While ... there is a shortage of primary care physicians, and ... the ACA [will] result in increased demand on primary care clinicians, increasing the number of primary care physicians was seen as a long term solution incapable of meeting the increase in demand projected by 2014.

“Other types of providers [should] be developed to address these demands. While about 32 percent of physicians and one-third of physician’s assistants enter into primary care (pediatrics, family medicine and internal medicine), 65 percent of nurse practitioners do so. ...

“Because the number of providers, including culturally and linguistically competent providers, is unlikely to increase fast enough to meet demand, redesigning practice models so that providers can delegate tasks to other health care professionals — such as nurses, community health workers, and medical assistants — holds promise. ...

The ability to delegate tasks is reliant not only upon changing practice models, but on enhancing health information technology, and restructuring reimbursement. ...

“... primarily nurse-managed centers [have] potential to address primary care physician shortages

⁹ Ibid.

¹⁰ “California’s Health Care Workforce: Readiness for the ACA Era” (Full Report) by Tim Bates, Lisel Blash, Susan Chapman, Catherine Dower, and Edward O’Neil, Center for the Health Professions, University of California at San Francisco, December 1, 2011.

“... new financing and delivery models have greater potential for addressing the increase in demand. These include the patient-centered medical home model of care (PCMH) and accountable care organizations (ACOs). ...

“Find ways to use HIT to stretch the health care workforce--Address the need for a workforce competent in health information technology that is capable of implementing, using, and maintaining electronic health records (EHRs) and telemedicine. ...

“Improve data integration across systems so that information can be shared safely and efficiently between labs, hospitals, community health centers, and medical office practices.

“Enhance telehealth so that primary care physicians in remote sites can access specialists and non-physician providers can provide care in remote sites and access primary care physicians. ...

“Invest in training to develop multidisciplinary teams. Place more emphasis on teambuilding and communication in health professions training. ...

“Invest in nurse practitioner and physician assistant training programs, and increase the number of slots available for training NPs and PAs. Both of these professions are easier to scale up and require less time in training than primary care physicians. ...

“Reform nurse training away from a hospital-based focus towards a community health-based focus. Create more roles for RN care managers and chronic disease managers to support the 10 percent of patients that incur 70 percent of health care costs. ...

“Train for positions like community health worker, promotorías and health educator that can facilitate a link between clinical care delivery and population health. ...

“Expanding loan repayment programs like the National Health Service Corps to registered nurses working in expanded roles (care manager) in primary care, and to professional counselors, social workers and psychologists working in community clinics ...

“Develop better partnerships between Community Health Centers (CHCs) and hospitals. ...

“Enhance Community Health Center electronic health record (EHR) capacity ...

“Develop practice models that include an interdisciplinary team working together

to provide patient care. Require all clinical staff to work at the top of their license. In a clinic or other primary care setting, staff such as care managers, promotorás, health coaches, nurses, medical assistants, community health workers, and others can be trained to take on much of the planning, screening, health education, panel management, community linkages and follow-up to lighten the burden on the primary care providers. ...

“Changes to reimbursement structures that pay for value, rather than volume, and emphasize prevention, are expected to improve health outcomes and contain costs in the long run by decreasing emergency room visits and hospitalization. Reimbursement structures that cover preventive services provided by nurses, medical assistants, patient navigators, care coordinators, and other clinical support staff are vital to implementing new practice models. ...

“Encourage patient engagement and self-management through renewed emphasis on prevention. Utilize telehealth, patient portals and other HIT resources to provide greater access to health information, and new staffing models to encourage patient participation.”

DELAWARE INSTITUTE FOR DENTAL EDUCATION AND RESEARCH (DIDER)

The Delaware Health Care Commission has requested an update from the 2012 report regarding DIDER and its program to increase opportunities for admission to dental school for Delaware residents and increase the supply of dentists providing services to Delawareans.

Background about DIDER from the DIDER website¹¹:

The Delaware Institute for Dental Education and Research (DIDER) was created in 1981 to support the general practice residency program at Wilmington Hospital. This was viewed as important because Delaware is the only state that requires one year of general practice residency training in a hospital as a condition of licensure. Additional purposes set forth in the Delaware Code address the need to:

- Expand opportunities for Delawareans to obtain post graduate dental training.
- Strengthen the factors favoring the decision of dental personnel to practice in Delaware.
- Meet the overall dental needs of Delaware communities, particularly for those who do not have access to dental care.

In 2001, the administration of DIDER was placed within the offices of the Delaware Health Care Commission. DIDER's Board of Directors was also expanded to allow it to function in a manner that serves its broader public purposes. Most recently, DIDER has been focused on ways to increase the number of dentists in Delaware and expand access to low income uninsured patients.

[The State of Delaware developed an agreement with Temple University beginning in 2005. The State pays Temple \$200,000 per year and Temple via] DIDER provides Delaware residents with an opportunity to receive quality education and training at Temple University Kornberg School of Dentistry. Each year [four (4)] admission slots are reserved for applicants from Delaware [in previous years, Temple was paid \$250,000 per year for five slots] which has increased the odds of acceptance for students from the First State. The partnership with Temple University also promotes opportunities for participating dental students to complete externship and residency training programs at facilities in Delaware.

In addition, from Temple's 2019 annual report to DIDER:

“In an effort to improve access to health care and provide a significant educational opportunity for Delaware residents, a formalized relationship between the State of Delaware through the Delaware Institute of Dental Education and Research (DIDER) and Kornberg School of Dentistry was established in August, 2006.

¹¹ <https://dhss.delaware.gov/dhss/dhcc/dider>

As per the agreement, the Office of Admissions, Diversity, and Student Services has made bona fide efforts to admit as many Delaware residents to the entering class, as possible. Outreach efforts to Delaware students continue under the direction of Mr. Brian Hahn, Director of Admissions. In an attempt to strengthen the pipeline to the dental school, University of Delaware students visit the school of dentistry for a day-long informational session annually as well as Kornberg School of Dentistry visiting the University of Delaware continuously. In addition, Kornberg School of Dentistry and University of Delaware have finalized a 4+4 affiliation agreement.”

Methodology

Temple University was asked to provide (1) summary data on total applications, acceptances, and matriculations and the same data for Delaware residents for 2012 to 2018 and (2) a list of DIDER matriculants for each year for 2012 to 2018.

For the 2012 report, since the DIDER program had only just begun in 2006, students who had entered in 2009 to 2012 were still in school and students who had entered in 2008 were possibly still in graduate dental education programs (residencies). Therefore, there was quite limited information upon which to assess acceptances and effects on increasing the dentist workforce in Delaware.

The matriculant names provided for the 2012 report were combined with the names for 2012 to 2018 in order to have the most comprehensive list possible. Each name was checked on the Professional and Occupational Licensing section of the Delaware Open Data Portal data site¹² maintained by the Division of Professional Regulation to determine if the person is licensed to practice dentistry in Delaware. Persons who were not found to have a Delaware license were checked further via Internet search to minimize the possibility of missing a Delaware practitioner who had a name change associated with a marriage or other reason, though that may still occur to some unknowable extent.

Findings

Below are data for applications, acceptances, and matriculations at Temple for individuals from Delaware and from outside Delaware:

¹² data.delaware.gov

Temple University Kornberg School of Dentistry										
School Year	Total Number of All Applicants	Total Number of Non-Delaware Applicants	Total Number of Delaware Applicants	Total Number of All Acceptances	Total Number of Non-Delaware Acceptances	Total Number of Delaware Acceptances	Total Number of All Enrollees	Total Number of Delaware Enrollees	Rate of Non-Delaware Acceptances	Rate of Delaware Acceptances
2012-2013	4,158	4,150	8	N/A	N/A	N/A	130	3	N/A	N/A
2013-2014	3,582	3,568	14	N/A	N/A	N/A	128	4	N/A	N/A
2014-2015	3,387	3,366	21	333	322	11	139	4	9.6%	47.6%
2015-2016	3,016	2,996	20	332	323	9	137	4	10.8%	45.0%
2016-2017	3,197	3,184	13	323	318	5	137	4	10.0%	38.5%
2017-2018	3,007	2,989	18	329	321	8	139	3	10.7%	44.4%
2018-2019	3,173	3,151	22	365	358	7	138	3	11.4%	31.8%

N/A = Not Available

The data demonstrate that Temple has well met its obligations in the DIDER agreement with at least 5 acceptances in each year and has provided Delaware resident applicants with dental school higher enrollment opportunities than they would likely otherwise have. Delaware applicants have an acceptance rate each year approximately 3 to 4 times higher than the acceptance rate for non-Delaware applicants. In fact, for the years 2014-2015 through 2018-2019, the overall acceptance rate for Delaware applicants is 42.6% vs. 10.5% for non-Delaware applicants. (The difference in the number of Delaware acceptances and the number of Delaware enrollees indicates applicants who very likely also had other dental school acceptances and chose another school to attend. Those graduate dentists are then also potential returnees, though not able to be identified and tracked for this study.)

The list of individuals who enrolled at Temple and whose names were provided was reviewed to identify how many returned to Delaware to practice dentistry. By review of the state's professional licensing database, over 54% of those who have completed dental school and a post-graduate year are licensed and practicing dentistry in Delaware. The data are below:

Temple University Kornberg School of Dentistry	
Total number of matriculants 2003-2018	62
In residency or post-grad year	4
Still in school	10
Net available to practice	48
Hold Delaware dentistry license	26
No Delaware license	22
Licensed/practicing in Delaware	54.2%

No source of comparable data was found for programs similar to DIDER or for dentists from other schools or states. However, DIDER is clearly effective in achieving higher dental school access for Delaware residents. This is a very important part of bringing increased access to dental care for residents of Delaware. Simply said, aspiring dentists can't "come back" if they can't get out in the first place.

No source of data identifying dental practice location decision factors was found. However, academic studies^{13,14} of the factors in graduate physicians' choices of practice locations have identified "proximity to family" as the highest-ranked "main reason" for their decisions with 29% of respondents and as one of the most frequently cited of all reasons by 46% of respondents. Practice decision-making by dental professionals may reasonably be inferred to be similar. Relative to those data, the return of 54% of DIDER program participants to practice in Delaware compares very positively.

The challenge of attracting dentists to practice in Delaware and to bringing care to the unserved, underserved population has additional issues, including:

- Graduate dentists generally leave school with significant student loan debt. Temple University reports that the average indebtedness of recent graduates from its School of Dentistry is \$294,656. The challenge of paying off that debt while starting up a new career is very significant. Additional loan repayment funding and the flexibility of a state-only loan repayment program could be of assistance in this regard.
- The cost of capital equipment and facilities in setting up a new practice or adding to an existing practice are very high. Newly graduated practitioners and practitioners who are interested to move into the state are faced with these high costs and likely significant debt in order to pay for them. Again, additional loan repayment funding and the flexibility of a state-only loan repayment program could be of assistance in this regard.
- Delaware Medicaid payment rates for dental care services are low compared to private insurance and self-pay rates. This results in a financial barrier to access to care for the low income population as dentists may limit such care due to the need to maintain the necessary revenues to cover practice expenses. Bringing Medicaid rates for dental care to private payment levels could be a significant factor for this population that largely goes through life with no dental care and therefore poor oral health and poor nutrition.

Conclusion

In summary, DIDER is very effective in both increasing dental school admission for Delaware residents and in those students returning to Delaware to practice. In addition to continuing to support and fund DIDER, toward the goal of increasing access to dental care services for unserved and underserved populations, the Commission may determine to consider other issues of professional dentist workforce supply noted above.

¹³ "Fewer New Physicians Choose Community-based Primary Care" by David P. Armstrong, Gaetano J. Forte, and Jean Moore, Center for Health Workforce Studies, School of Public Health, University at Albany, State University of New York, October 2011

¹⁴ "Retention of New Physicians after Completing Training in New York in 2010" by David P. Armstrong, Gaetano J. Forte, and Jean Moore, Center for Health Workforce Studies, School of Public Health, University at Albany, State University of New York, December 2010.

Lastly, inasmuch as the data gathered for the 2012 report and for this report are now consolidated and available for continued analysis, it is recommended that the database be updated annually with the new enrollees' information provided each year by Temple University and that the "rate of return to Delaware" by graduates who are finishing school and finishing general practice and specialty practice residencies also be continuously updated.

DELAWARE STATE LOAN REPAYMENT PROGRAM AWARDS RETENTION

The Delaware Health Care Commission has requested an update from the 2012 report regarding the Delaware State Loan Repayment Program (SLRP) relative to the awards made and its effectiveness as a recruitment and retention program.

From the Delaware SLRP website¹⁵:

Delaware has operated a State Loan Repayment Program (SLRP) since 2000 under the directions of the Executive Office of the Governor and the Department of Health and Social Services (DHSS). The Delaware Health Care Commission (DHCC) serves as the lead administrative entity for the program and collaborates heavily with the U.S. Department of Health Resources and Services Administration (HRSA) and the National Health Services Corps (NHSC) to establish program parameters and guidelines. [The] program is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$225,000 with 50% percentage financed with nongovernmental sources.

[The] SLRP strives to create healthier communities by recruiting and retaining quality health care professionals to practice in rural and urban settings designated as Health Professional Shortage Areas (HPSAs). The program offers financial assistance up to \$100,000 for verifiable educational loans to qualified dental, behavioral/mental health, and primary care professionals for a minimum of two (2) consecutive years of full-time (40 hours per week) or half-time (20-39 hours per week) service in shortage areas across the State.

A limited number of awards based on funding availability are provided to qualified applicants in two categories of disciplines:

Advanced Disciplines

Primary Care Physicians (MD and DO)

- Family Medicine
- Osteopathic Medicine
- Internal Medicine
- Pediatrics
- Obstetrics/Gynecology
- Geriatrics
- Psychiatry

Dentists (General and Pediatric)

Mid-Level Disciplines

Certified Nurse-Midwife

Health Services Psychologist

Licensed Alcohol and Drug Abuse Counselor

¹⁵ dhss.delaware.gov/dhcc/slrp.html

Licensed Clinical Social Worker
 Licensed Professional Counselor
 Marriage and Family Therapist
 Nurse Practitioner
 Pharmacist
 Physician Assistant
 Psychiatric Nurse Specialist
 Registered Dental Hygienist
 Registered Nurse

For a 2-year commitment to provide services in an approved HPSA, an advanced discipline provider can be awarded \$70,000 to \$100,000 with up to 2 1-year extensions ranging from \$35,000 to \$50,000 per year. Mid-level discipline providers can be awarded \$30,000 to \$60,000 for a 2-year commitment with up to 2 1-year extensions ranging from \$15,000 to \$30,000 per year.

Methodology

A list of the SLRP awards made from 2012 to year-to-date 2019 was provided by the offices of the Delaware Health Care Commission. The awardees were checked against the professional licensing database for active licensure and were found on internet searches to determine active practice in the state.

Findings

From 2012 through September 2019, SLRP awards have been made as follows:

Year	No. of Total Awards	No. of Advanced Provider Awards	No. of Mid-Level Provider Awards	Total Amount of Awards
2012	6	5	1	\$ 272,000
2013	7	4	3	\$ 267,000
2014	9	7	2	\$ 543,000
2015	7	2	5	\$ 310,500
2016	9	6	3	\$ 380,500
2017	10	6	4	\$ 376,500
2018	6	2	4	\$ 232,000
2019 ytd	5	2	3	\$ 147,500
Total	59	34	25	\$ 2,529,000

The 59 awards were made to 48 unique awardees (9 awardees received an extension award; 1 awardee received 2 extension awards).

Of the 59 awards, 15 are still active, i.e., still in the service commitment period. Fourteen of the 15 are known to be providing services in Delaware; 1, a pharmacist, could not be located, but is likely working at a drug store in the state

44 award commitments have been completed. Of those 44 awardees, 40 are providing services in Delaware, 3 are working outside of Delaware, and 1 could not be located. With 40 of the 43 located providers working in Delaware, that is a 93% retention rate.

Conclusions

The 93% retention rate following completion of the SLRP service commitment appears to be very strong. No comparison data in other states was located. However, the 93% retention clearly indicates the success of Delaware SLRP and argues for possible expansion and additional funding.

A separate section of this report compares the Delaware program with surrounding states' programs, all of which have both a state-federal program and a state-only program that provides significant flexibility when there are recruiting opportunities that do not meet federal HRSA requirements.

SURROUNDING STATES' LOAN REPAYMENT PROGRAMS

The Delaware Health Care Commission has requested information regarding the health care provider education loan repayment programs in the surrounding states of Maryland, New Jersey, and Pennsylvania as a possible basis for considering supplementing the Federal/State loan program in Delaware with a State (only) program.

Methodology

Information regarding the State Loan Repayment Programs (SLRPs) in Maryland, New Jersey, and Pennsylvania were obtained from Internet sources and with direct communications with representatives of the programs by telephone and email.

Findings

This section of this report provides:

1. A side-by-side table summarizing the loan repayment programs in Delaware, Maryland, New Jersey, and Pennsylvania, plus states' demographic and physician workforce data
2. A list of loan repayment programs across the U.S. prepared by the American Association of Medical Colleges (AAMC) (As a result of communications with representatives of the surrounding states, the list is known to be incomplete; however, it is provided as a basis to identify other states with state-only programs in the event that review of those additional programs is desired.)
3. A list of federal HRSA cost-sharing awards to support states' loan repayment programs
4. Detailed information regarding Delaware, Maryland, New Jersey, and Pennsylvania loan repayment programs

In summary, Delaware has a Federal/State loan repayment program only. The surrounding states of Maryland, New Jersey, and Pennsylvania each have both a Federal/State program and a State program. Appropriations in the surrounding states are enough to cover the state portion of the 1:1 match with federal HRSA grant funds plus additional funds for the state-only program. Any loan repayment award that does not meet HRSA requirements is funded by the additional funds or funds not used for the Federal/State awards.

The state-only program provides each surrounding state additional flexibility to enhance its supply of health care providers beyond the limits of the Federal/State program in situations where some aspect of the health care provider's qualifications, the nature of the provider's loan, the nature of the provider site, etc. does not meet the HRSA requirements.

Conclusion

Without a state-only program, Delaware does not have flexibility beyond federal limitations. It is at a competitive disadvantage. It cannot respond to health care workforce recruitment opportunities that other states can. The current Delaware federal-state SLRP has been very successful in retaining awardees after completing their service commitments. Establishing and funding a state-only loan repayment program with parameters best designed to the needs of Delaware would likely increase the success of the current federal-state program in health workforce enhancement.

Details are provided in the side-by-side table below and in individual states' program descriptions following the table.

STATE LOAN REPAYMENT PROGRAMS: DELAWARE AND SURROUNDING STATES				
STATE	DELAWARE	MARYLAND	NEW JERSEY	PENNSYLVANIA
Program Name	State Loan Repayment Program	Maryland Loan Assistance Repayment Program (MLARP) Maryland Dent-Care Loan Assistance Repayment Program (MDC-LARP)	Primary Care Practitioner Loan Redemption Program of New Jersey (NJLRP)	Pennsylvania Primary Care Repayment Program (PA LRP)
Type (Federal/State; State Only)	Federal/State Program	Federal/State Program and State-Only Program – Administered Jointly as MLARP MDC-LARP is a state-only program	Federal/State Program and State-Only Program – Administered Jointly as NJLRP (Formerly administered through a contract with Rutgers University Biomedical and Health Sciences; since October 2019, administration transferred to the NJ Higher Education Student Assistance Authority; program currently suspended for new awards since July 1)	Federal/State Program and State-Only Program – Administered Jointly as PA LRP)
Goals	Create healthier communities by recruiting and retaining quality health care professionals to practice in rural and urban settings designated as HPSAs. Recruit and provide incentives to invest in returning and new medical and dental graduates and health care professionals who are increasing their education to provide new or additional services to Delaware’s health professional shortage areas.	MLARP: Recruit and retain health care professionals to provide primary care in underserved areas MDC-LARP: Increase access to oral health care services for Maryland Medical Assistance Program (MMAP) recipients by increasing the number of dentists treating this population	Promotes access to primary care services in medically underserved areas of the State by improving the distribution of primary care health providers, including physicians, dentists, physician assistants, certified nurse practitioners and certified nurse midwives, by providing for the redemption of eligible student loans expenses of providers in exchange for specified periods of service in medically underserved areas	Increase access to primary medical, dental, or behavioral health care services in underserved communities Improve recruitment and retention of health practitioners in underserved communities
Eligible Professions	<u>Advanced Disciplines</u> Primary Care Physicians <ul style="list-style-type: none"> • Family Medicine • Internal Medicine • Pediatrics • Obstetrics/Gynecology • Geriatrics • Psychiatry General and Pediatric Dentistry	<u>Federal/State Program</u> Primary Care Physicians: <ul style="list-style-type: none"> • Family Practice • Internal Medicine • Pediatrics • Geriatrics • Obstetrics and Gynecology • Psychiatry 	Primary Care Physicians <ul style="list-style-type: none"> • Family Practice • Internal Medicine • Pediatrics • Obstetrics & Gynecology • Combined Medicine - Pediatrics. Dentists	Physicians <ul style="list-style-type: none"> • Family Medicine • General Internal Medicine • General Pediatrics • Geriatrics, Obstetrics/Gynecology • Psychiatry General Dentists Physician Assistants

	<p><u>Mid-Level Disciplines</u></p> <ul style="list-style-type: none"> • Certified Nurse-Midwife • Health Services Psychologist • Licensed Alcohol and Drug Counselors • Licensed Clinical Social Worker • Licensed Professional Counselor • Marriage and Family Therapist • Nurse Practitioners • Pharmacist • Physician Assistant • Psychiatric Nurse Specialist • Registered Dental Hygienist • Registered Nurse 	<p>Primary Care Physician Assistants:</p> <ul style="list-style-type: none"> • Adult • Family • Geriatric • Psychiatry • Mental Health • Women’s Health <p>-----</p> <p><u>State-Only Program</u></p> <p>Primary Care Physicians</p> <ul style="list-style-type: none"> • Family Practice • Internal Medicine • Pediatrics • Geriatrics • Obstetrics and Gynecology • Psychiatry • Women’s Health • Emergency Medicine <p>Primary Care Physician Assistants:</p> <ul style="list-style-type: none"> • Adult • Family • Geriatric • Psychiatry • Mental Health • Women’s Health • Emergency Medicine <p>Medical Residents:</p> <ul style="list-style-type: none"> • Family Practice • Internal Medicine • Pediatrics • Geriatrics • Obstetrics and Gynecology • Psychiatry • Women’s Health • Emergency Medicine <p>Other: Physicians and Physician Assistants who practice a medical specialty other than primary care may be considered if there is an identified shortage in that specialty</p>	<p>Certified Nurse Practitioners</p> <ul style="list-style-type: none"> • Family Nurse Practitioner • Primary Ambulatory Nurse Practitioner • Primary Healthcare Adult Nurse Practitioner • Pediatric Nurse Practitioner • OB/GYN or Women’s Health Nurse Practitioner. <p>Certified Nurse Midwives Primary Care Physician Assistants</p>	<p>Certified Registered Nurse Practitioners Certified Nurse Midwives Dental Hygienists Psychologists Licensed Clinical Social Workers Licensed Professional Counselors Marriage and Family Therapists</p>
Eligibility Requirements	All Federal/State awardees must meet Federal eligibility requirements; see end of this table	All Federal/State awardees must meet Federal eligibility requirements; see end of this table	All Federal/State awardees must meet Federal eligibility requirements; see end of this table	All Federal/State awardees must meet Federal eligibility requirements; see end of this table
Awards	A limited number of loan repayment practitioner contracts are awarded each year.	<ul style="list-style-type: none"> • Initial Award: Up to \$50,000 per year for a 2-year obligation 	Up to \$120,000 in student loan redemption for two to four years as a primary care provider	Physicians & Dentists: <ul style="list-style-type: none"> • Up to \$100,000 of educational loan repayment for a

	<p>These awards are based on the availability of funding.</p> <p>For a two (2) year service commitment, practitioners are eligible to receive a minimum award of \$30,000 and a maximum award of \$100,000/2 year contract.</p> <p>The State of Delaware, Health Care Commission requires participating Practice Sites agree via a signed contract/MOU to the SLRP program requirements that govern the practitioner's participation in the program. Practice Sites are required to provide 50% of the total award in non-federal funds to match the Federal share (\$1 to \$1) of the loan repayment award. This requirement is in addition to paying each SLRP participating provider a salary</p> <p>Note: The HCC may provide matching funds for SLRP awards based on availability of state funding</p> <p>Delaware State Loan Repayment Program awards qualified mid-level and advanced-level applicants across three (3) weighted evaluative categories;</p> <ul style="list-style-type: none"> Meets Qualifications - awards in the mid-level category are funded up to \$30,000 and up to \$70,000 in the advanced-level category. Exceeds Qualifications - awards in the mid-level category are funded up to \$45,000 and up to \$85,000 in the 	<ul style="list-style-type: none"> Renewing an Award - A recipient may apply for another award after completion of the first 2-year service obligation. A recipient's total award amount cannot exceed \$200,000, or two 2-year obligations at \$50,000 per year. <p>A physician who is in a 3rd or 4th year of residency can apply for an award based on a commitment to practice in an approved position in the state.</p> <p>Dentists may receive up to \$23,740 per year for each year of obligated service up to a maximum of 3 years of service. The award may be renewed up to two additional years.</p> <p>Any award that meets HRSA requirements is funded through the Federal/State program 1:1 Federal:State match; any award that does not meet HRSA requirements is funded through the State-only program, pending availability of appropriated funds.</p>	<p>At the end of each full year of service, approved NJLRP participants are eligible for loan repayment as follows:</p> <p>18% of the outstanding loan balance up to \$21, 600 for the first full year of service</p> <p>26% of the outstanding loan balance up to \$31,200 for the second full year of service</p> <p>28% of the outstanding loan balance up to \$33,600 for the third full year of service</p> <p>28% of the outstanding loan balance up to \$33,600 for the fourth full year of service</p> <p>For a total of \$120,000, the maximum loan repayment over a four year period of service</p> <p>Any award that meets HRSA requirements is funded through the Federal/State program; 1:1 Federal:State match; any award that does not meet HRSA requirements is funded through the State-only program, pending availability of appropriated funds.</p>	<p>full-time service commitment</p> <ul style="list-style-type: none"> Up to \$50,000 of educational loan repayment for a half-time service commitment <p>PA-C, CRNP, CNM, RDH, LCSW, LPC, MFT & Psychologists:</p> <ul style="list-style-type: none"> Up to \$60,000 of educational loan repayment for a full-time service commitment Up to \$30,000 of educational loan repayment for a half-time service commitment <p>Any award that meets HRSA requirements is funded through the Federal/State program; 1:1 Federal:State match; any award that does not meet HRSA requirements is funded through the State-only program, pending availability of appropriated funds.</p>
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	<p>advanced-level category.</p> <ul style="list-style-type: none"> • Distinguished Qualifications - awards in the mid-level category are funded up to \$60,000 and up to \$100,000 in the advanced-level category. • Increase the availability and accessibility of Primary Care, Dental and Mental Health Services in underserved areas. <p>Factors considered in rating applications include:</p> <ul style="list-style-type: none"> • Being a new provider in Delaware • Being a Delaware resident • Work site HPSA score • DIMER/DIDER graduates • State health initiatives 			
Commitment	<p>Two-year contract with the program Serve in an approved HPSA practice site</p>	<p>Physician/Physician Assistant</p> <ul style="list-style-type: none"> • Two-year contract with the program • Serve in an approved HPSA practice site • Two-year renewal of contract can be applied for <p>Dentist</p> <ul style="list-style-type: none"> • Three-year contract with the program • Serve in an approved site providing care to Medicaid patients • Two year renewal of contract can be applied for 	<p>Contract for a minimum period of 2 years, which includes a six-month probationary period, upon the completion of the final year of residency training in the case of a physician; at the end of the final year of undergraduate dental training or residency training if the training is required in a primary care dental specialty in the case of a dentist; and at the end of the final year of other primary care training in the case of another primary care provider</p>	<p>Loan repayment is provided in exchange for two years of full-time or half-time service at an approved primary care practice site.</p> <p>Two-year contract with the program Serve in an approved HPSA practice site</p>
Appropriations (most recent year) (Federal Source – HRSA; State Source – State Representative)	\$225,000 HRSA grant (2018); \$225,000 state appropriations	\$360,000 HRSA grant (2018); \$400,000 total state appropriations, including state portion of 1:1 match with any Federal/State awards	\$255,000 HRSA grant (2018); \$255,000 total state appropriations, including state portion of 1:1 match with any Federal/State awards	\$500,000 HRSA grant (2018); \$1,000,000 total state appropriations, including state portion of 1:1 match with any Federal/State awards
Number of Awardees (most recent year)	6 awards	12 awards	6 awards	~ 50 awards

Other		Information is provided about the program on the Office of Population Health website and is provided to various state offices involved with rural health and to the in-state medical schools to be available to students.	Program currently suspended while being transitioned from being administered by Rutgers to being administered directly by the state	State collaborates with the state family care association career center and the state Office of Rural Health to market the program to MDs, PAs, etc. Priority is given to persons who are from/grew up in PA
Estimated 2019 Population (U.S. Census Bureau)	975,033	6,062,917	8,922,547	12,813,969
Size (sq. mi. land area – U.S. Census Bureau)	1,948,540	9,707,240	7,354,220	44,742,700
Active Patient Care Physicians – 2016 (AAMC)	2,306	17,850	23,389	34,035
Active Patient Care Physicians per 100,000 Population – 2016 (AAMC)	242.2	296.7	351.3	266.2
Active Patient Care Physicians per 100,000 Population State Rank – 2016 (AAMC)	18	6	12	9
Active Primary Care Physicians – 2016 (AAMC)	904	6,955	8,613	12,744
Active Primary Care Physicians per 100,000 Population – 2016 (AAMC)	95.0	115.6	96.3	99.7
Active Primary Care Physicians per 100,000 Population State Rank – 2016 (AAMC)	19	6	18	15

AAMC State and Federal Loan Repayment, Loan, Scholarship, and Other Programs Database - 2019

<u>Program</u>	<u>State/Other</u>	<u>Designation</u>	<u>Type</u>
Allied Health Loan-for-Service Program	New Mexico	State	Loan Program
Board of Medical Scholarship Awards	Alabama	State	Scholarship
CalHealthCares	California	Federal	Repayment
California State Loan Repayment Program	California	Federal	Repayment
Colorado Health Service Corps Loan Repayment Program	Colorado	Federal/State	Repayment
Community Match Rural Physician Recruitment Program	Arkansas	State	Repayment
DC Health Professional Loan Repayment Program (HPLRP)	District of Columbia	Federal/State	Repayment
Delaware State Loan Repayment Program	Delaware	Federal/State	Repayment
Doctors for Maine's Future Scholarship	Maine	State	Scholarship
Dr. James L. Hutchinson and Evelyn Ribbs Hutchinson Med Sch Scholarship	California	State	Scholarship
Health Professional Loan Repayment Program (HPLRP)	New Mexico	Federal/State	Repayment
Health Professions Loan Assistance Program	Wisconsin	State	Loan Assistance
Indian Health Service Loan Repayment Program	Maryland	Federal	Repayment
Indian Health Service Scholarship Program	Maryland	Federal	Scholarship
Indiana Primary Care Scholarship Program (IPCSP)	Indiana	State	Scholarship
Iowa Loan Repayment Program (PRIMECARRE)	Iowa	Federal/State	Repayment
Kansas Bridging Plan	Kansas	State	Forgiveness
Kansas State Loan Repayment Program	Kansas	Federal/State	Repayment
Kentucky State Loan Repayment Program	Kentucky	50/50 Fed/Other	Repayment
Louisiana State Loan Repayment Program	Louisiana	Federal/State	Repayment
Maine Health Professions Loan Program	Maine	State	Forgiveness
Massachusetts State Loan Repayment Program	Massachusetts	Federal/State	Repayment
Medical Loan-for-Service Program	New Mexico	State	Loan Program
Medical Student Loan Program	West Virginia	State	Forgiveness
Michigan Loan Reimbursement and Employment Solution (MiLES)	Michigan	State	Repayment
Michigan State Loan Repayment Program	Michigan	Federal/State	Repayment
Minnesota Dentist Loan Forgiveness Program	Minnesota	State	Forgiveness
Minnesota Nurse Loan Forgiveness Program	Minnesota	State	Forgiveness
Minnesota Rural Advanced Practice Provider Loan Forgiveness Program	Minnesota	State	Forgiveness
Minnesota Rural Physician Loan Forgiveness Program	Minnesota	State	Forgiveness
Minnesota State Loan Repayment Program	Minnesota	Federal/State	Repayment
Minnesota Urban Physician Loan Forgiveness Program	Minnesota	State	Forgiveness
Missouri Health Professional State Loan Repayment	Missouri	Federal/State	Repayment
Montana Rural Physician Incentive Program (MRPIP)	Montana	State	Repayment
Montana WICHE, WWAMI Student Exchange Programs	Montana	State	Prof Student Exchange
National Health Service Corps Loan Repayment Program	NHSC	Federal	Repayment
National Health Service Corps Scholarship Program	NHSC	Federal	Scholarship
National Health Service Corps Students to Service Loan Repayment Program	NHSC	Federal	Repayment
NIH Loan Repayment Programs (LRP)	NIH	Federal	Repayment
National Medical Fellowships Scholarships and Awards	Nat Med Fellowships	Donations	Scholarship
Nebraska Loan Repayment Program	Nebraska	State	Repayment
New Hampshire State Loan Repayment Program	New Hampshire	State	Repayment
North Dakota Federal State Loan Repayment Program (SLRP)	North Dakota	Federal/State	Repayment
North Dakota Health Professional Student Loan Repayment Program	North Dakota	State	Repayment
Nursing Loan for Service Program	New Mexico	State	Loan Program
Ohio Physician Loan Repayment Program	Ohio	State	Repayment
Oklahoma Family Practice Resident Rural Scholarship Loan Program	Oklahoma	State	Scholarship
Oklahoma Medical Loan Repayment Program	Oklahoma	State	Repayment
Oklahoma Rural Medical Education Scholarship Loan Program	Oklahoma	State	Scholarship
Oregon Health Care Provider Loan Repayment	Oregon	State	Repayment
Oregon Partnership State Loan Repayment (SLRP)	Oregon	State	Repayment
Oregon Primary Care Loan Forgiveness Program (PCLF)	Oregon	State	Forgiveness
Physician Education Loan Repayment Program	Texas	State	Repayment
Physician Loan Repayment Program	California	State	Repayment
Primary Care Practitioner Loan Redemption Program of New Jersey (NJLRP)	New Jersey	Federal/State	Repayment
Primary Care Resource Initiative for Missouri (PRIMO)	Missouri	State	Forgiveness
Rhode Island Health Professionals Loan Repayment	Rhode Island	State	Repayment
Rural Physician Loan Repayment Program (RPLRP)	Utah	State	Repayment
Rural Practice Scholarship Program	Arkansas	State	Scholarship
Scholars for a Healthy Oregon	Oregon	State	Forgiveness
South Dakota Recruitment Assistance Program	South Dakota		Recruitment Assistance
State Loan Repayment Program (SLRP) in Maryland	Maryland	State	Repayment
Tennessee Ctr for Health Workforce Development Residency Stipend Program	Tennessee	State	Stipend Program
The Physicians for Rural Areas Assistance Program	Georgia	State	Repayment
The Pisacano Scholars Leadership Program	Am Bd of Fam Med		Scholarship
The Steven M. Thompson Physician Corps Loan Repayment Program	California	State	Repayment

U.S. Air Force Health Professions Scholarship Program (HPSP)	US Air Force	Federal	Scholarship
U.S. Army Health Professions Scholarship Program	US Army	Federal	Scholarship
U.S. Navy Health Professions Scholarship Program	US Navy	Federal	Scholarship
U.S. Navy Health Professions Loan Repayment Program (HPLRP)	US Navy	Federal	Repayment
Vermont Educational Loan Repayment Program for Health Care Professionals	Vermont	Federal/State	Loan Repay/Forgive
Virginia State Loan Repayment Program (VA LRP)	Virginia	Federal/State	Repayment
Wisconsin Primary Care and Psychiatry Shortage Grant	Wisconsin	State	Grant
Wyoming WICHE Professional Student Exchange Program	Wyoming	State	Prof Student Exchange
Wyoming WWAMI Medical Education Program	Wyoming	State	Med Educ Program
Wyoming WYDENT Medical Education Program	Wyoming	State	Med Educ Program

In 2018, HRSA Awarded \$18,979,864 to 41 States
(and DC) and 2 U.S. territories as cost-sharing
grants for loan repayment programs

Alabama	No current award
Alaska	\$ 1,000,000
Arizona	\$ 1,000,000
Arkansas	No current award
California	\$ 1,000,000
Colorado	\$ 1,000,000
Connecticut	No current award
Delaware	\$ 225,000
District of Columbia	\$ 333,161
Florida	No current award
Georgia	\$ 85,000
Hawaii	\$ 256,500
Idaho	\$ 225,000
Illinois	\$ 850,000
Indiana	\$ 300,000
Iowa	\$ 192,653
Kansas	\$ 135,000
Kentucky	\$ 382,500
Louisiana	\$ 359,550
Maine	\$ 170,000
Maryland	\$ 360,000
Massachusetts	\$ 550,000
Michigan	\$ 1,000,000
Minnesota	\$ 90,000
Mississippi	No current award
Missouri	\$ 425,000
Montana	\$ 127,500
Nebraska	\$ 450,000
Nevada	\$ 500,000
New Hampshire	No current award
New Jersey	\$ 255,000
New Mexico	\$ 300,000
New York	\$ 900,000
North Carolina	\$ 100,000
North Dakota	\$ 540,000

Ohio	\$ 675,000
Oklahoma	No current award
Oregon	\$ 300,000
Pennsylvania	\$ 500,000
Rhode Island	\$ 550,000
South Carolina	No current award
South Dakota	No current award
Tennessee	\$ 450,000
Texas	\$ 850,000
Utah	\$ 202,500
Vermont	\$ 212,500
Virginia	\$ 500,000
Washington	\$ 1,000,000
West Virginia	\$ 135,000
Wisconsin	\$ 300,000
Wyoming	\$ 68,000

<https://nhsc.hrsa.gov/loan-repayment/state-loan-repayment-program/map>

Delaware State Loan Repayment Program

Delaware has operated a State Loan Repayment Program (SLRP) since 2000 under the directions of the Executive Office of the Governor and the Department of Health and Social Services (DHSS). The Delaware Health Care Commission is the lead administrative entity for the program. This program is supported by the Health Resources and Services Administration (HRSA) as part of an award totaling \$225,000 with 50% percentage financed with nongovernmental sources.

The SLRP strives to create healthier communities by recruiting and retaining quality health care professionals to practice in rural and urban settings designated as Health Professional Shortage Areas. The program offers financial assistance up to \$100,000 for verifiable educational loans to qualified physician, dental, behavioral/mental health, and other primary care professionals for a minimum of two (2) consecutive years of full-time (40 hours per week) or half-time (20-39 hours per week) service in shortage areas across the State.

Delaware State Loan Repayment Program awards qualified mid-level and advanced-level applicants across three (3) weighted evaluative categories;

- Meets Qualifications - awards in the mid-level category are funded up to \$30,000 and up to \$70,000 in the advanced-level category.
- Exceeds Qualifications - awards in the mid-level category are funded up to \$45,000 and up to \$85,000 in the advanced-level category.
- Distinguished Qualifications - awards in the mid-level category are funded up to \$60,000 and up to \$100,000 in the advanced-level category.

Program funds are sourced from HRSA and require a 1:1 match for every dollar awarded. The award amounts published, includes the matched amounts. For example, an award for \$100,000 receives 50% funding from HRSA and the remaining 50% from the State or non-governmental entities. Based on the availability of funds, the State may provide matching funds through Delaware Institute for Dental Education and Research (DIDER), Delaware Institute for Medical Education and Research (DIMER), or affiliated State agencies.

Continuing Contracts are awarded for Years Three (3) and Four (4) of the program. SLRP awardees who've completed the initial award commitment period, are encouraged to pursue continuing contracts for one (1) additional year of commitment in a designated HPSA, for up to two (2) years total. New applications must be completed and submitted to DHCC for consideration in each award cycle following the end of an existing contract.

All contracts are dependent on the availability of Federal and/or matching funds.

Practitioners must have completed training in an accredited graduate training program, and possess an active and valid license in the State of Delaware (*without restrictions or encumbrances*) to practice in one of the following eligible disciplines:

Advanced Disciplines

Primary Care Physicians

- Family Medicine
- Internal Medicine
- Pediatrics
- Obstetrics/Gynecology
- Geriatrics
- Psychiatry

General and Pediatric Dentistry

Mid-Level Disciplines

- Certified Nurse-Midwife
- Health Services Psychologist
- Licensed Alcohol and Drug Counselors
- Licensed Clinical Social Worker
- Licensed Professional Counselor
- Marriage and Family Therapist
- Nurse Practitioners
- Pharmacist
- Physician Assistant
- Psychiatric Nurse Specialist
- Registered Dental Hygienist
- Registered Nurse

Practitioners must practice full-time providing primary health services at an eligible site. “Full-time” is defined as a minimum of 40 hours per week (not including travel or time on-call), for a minimum 45 weeks per year.

The following Practice Site types are eligible to be approved as practice sites:

- Federally Qualified Health Centers (FQHCs)
 - Community Health Centers
 - Migrant Health Centers
 - Homeless Programs
 - Public Housing Programs
- FQHC Look-A-Likes
- Other Health Facilities
 - Community Outpatient Facilities (hospital or non-hospital affiliated)
 - Community Mental Health Facilities
 - State and County Health Department Clinics
 - Immigration and Customs Enforcement (ICE) Health Service Corps (IHSC)
 - Free Clinics
 - Mobile Units
 - School-based Programs
 - Long-term Care Facilities

- State Mental Health Facilities
- Correctional or Detention Facilities
 - Federal Prisons
 - State Prisons
- Private Practices (must be a public or private non-profit entity)

Details of Surrounding States' Programs

Maryland

The State of Maryland Department of Health has designated recruitment and retention of a health professional workforce as a priority. The Department operates a student loan repayment program as a key part of its strategy in that regard. There are two programs administered jointly: a joint federal-state program and a state-only program.

The federal-state program is titled the State Loan Repayment Program (SLRP) and is equally funded by the federal government and the state. The state's component is titled the Maryland Loan Assistance Repayment Program (MLARP). The MLARP also has a state-only program.

SLRP in Maryland is a collaborative effort among state and federal entities to offer funds towards higher education loans for health professionals. The SLRP requires a 1:1 match to the Maryland Loan Assistance Repayment Program (MLARP) program. SLRP (Federal Funds) applies to physicians and physician assistants. MLARP (State Funds) applies to physicians, physician assistant, and medical residents. Recipients commit to practice in a designated Health Professional Shortage Area (HPSA).¹⁶

Program	Loan Participant Professions	Primary Care Specialties	Other Specialties
SLRP	Physicians	Family Practice, Internal Medicine, Pediatrics, Geriatrics, Obstetrics and Gynecology, Psychiatry	
	Physician Assistants	Adult, Family, Geriatric, Psychiatry, Mental Health, Women's Health	

Program	Loan Participant Professions	Primary Care Specialties	Other Specialties
MLARP	Physicians	Family Practice, Internal Medicine, Pediatrics, Geriatrics, Obstetrics and Gynecology, Psychiatry, Women's Health, Emergency Medicine	Physicians who practice a medical specialty other than primary care may be considered if there is an identified shortage in that specialty
	Physician Assistants	Adult, Family, Geriatric, Psychiatry, Mental Health,	Physician assistants who practice a medical specialty

¹⁶ <https://pophealth.health.maryland.gov/Pages/State-Loan-Repayment-Program.aspx>, September 19, 2019.

		Women’s Health, Emergency Medicine	other than primary care may be considered if there is an identified shortage in that specialty
	Medical Residents	Family Practice, Internal Medicine, Pediatrics, Geriatrics, Obstetrics and Gynecology, Psychiatry, Women’s Health, Emergency Medicine	

Eligible Practice Sites¹⁷:

- SLRP: An eligible practice site is one operated as a public clinic by any federal, state, local governmental entity or a non-profit medical care facility that 1) treats all persons regardless of ability to pay, and 2) is located in a geographic region of Maryland that the Health Resources and Services Administration has designated as a HPSA (Primary Care HPSA for internal medicine, family medicine, pediatrics, obstetrics/gynecology and geriatrics; Mental HPSA for psychiatry).
- MLARP: An eligible practice site can be non-profit or for profit medical facility that 1) treats all persons regardless of their ability to pay and 2) is located in a Health Professional Shortage Area, or 3) Medically Underserved Area, or 4) site is located in one of the 18 rural counties of the State.

SLRP Physician and Physician Assistant Eligibility Requirements:

- Have a medical degree (Medical Doctor or Doctor of Osteopathy) and completed residency training or a physician assistant license
- Be practicing as a primary care physician (e.g., general internal medicine, family medicine, general pediatrics, obstetrics and gynecology, women's health or general psychiatry)
- Have a valid unrestricted license to practice medicine in the State of Maryland at the time the service obligation begins
- Be a citizen of the United States or be a U.S. National
- Be employed full-time, at least 40 hours per week, at an eligible practice site (32 hours per week must be in direct outpatient care)
- Have not breached an obligation for service to a federal, state, or local governmental entity or another obligation for service even if the obligation was ultimately fulfilled
- Have no judgment lien against property for a debt to the United States
- Not be excluded, debarred, suspended, or disqualified by a Federal agency

¹⁷ Ibid.

- Have no un-served obligations for service to a federal, state, local government, or other entity, with the exception of the U.S. Department of Health and Human Services' Primary Care Loans, Exceptional Financial Need Scholarships, and Financial Assistance for Disadvantaged Health Professions Students
- Have no existing service obligation with any other loan repayment program
- Have no existing default status on any higher education loan
- Have no debts written off as uncollectible
- Have no service or payment obligation waived
- Have never violated court-ordered child support or been delinquent in child support payments
- Practice at an eligible practice site

Award Amount:

- Initial Award: Up to \$50,000 per year for a 2-year obligation
- Renewing an Award - A recipient may reapply for an award after completion of the first 2-year service obligation. A recipient's total award amount cannot exceed \$200,000, or two 2-year obligations at \$50,000 per year.

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In addition to the physician/physician loan repayment program, there is a similar program for dentists. Information on that program is below^{18,19}.

Maryland Dent-Care Loan Assistance Repayment Program (MDC-LARP)

Eligibility Requirements:

- must be a Maryland resident
- must have graduated from an accredited US dental school
- must have a valid unrestricted license to practice dentistry in Maryland and be employed full-time as a dentist in Maryland providing care to Maryland Medical Assistance Program (MMA) recipients in Maryland
- must have at least 30 percent of your patient population as MMA recipients
- must have outstanding eligible higher education loans
- cannot be in default on a loan or have incomplete service obligations.

Award Amount:

Dentists may receive up to \$23,740 per year for each year of obligated service up to a maximum of 3 years of service. The award may be renewed up to two years.

Service Obligation:

Awardee must sign and return a promissory note stating

- will remain employed full-time as a dentist

¹⁸ https://mhec.maryland.gov/pages/programdescriptions/prog_lardent, September 19, 2019.

¹⁹ <https://phpa.health.maryland.gov/oralhealth/pages/mdc-larp.aspx>, September 19, 2019.

- agree to maintain at least 30 percent of patient population as MMAP recipients
- if this scholarship is held with any other award requiring a service obligation, must perform your service in consecutive years.

Additional Information

Maryland Dent-Care Loan Assistance Repayment Program (MDC-LARP) For Dentists
 The Maryland Dent Care Loan Assistance Repayment Program (MDC-LARP) is the student loan repayment program for dentists. Like similar physician repayment programs, MDC-LARP provides student loan repayment assistance to dentists for treating Maryland's most vulnerable populations. The purpose of MDC-LARP is to increase access to oral health care services for Maryland Medical Assistance Program (MMAP) recipients by increasing the number of dentists treating this population.

MDC-LARP Background:

During the 2000 Maryland legislative session, House Bill 543/Senate Bill 519, entitled the Maryland Dent-Care Loan Assistance Repayment Program (MDC-LARP), was passed providing State funding for a student loan repayment program for dentists. The purpose of MDC-LARP is to increase access to oral health care services for Maryland Medical Assistance Program (MMAP) recipients by increasing the number of dentists treating this population. Through receipt of \$23,740 per year in loan repayment assistance over a three-year period, participating dentists agree to treat a minimum of 30% MMAP recipients as a portion of their total patient population per year. For a three-year commitment and dependent upon available funding, MDC-LARP may provide loan repayments to five Maryland licensed dentists a year.

The Maryland Dent-Care Loan Assistance Program (MDC-LARP) is a collaboration between two state agencies, the Maryland Department of Health, Office of Oral Health (OOH) and the Maryland Higher Education Commission (MHEC), Office of Student Financial Assistance. The Office of Student Financial Assistance distributes the offer letters, distributes the loan repayment checks and addresses any questions related to the loan repayment checks. The Office of Oral Health promotes the program, collects program applications and supporting documents, convenes a review panel, plans the new awardee orientation, monitors awardee monthly obligation and gathers programmatic feedback from awardees.

Recipient Obligations;

Serves three years in a full-time eligible dental practice site (s)

- Treats a minimum of 30% MMAP recipients as a portion of the total patient population.
- Enrolled with MMAP's Maryland Healthy Smiles program.
- Keeps record of all patients treated (MMAP and non-MMAP) and provides monthly written reports to the Office of Oral Health.

New Jersey

Primary Care Practitioner Loan Redemption Program of New Jersey (NJLRP)²⁰

The State of New Jersey legislature authorized the establishment of the Primary Care Physician and Dentist Loan Redemption Program of New Jersey in the Health Care Cost Reduction Act of 1991, which was renamed the Primary Care Practitioner Loan Redemption Program of New Jersey (NJLRP) in 2009. The program is administered by Rutgers Biomedical and Health Sciences (formerly University of Medicine and Dentistry of New Jersey) through a contract with the New Jersey Higher Education Student Assistance Authority (NJHESAA).

The NJLRP is designed to encourage primary care physicians, dentists, certified nurse midwives, certified nurse practitioners and certified physician assistants to practice in state designated underserved areas or federally designated Health Professional Shortage Areas (HPSAs).

Eligible health professionals who have completed their graduate training/residency program may apply to the NJLRP. Primary care providers must agree to provide primary health care services at a NJLRP approved placement site for a minimum of two years (maximum four years). In return, NJLRP providers may redeem up to \$120,000 over a four-year period of service for qualifying educational loans.

Health Education Student Assistance Authority^{21,22}

The Primary Care Practitioner Loan Redemption Program promotes access to primary care services in medically underserved areas of the State by improving the distribution of primary care health providers, including physicians, dentists, physician assistants and certified nurse practitioners and certified nurse midwives, by providing for the redemption of eligible student loans expenses of providers in exchange for a specified periods of service in medically underserved areas. Funding for this program is subject to state appropriations.

The program will provide up to \$120,000 in student loan redemption for two to four years of service as a primary care provider in areas of medicine defined by the Commissioner of Health and Senior Services or the U.S. Department of Health and Human Services in areas ranked by the Commissioner of Health and Senior Services reflecting a health professional shortage. Funding for this program is subject to state appropriations and available funding.

For eligibility, applicants must:

- Be a resident of the State of New Jersey
- Be licensed to practice in the State of New Jersey;

²⁰ <https://lrp.rbhs.rutgers.edu>

²¹ <https://www.hesaa.org/Pages/PrimaryCarePractitionerLoanRedemptionProgram>

²² <https://www.nj.gov/health/fhs/PrimaryCare/ProviderPlacement>

- Secure an undergraduate medical school, dental school, or other primary care professional school faculty member's recommendation for program participation;
- Execute a contract for a minimum period of 2 years, which includes a six-month probationary period, with the Authority or its designated agent upon the completion of the final year of residency training in the case of a physician; at the end of the final year of undergraduate dental training or residency training if the training is required in a primary care dental specialty in the case of a dentist; and at the end of the final year of other primary care training in the case of another primary care provider;
- Be granted final acceptance into the program following the six-month probationary period;
- In the case of a physician, have completed an accredited residency training program and received a recommendation from the director of the training program concerning participation in the loan redemption program;
- Agree to practice primary care medicine, dentistry, or another primary care profession in a State designated underserved area;
- Not be in default on any qualifying student loan;
- Service must begin within two years of the completion of training or residency.

Pennsylvania

Pennsylvania Primary Care Loan Repayment Program (LRP)²³

The Pennsylvania Department of Health provides loan repayment opportunities as an incentive to recruit and retain primary care practitioners willing to serve underserved Pennsylvania residents and to make a commitment to practicing in federally designated Health Professional Shortage Areas (HPSAs).

Goals of the Program

- Increase access to primary medical, dental, or behavioral health care services in underserved communities
- Improve recruitment and retention of health practitioners in underserved communities

The LRP offers educational loan repayment to primary care practitioners who provide primary medical, dental, or behavioral health care in designated Health Professional Shortage Areas (HPSA) *or* serve a minimum of 30% low-income patients in Pennsylvania. Eligible primary care practitioners:

- Physicians (primary care and psychiatrists only)
- General Dentists
- Physician Assistants (PA-C)
- Certified Registered Nurse Practitioners (CRNP)
- Certified Nurse Midwives (CNM)
- Dental Hygienists
- Psychologists
- Licensed Clinical Social Workers (LCSW)
- Licensed Professional Counselors (LPC)
- Marriage and Family Therapists (MFT)

Full-time and Half-time Two-Year Contracts

Physicians and Dentists: Up to \$100,000 full-time, up to \$50,000 half-time

Other Practitioners: Up to \$60,000 full-time, up to \$30,000 half-time

Eligible Participants Include:

- Allopathic (MD) or Osteopathic (DO) Physicians (Family Medicine, General Internal Medicine, General Pediatrics, Geriatrics, Obstetrics/Gynecology, Psychiatry)
- Certified Registered Nurse Practitioners (Adult, Family, Pediatrics, Geriatrics, Women's Health, Mental Health/Psychiatry)
- General Dentists
- Registered Dental Hygienists
- Certified Nurse Midwives

²³ <https://www.health.pa.gov/topics/Health-Planning/Pages/Loan-Repayment.aspx>

- Physician Assistants (Adult, Family, Pediatrics, Geriatrics, Women's Health, Mental Health/Psychiatry)
- Licensed Clinical Social Workers
- Licensed Professional Counselors
- Marriage and Family Therapists
- Psychologists

Practice Sites: Practitioner applicants must practice at a site that has been approved previously by the Department of Health.

How the Program Works: Loan repayment is provided for practitioners in exchange for two years of full-time or half-time service at an approved primary care practice site.

- Physicians & Dentists:
 - Up to \$100,000 of educational loan repayment for a full-time service commitment
 - Up to \$50,000 of educational loan repayment for a half-time service commitment
- PA-C, CRNP, CNM, RDH, LCSW, LPC, MFT & Psychologists:
 - Up to \$60,000 of educational loan repayment for a full-time service commitment
 - Up to \$30,000 of educational loan repayment for a half-time service commitment

Practitioners must:

- Commit to a two-year contract with the program
- Be employed at a primary care practice site approved by the LRP which serves the underserved and provides services to all without regard for ability to pay
- Be a graduate of an accredited educational program in the U.S.
- Maintain a valid Pennsylvania license/certification
- Submit a complete application to the Department
- Be approved by the Department for participation

WWAMI

Overview

Until very recently, there have been five states that do not have an in-state medical school. In addition to Delaware, the other four were Alaska, Idaho, Montana, and Wyoming. In 1971, Alaska, Idaho, and Montana joined with Washington and the University of Washington School of Medicine (UWSOM) to establish a multi-state medical education and rural health program (Wyoming joined in 1996) called WWAMI, an acronym composed of the first letters of the five participating states. (In 2018, the Idaho College of Osteopathic Medicine opened; its second class entered in August 2019. Idaho maintains its participation in WWAMI at this time.)

WWAMI is part of the UWSOM rural health initiatives programs. Its primary function is enhancing medical care in the participating states, especially in primary care in underserved areas. One part of the program is medical school admission for residents of the participating states, but that alone is not its purpose. The primary goals of WWAMI are:

- provide publicly supported medical education
- increase the number of primary care physicians, especially in underserved areas
- provide community-based medical education
- expand graduate medical education (residency training) and continuing medical education
- provide all of this in a cost-effective manner

Each of the WWAMI partner states has a fixed number of medical students. (Alaska – 20; Idaho – 40; Montana – 30; Wyoming – 20)

- First year: Students complete a three-term Foundations Phase at their home state university:
 - Alaska: University of Alaska-Anchorage
 - Idaho: University of Idaho.
 - Montana: Montana State University
 - Washington: University of Washington or Gonzaga University
 - Wyoming: University of Wyoming
- Second year: Students attend UWSOM in Seattle.
- Third year and fourth year: Students complete required and elective clerkships; they are not required to be in the WWAMI states, but most do at least some clerkships in their home states.
- Residency: students are not required to take their graduate medical education (residencies) in WWAMI states, but a strong majority of them do.
- Practice: approximately half of the students choose primary care specialties and a significant percentage practice in underserved areas.

Finances

All UWSOM students are responsible for paying their tuition, except those from Wyoming. Students from Washington, Alaska, Montana and Idaho pay the in-state

tuition rate; the State of Wyoming pays the in-state tuition rate for the Wyoming students.

Idaho students also pay \$4,000/year into the Idaho Rural Physician Incentive Program (IRPIP) and Montana students also pay \$13,000/year (no pay back requirement) or \$5,000/year (with a payback requirement) into the Montana Rural Physician Incentive Program (MRPIP).

In addition, all five states pay support for UWSOM operations and support for their respective states' local component of the WWAMI program. 2018 funding:

- Alaska: \$5,196,611(UWSOM \$2,728,570; AK \$2,468,041)
- Idaho: \$5,202,200 (UWSOM and UI)
- Montana: \$5,859,125 (UWSOM \$3,623,334; MSU \$2,235,791)
- Washington: Not provided – included in overall UW appropriations
- Wyoming: Not provided – includes UWSOM support and WY students' tuition

The commitments of the students from each state vary:

- Alaska: Alaska students sign a promissory note that they will return to practice for 3 years in a rural area or 5 years in an urban area after residency. If they do not return to practice in Alaska, then they owe 50% of what the state contributed to their education.
- Idaho: Idaho students pay into the Idaho Rural Physician Incentive Program (IRPIP) which is approximately \$4,000/year. They do not sign anything since they do not have a required pay back. They are eligible to apply to receive loan repayment through the Idaho Rural Physician Incentive Program if they return to work in a rural or underserved area of Idaho.
- Montana: Montana students pay into the Montana Rural Physician Incentive Program (MRPIP). Students can decide to pay \$13,000/year into MRPIP and then they are not required to return to the state to practice. Alternatively, they can decide to pay \$5,000/year into MRPIP and then they are required to return to the state to practice for 3 years after residency. If they do not return, then they owe the state what the state contributed to their medical education. Students do sign a document saying which of these two options they are agreeing to follow.
- Wyoming: Wyoming students sign a promissory note that they will return to Wyoming to practice for 3 years after residency. If they do not return to practice, then they owe the state 50% of what the state contributed to their education.

The clerkships in each state take place in various venues, including hospitals, clinics, and private practices. They are generally privately owned and operated, billing and collecting for services provided, and with staff employed and paid by the venue. Physicians who teach at the clinical sites have a UWSOM clinical faculty appointment and receive a \$500/week/student administrative fee.

Other physician recruitment and retention programs in the WWAMI states: In Montana and Idaho, the MRPIP and IRPIP programs provide loan repayment if physicians work in rural or underserved areas. The State of Montana contributes to MRPIP in addition to

the students. Idaho does not contribute to IRPIP. There are other student loan programs in each WWAMI state, though funding and operations vary.

Recruitment and Retention

Below is the reported physician recruitment and retention from each WWAMI state (extracted from its most recent annual WWAMI fact sheet). It is important not to compare WWAMI recruitment and retention with DIMER recruitment and retention. WWAMI is a rural health program, not a medical school admissions program like DIMER.

- Alaska: 327 Alaska WWAMI graduates have completed residency training. Based on a sample section of data collected for the entering Alaska WWAMI classes of 2000 through 2007, 61% of Alaska WWAMI graduates are or have practiced in the state. Additionally, there are 76 physicians currently practicing in Alaska who are graduates from other WWAMI states.
- Idaho: Return rate: 321/625 (51%) of Idaho WWAMI graduates practicing in or have practiced in Idaho (National Average: 41%); return on investment: 467/625 (75%) total regional WWAMI graduates practicing or have practiced in Idaho.
- Montana: 698 Montana WWAMI graduates in practice; return rate - 293/698 (42%) practicing or have practiced in Montana; return on investment - 406/698 (58%) graduates from all WWAMI states practicing or have practiced in Montana.
- Washington: 3915 Washington WWAMI graduates are in practice; Washington WWAMI return rate – 52.8% (2067/3915); Washington WWAMI return on investment (ROI) – 57.9% (2268/3915)
- Wyoming: As of August, 2018, 323 Wyoming students have entered the WWAMI program. 82 students are currently enrolled in the MD program at the UWSOM. 142 students have finished residency training and 95 of the 142 (66.9%) have returned to WY to practice medicine.

Possible lessons for Delaware from WWAMI

WWAMI is effective in improving the supply of physicians to rural and underserved areas of the participant states due to (1) increasing the opportunities for the states' residents to obtain admission to medical school and (2) providing a significant portion of the medical students' training in those areas.

Medical School Admission

Studies show that among the strongest factors in physicians' choice of where to practice are to be near family and where they grew up. Therefore, states enhancing their residents' chances to get into medical school is an important factor in physician workforce enhancement. That is, helping residents get into medical school increases the number of graduate physicians who potentially will come back to the state to practice. They have to be able to get out in order to be able to come back.

Having a home-state medical school greatly increases the possibility of medical school acceptance. Of the 151 medical schools listed by the Association of

American Medical Schools (AAMC)²⁴, 75 have at least 70% of matriculants from the school's state and 103 have at least 50% of matriculants from the school's state. The average percent of in-state students in the AAMC medical schools list is 60.6%; that is, on average, applicants from states, like Delaware, without a medical school are vying for only 39.4% of all slots.

WWAMI provides improved chances for admission to medical school for WWAMI state residents (20 to 40 per state per year). It is the critical beginning phase of the UWSOM rural health program that brings physicians to train in and ultimately practice in rural and underserved areas in the WWAMI states.

Delaware has this same critical mechanism through DIMER with at least 30 MD/DO students being admitted to TJUSKMC and PCOM each year. Delaware achieves this very efficiently with the DIMER annual expenditure of a combined \$1.5 million (plus approximately \$280,000 in tuition assistance) compared to the \$5+ million spent by the WWAMI states, though this also includes the states' appropriations to support the local colleges' first year medical school training and some of the clerkships (and, in the case of Wyoming, it includes medical school tuition).

Delaware applicants have a significantly greater likelihood of acceptance at TJUSKMC and at PCOM than students from other states. In the 2018-2019 TJUSKMC admission process, 31.7% of Delaware applicants were accepted vs. 4.6% of non-Delaware applicants; in the 2018-2019 PCOM admission process, 54.2% of Delaware applicants were accepted vs. 4.1% of non-Delaware applicants. Therefore, DIMER is critical to maintaining/improving the physician workforce supply in the state.

Training Sites

Other studies show that physicians' training locations strongly influence practice location. This includes both medical school training and graduate medical education (GME), that is, residency, though residencies have the greater influence.

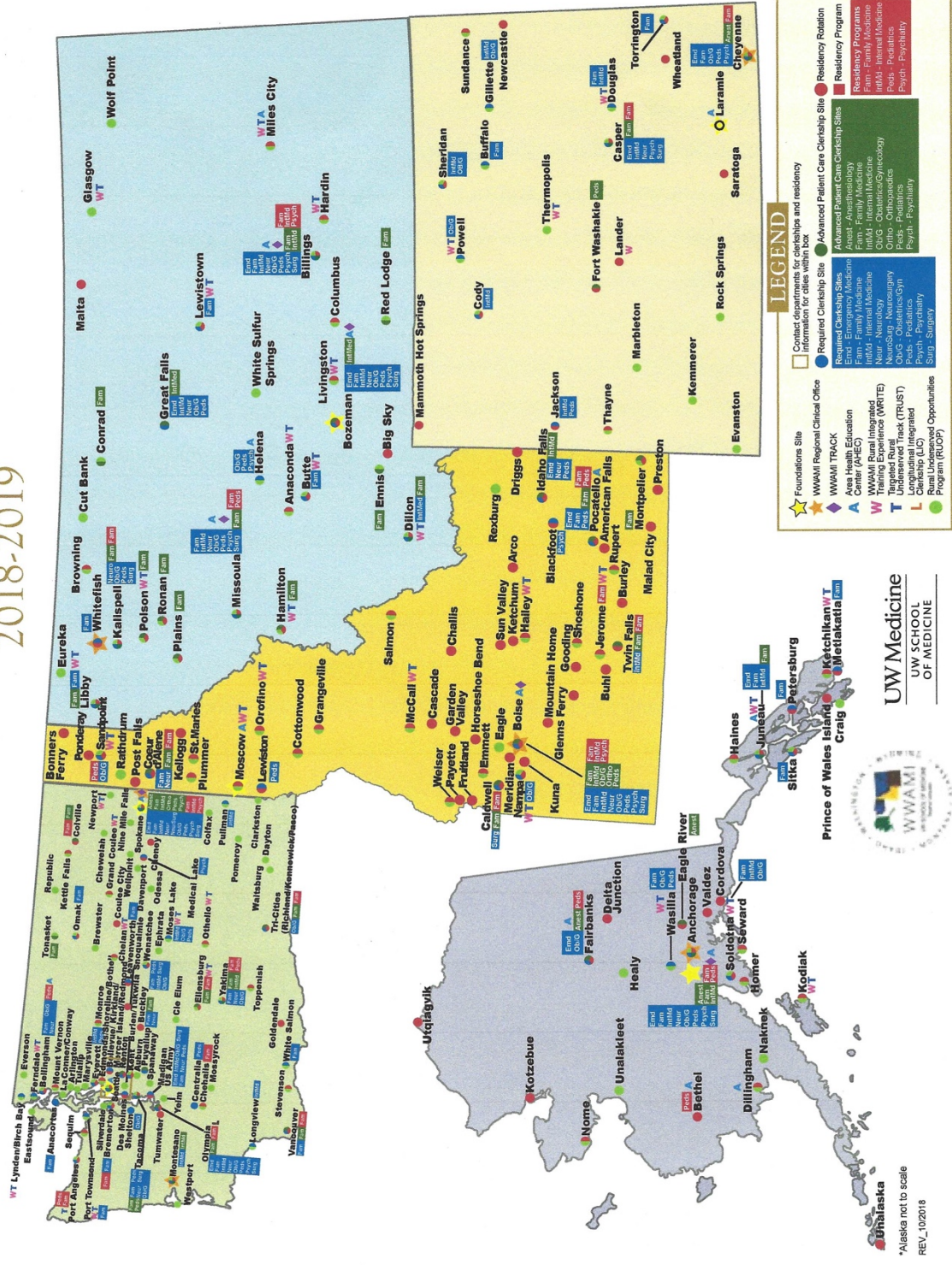
WWAMI conducts the majority of its training in rural and underserved areas of the participating states. The first year of medical school takes place in the home state of the student. Clerkships (required and elective) in the third and fourth years are available the WWAMI states. The WWAMI students' clerkships are not required to be in the WWAMI states, but most do at least some clerkships in their home states. The students are not required to take their graduate medical education (residencies) in WWAMI states, but a strong majority of them do. (Approximately half of the students choose primary care specialties and a significant percentage practice in underserved areas.)

²⁴ "Table A-1: U.S. Medical School Applications and Matriculants by School, State of Legal Residence, and Sex, 2018-2019", www.aamc.org/download/321442/data/factstablea1.pdf, Association of American Medical Schools, November 9, 2018.

The most recent DIMER annual report from TJUSKMC notes that there were 295 clerkships at ChristianaCare and Nemours/A.I. duPont Hospital for Children. Further, twelve students matched for first year postgraduate positions residencies in Delaware at Christiana and Nemours. PCOM's most recent DIMER annual report notes clinical training sites throughout the state including Bayhealth, Beebe Medical Center, and La Red Community Health Center in Kent and Sussex Counties.

Efforts to expand medical student training in Delaware, especially in Kent and Sussex Counties, could be very important in enhancing the influence of experience in the state that leads to GME placements in the state and ultimately practice location decisions. The new Bayhealth residencies will contribute significantly. The recent merger of Nanticoke Health Services with Peninsula Regional Health Services comes with reports that the combined system may be considering establishing one or more residencies. An additional possibility to increase Delaware-based training would be to partner with the six acute care hospitals, which all have community-based clinical sites.

WWAMI Program Site Map 2018-2019



UW Medicine
UW SCHOOL OF MEDICINE

*Alaska not to scale
REV_102018

Supplemental Information About WWAMI

Below are excerpts from the UWSOM website regarding WWAMI and its component programs. In addition, each participating state prepares an annual fact sheet about the program in its state that includes its training locations and specialties. Those fact sheets and a map of the states and training locations are provided below.

UW medical students have access to a variety of settings for clinical training: from a busy Level I trauma center in Seattle, WA, to a small primary care clinic in Libby, MT, to working with Alaska Natives in Anchorage, AK. Community-based clinical faculty volunteer their time to educate the medical students.

The UW School of Medicine is central to a network of programs designed to alleviate the shortages of healthcare programs in rural and underserved urban areas. These programs include:

- WWAMI Area Health Education Center Network (AHEC): A program that works to improve the diversity, distribution and quality of the health workforce in the WWAMI region, partners with communities to promote health career pathways, creates educational opportunities for students from junior high school (middle school) through professional and post-graduate training, and supports healthcare providers caring for underserved populations.
- The UW Center for Health Workforce Studies conducts research in the WWAMI region that can inform policy and advance workforce needs to address state healthcare workforce issues.
- The WWAMI Rural Health Research Center focuses on policy affecting rural and underserved areas.

WWAMI-related Rural Programs

TRUST

A UWSOM Program Administered by the Department of Family Medicine, the Targeted Rural UnderServed Track (TRUST) seeks to provide a continuous connection between underserved communities, medical education, and health professionals in the region. The initial goal is to create a full-circle pipeline by guiding qualified students through a special curriculum that connects underserved communities in Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI) to the University of Washington School of Medicine (UWSOM) and its network of affiliated residency programs in an effort to help meet the workforce needs of the region.

Key Components:

- Targeted separate admissions process that links students from and back to underserved communities.
- Links with existing UWSOM courses and programs such as "Underserved Pathway", "RUOP" and "WRITE" are a vital component of TRUST.
- Key clinical programs occur in a continuity community.
- TRUST links Scholars with residency programs that have an underserved training focus.
- Links with communities to identify and promote their needs and resources for health workforce training.

RUOP

The Rural Underserved Opportunities Program (RUOP), a collaborative effort of UWSOM, WWAMI campuses and Area Health Education Centers, is a four-week, elective immersion experience in community medicine for students between their first and second years of medical school. During their 4-week rotation, students live in rural or urban underserved communities throughout Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI). They work side-by-side with local physicians providing health care to underserved populations.

Program Goals

- Provide students with an early exposure to the challenges and rewards of practicing primary care medicine in a rural or urban underserved setting.
- Promote in students a positive attitude toward rural and urban underserved community medicine.
- Provide students with an opportunity to learn how community health care systems function.

WRITE

WRITE is a clinical medical education program developed by UWSOM to help meet the need for more rural primary care physicians in the WWAMI region. WRITE was created to expand primary care and rural training options at the University of Washington; develop additional training experiences in the WWAMI states, including rural Washington; foster the primary care mission of the University of Washington; and provide more physicians for rural practice in the Pacific Northwest. This unique program has been successful because of its integration of community involvement, continuity of experience, and proven curriculum.

WRITE offers selected third-year medical students a mix of ambulatory and hospital training through a 22/24-week clinical education clerkship at a rural primary care teaching site. Throughout the program, WRITE students develop practice styles while learning how to treat a broad range of medical, surgical, and psychological problems. Emphasis is on the rural physician's roles and responsibilities to diagnose, treat, and manage the majority of health problems on a longitudinal continuing basis while calling upon the health care resources of the community.

WRITE allows students interested in primary care to:

- Know the day-to-day workings of a rural community practice.
- Effectively work as a member of a rural practice team.
- Provide continuity care for a panel of patients.
- Demonstrate social integration into a rural community.
- Meet all objectives of other clerkships for which they will receive credit while participating in the unique WRITE teaching environment.
- Display confidence in providing care while recognizing their limits.
- Act professionally with patients and members of the health care team.
- Accurately assess learning needs and then develop and implement learning plans to meet those needs.
- Develop solutions to problems presented in daily practice.

WRITE Benefits the Rural Medical Community in a Variety of Ways

- Physicians who participate in the program may apply for and receive a University of Washington School of Medicine faculty appointment.
- WRITE provides an opportunity to showcase the community, thereby leading to greater physician recruitment.
- The medical community's relationship with the University of Washington School of Medicine promotes greater mutual understanding of each other's respective roles.
- Faculty from the University of Washington School of Medicine travel to rural sites to offer consultation and give medical education presentations.
- The Dean's Office, University of Washington School of Medicine, and the William Randolph Hearst Foundation support community-based rural medical education by providing funding to the WRITE sites to cover infrastructure expenses of the practice and travel for specific faculty development opportunities.

Following are the annual WWAMI State Fact Sheets

Alaska WWAMI Fact Sheet 2018

Medical Student Education

Foundation Phase Instruction – (Four Semesters, 18 months) University of Alaska Anchorage (UAA)

Patient Care Phase – Required clinical rotations (WWAMI-wide)

- The Alaska Track – all 3rd year rotations can be done in Alaska with exception of 6 weeks mandatory inpatient Internal Medicine in Seattle.
- WRITE (WWAMI Rural Integrated Training Experience) 5 months in Alaska

Explore & Focus Phase – Required and elective clinical rotations

- Ability to do all 4th year rotations in Alaska

Pre-Med

- Della Keats Health Sciences Summer Program provides 4 weeks of residential experience and training for 10 Alaska high school juniors and seniors (rising high school senior and college freshman) interested in healthcare professions. The Program is funded by foundation donors and UAA; supported by local organizations and health-care facilities; organized through UAA's WWAMI School of Medical Education.
- Annual Pre Med Summit in 2018 had over 150 participants with guest speakers, representatives from UW School of Medicine, and representatives from educational health care programs.

Graduate Medical Education – Residencies/Fellowships

- Alaska based/University of Washington affiliated
 - Family Medicine – Anchorage, 12 residents/year, with rotations in 17 rural Alaska locations
 - 77% of graduates practicing in Alaska
- Alaska Pediatric Track of the University of Washington Pediatric Residency
 - 4 residents/year train in Alaska in the following communities: Anchorage, Fairbanks and Bethel.
 - The first three graduating classes have retention rate of 56% (9 out of 16)
- Internal Medicine – Development work on the AK IM Residency Track continues in partnership with the UW IM Residency leadership team. The plan is to pursue a Rural Training Track model; funding options are being explored.
- Addiction Medicine Fellowship – The development of the Addiction Medicine Fellowship is making progress and aims to recruit its first fellows in the near future

WWAMI Results: 327 Alaska WWAMI graduates have completed residency training

- "Return on Investment" – Based on a sample section of data collected for the Entering Alaska WWAMI classes of 2000 through 2007, 61% of Alaska WWAMI graduates are or have practiced in the state. Additionally, there are 76 physicians currently practicing in Alaska who are graduates of other WWAMI states.

Financial Support of WWAMI

- FY2018 state appropriations to UW - \$5,196,611 (UW: \$2,728,570; Alaska: \$2,468,041)
- FY2018 % state appropriations to UW spent in Alaska – 52%
- FY2018 average state support to UW per student per year \$52,653
- FY2018 average student paid tuition and fees per year - \$36,185
- FY2018 average Alaska WWAMI medical school debt per student: \$174,842
- FY2014 national average medical school debt: \$188,758 public school and \$209,367 private school

Physician Assistant Program - MEDEX

- 1st Year – University of Washington /University of Alaska Anchorage didactic training in Anchorage
- 2nd Year – University of Alaska Anchorage clinical year preceptorship and clerkships
- Graduates may obtain Bachelor of Science in Health Sciences from UAA

Community Outreach

- WWAMI AHEC (Area Health Education Center)
 - RUOP (Rural/Underserved Opportunities Program) – One-month student placement in a rural or medically underserved community and complete a community service project. In 2018, eleven of the twenty medical students enrolled in the UAA WWAMI Medical School Program, participated in RUOP, including two Alaska TRUST students.

Idaho WWAMI Fact Sheet (July 1, 2017 – June 30, 2018)

Pre-Med

- Pre-med summer primary care shadowing opportunities coordinated by Idaho WWAMI, and Idaho Academy of Family Physicians. 2018 participants: 29 students/27 physicians/12 communities
- State-wide Pre-Med Summit held biennially, with the last being held May 2018.

Medical Student Education

- Foundation Phase (1st & 2nd Year) at University of Idaho (UI) – Academic year 2017-2018, 80 Idaho students receive basic sciences, introduction to clinical medicine, and professional clinical mentoring at UI Moscow campus over the course of 18 months.
- Patient Care & Explore and Focus Phase – Students complete required and elective clinical clerkships in Idaho, Seattle, and WWAMI-wide.
- TRUST (Targeted Rural UnderServed Track) -7 first-year students in the entering class of 2018 were selected to participate in this rural workforce program that matches each student to a rural/underserved Idaho community for various clinical experiences throughout their four years of medical school.
- RUOP (Rural Underserved Opportunities Program) – Six-week elective immersion experience in community medicine with placement in a rural or medically underserved community. Summer of 2018, 24 medical students completed RUOP in 20 different communities in Idaho.
- WRITE (WWAMI Rural Integrated Training Experience – Longitudinal integrated clerkships in one location offered in the communities of Hailey, Jerome, McCall, Moscow, Nampa, Orofino, and Sandpoint.
- Idaho Track- Students have opportunities to complete all Patient Care & Explore and Focus Phase required & electives clinical rotations in Idaho.

Graduate Medical Education – Residencies/Fellowships

Idaho-based/University of Washington affiliated residency programs:

- Family Medicine Residency of Idaho (FMRI), since 1975, located in Boise with Rural Training Tracks (RTT) in Caldwell and Magic Valley. FMRI Boise core program trains 11 residents per year; Caldwell RTT, 3, and Magic Valley RTT, 2.
- ISU Family Medicine Residency since 1992, located in Pocatello, trains 7 residents per year.
- Kootenai Clinic Family Medicine Coeur d'Alene Residency began 2014 with first class of 6 residents, located in Coeur d'Alene.
- Primary Care Sports Medicine, HIV & Viral Hepatology, Geriatric, and Primary Care Obstetrics Fellowships offered through Family Medicine Residency of Idaho in Boise. University of Washington residency programs in Idaho:
 - UW Boise Internal Medicine Residency – A training site based at the Boise VA, since 1977, full UWSOM Internal Medicine Residency as of 2011. Academic year 2016 funding approved to increase from training 8 categorical 1st year residents (complete all 3 years in Boise) to 9. In addition, program trains 4 preliminary 1st year residents (complete one year in Boise).
 - UW Pediatric Residency Rotations - 2-month rotations located at Pocatello Children's Clinic in Pocatello since 1972 and in Sandpoint at Sandpoint Pediatrics since 2011.
 - UW Idaho Advanced Clinician Psychiatry Track - Integrated psychiatry residency based in both Seattle and Boise since 2006. In 2014, expanded to begin training 4 residents per year (1st/2nd Year in Seattle; 3rd/4th in Boise).

Community Outreach

- Annual faculty development workshop offered to clinicians who teach in Idaho, held October 28, 2017.
- Partner with Idaho Academy of Family Physicians to present the Tar Wars tobacco-free education program to Treasure Valley elementary schools.
Provide pipeline presentations to high school/university students in Idaho about path to medical education.

WWAMI Results: WWAMI graduates in practice

- Return rate: 321/625 (51%) Idaho WWAMI graduates practicing in or have practiced in Idaho (National Average: 41%)
- Return on Investment: 467/625 (75%) total regional WWAMI graduates practicing or have practiced in Idaho

Financial Support of WWAMI

- FY 2018 State appropriations - \$5,202,200
- FY 2018 State appropriations spent in Idaho - \$4,703,135
- FY 2018 average State support per WWAMI student per year - \$36,126

- FY 2018 WWAMI student paid tuition/fees per year - \$35,745 (Average: public - \$38,202; private - \$61,533)

Research

WWAMI-affiliated faculty at UI successfully brought in \$1M of research funding into Idaho from agencies such as the National Institute of Health (NIH) and the Department of Health and Human Services (DHHS). WWAMI has a long-standing relationship with the Idaho INBRE Program, where each year medical students apply for summer research fellowships. INBRE received a \$16.3 million five-year renewal grant from NIH which supports biomedical research and education for students and faculty across the State of Idaho.

Montana WWAMI Fact Sheet (10/26/2018)

Medical Student Education

- 1st and 2nd Year – Montana State University (MSU) - Bozeman Health Foundations Phase, basic sciences and introduction to clinical medicine.
- 3rd Year- Approximately 220 students will participate in clerkships in Montana in 2017-2018. The number of clinical faculty in Montana is approximately 410.
- 3rd year required clerkships in Montana:
 - Family Medicine - Billings, Bozeman, Butte, Lewistown, Libby, Missoula, Whitefish
 - Internal Medicine - Billings, Bozeman, Dillon, Great Falls, Missoula
 - OB/GYN - Billings, Bozeman (2), Great Falls, Helena, Kalispell, Missoula
 - Pediatrics - Billings, Bozeman, Great Falls, Helena, Kalispell, Missoula
 - Psychiatry - Billings (2), Bozeman, Helena, Missoula
 - Surgery - Billings, Bozeman, Kalispell, Missoula;
 - WRITE (WWAMI Rural Integrated Training Experience)/TRUST communities include: Anaconda, Butte, Dillon, Glasgow, Hamilton, Hardin, Lewistown, Libby, Livingston, Miles City, and Polson.
- 4th Year Required and elective clinical rotations:
 - Emergency Medicine - Billings, Bozeman, Great Falls
 - Neurology - Billings, Bozeman, Great Falls, Kalispell, Missoula
 - Chronic Care/Rehab - Billings Anesthesia-Missoula, Billings, Bozeman
 - Critical Care - Great Falls
 - Dermatology - Billings
 - Endocrinology - Bozeman
 - Family Medicine Sub-I - Billings, Kalispell, Missoula
 - Hospitalist Med - Billings & Bozeman
 - Medicine Sub-I - Billings & Bozeman
 - Nephrology - Billings
 - Ophthalmology - Missoula, Bozeman
 - Orthopedics - Billings
 - Otolaryngology - Missoula
 - Palliative Care - Billings, Bozeman, Missoula
 - Pathology - Missoula
 - PEDS Elective - Billings
 - PEDS Allergy - Missoula
 - PEDS Cardiology - Missoula
 - PEDS NICU - Missoula
 - Radiology - Billings, Bozeman
 - Rural Surgery - Libby, Polson, Lewistown, Glasgow, Dillon
 - Urology - Billings, Bozeman
 - Additional APC's (Advanced Care Clerkships) - Butte, Conrad, Dillon, Ennis, Glasgow, Hamilton, Lewistown, Libby, Miles City, Plains, Polson, Red Lodge, Ronan

TRUST- (Targeted Rural UnderServed Track)

The MT WWAMI TRUST program started in 2008 with the goal of creating a rural/underserved physician workforce for MT. The program involves a targeted admissions process and linkage with a rural/underserved preceptor and continuity community culminating in a 24-week learning experience (WRITE) in the third year. The MT WWAMI class includes 30 students yearly with 12 of those being TRUST students at 11 different communities.

Pre-Med & MCAT

The biennial Montana MCAT Summit was held on September 15, 2018, at University of Montana. Approximately 76 participants attended the event. The biennial Pre-Med Summit will take place Fall of 2019.

Graduate Medical Education – Residencies

- Montana Family Medicine Residency – Billings - 8 residents per year, 70% of graduates remain within the state.
- Family Medicine Residency of Western Montana – 10 residents per year, started July 2013. 7 in Missoula/3 in Kalispell.
- Billings Clinic Internal Medicine Residency – 8 residents per year, started July 2014.
- University of Washington Psychiatry Residency, Montana Track at the Billings Clinic, matching first residents in 2019.

WWAMI Results: 698 Montana WWAMI graduates in practice

- Return rate – 293/698 (42%) practicing or have practiced in Montana
- Return on investment – 406/698 (58%) graduates from all WWAMI states practicing or have practiced in Montana

Financial Support of WWAMI

- FY 2018 state appropriations - \$5,859,125 (UW: \$3,623,334; MSU: \$2,235,791)
- FY 2018 amount of total expenditures spent in Montana - \$4,418,870 (75%)
- FY 2018 average state funding per student per year - \$45,652
- FY 2018 average Montana WWAMI medical school debt per student - \$177,349
- FY 2018 National Average: \$188,758 per student - publicly funded school; \$209,367 per student - private

Research

- WWAMI is involved in the UW Institute of Translational Health Sciences, which aims to increase translational and clinical research capacity in Montana and throughout the WWAMI region.
- Faculty at Montana State University conducts biomedical research, which is funded by the NIH, NSF, and NASA.
- WWAMI is engaged in healthcare workforce research

Community Outreach with Montana AHEC (Area Health Education Center):

- Launching the Montana AHEC Interprofessional Scholars Program.
- Beginning work on the 2019 Montana Healthcare Workforce Strategic Plan through the AHEC's MHWAC.
- Provide staff support to the Montana Graduate Medical Education Council.
- Developed and implemented a training program for rural hospitals and community health centers to improve their capacity to serve as educational sites for GME, medical and other health professions.
- Partnering with 3RNet to provide recruitment and retention training for rural facilities.
- Organizing "Meet the Residents" events with MHA, UM, and regional AHECs in Billings and Missoula.
- Implemented the Community Health Worker Training Program.
- Secured funding for Behavioral Health Workforce Education and Training.
- Co-Sponsored the Big Sky WWAMI Preceptor Conference in spring of 2018.
- Conducted community health needs assessments and implementation planning for 11 critical access hospitals.
- Regional AHECs provide Med Start camps and outreach programs, as well as Heads Up for behavioral health.
- Beginning work on a Behavioral Health Workforce Networking Planning Project.
- Developed a successful grant proposal to develop a Primary Care Nursing Track with MSU nursing.

Washington WWAMI Fact Sheet 2018

Pre-Med

Pre-Medical Advisors Conference: Academic advisors are invited to learn more about the medical school, the admissions process, and the attributes that make a competitive applicant.

Medical Student Education

Two Foundations Phase campuses

- UWSOM Spokane – 60 students/year
- UWSOM Seattle – 100 students/year

Patient Care Phase – Required clinical rotations around the five-state region

- 101 required clerkship sites in Washington
- WRITE (WWAMI Rural Integrated Training Experience) – 5 months in Newport, Pullman, Grand Coulee, Moses Lake, Chelan, Ellensburg, Ferndale, Port Townsend and Port Angeles.

Explore and Focus Phase – Clinical rotations around the five-state region

WWAMI Graduates –221 students from all WWAMI states graduated from the UW School of Medicine in May 2018. 88 of those were from the Seattle site, 4 were from WSU in Pullman, and 34 were from WSU in Spokane.

Graduate Medical Education – Residencies/Fellowships

UW sponsored residencies/fellowships: Over 100 residencies and fellowships

UW affiliated residencies:

- Family Medicine Residency Programs:
 - Central Washington Family Medicine (Yakima)
 - Ellensburg (Rural Training Site)
 - Community Health Care Family Medicine Residency (Tacoma)
 - East Pierce Family Medicine (Puyallup)
 - Family Medicine of Southwest Washington (Vancouver)
 - Family Medicine Spokane (Spokane)
 - Colville Rural Training Track
 - HealthPoint/The Wright Center Family Medicine Residency (Auburn)*
 - Kadlec Family Medicine Residency (Richland)
 - Kaiser Permanente Washington Family Medicine Residency (Seattle)
 - Madigan Army Medical Center Family Medicine (Tacoma)
 - Providence St. Peter Hospital (Olympia)
 - Chehalis Rural Training Track
 - Northwest Washington Family Medicine (Bremerton)
 - Puyallup Takopid Family Medicine (Tacoma)* SeaMar
 - Marysville Family Medicine Residency (Marysville)
 - Skagit Regional Health (Mount Vernon)*
 - Sollus Northwest Family Medicine Residency (Grandview)*
 - Swedish Family Medicine Cherry Hill (Seattle)
 - Carolyn Downs Family Medicine Center satellite site
 - Seattle Indian Health Board FMR satellite site
 - SeaMar Community Health Center FMR satellite site
 - Port Angeles Rural Training Track
 - Swedish Family Medicine First Hill (Seattle)
 - Downtown Family Medicine satellite site
 - Swedish Community Health satellite site
 - Tacoma Family Medicine (Tacoma)
 - Trios Health Family Medicine Residency (Kennewick)*
 - University of Washington Medical Center (Seattle)
 - Harborview Medical Center satellite site
 - Valley Family Medicine (Renton)
- Internal Medicine Residency Program: Spokane
- Psychiatry Residency Program: Spokane
- Other Washington residencies:
 - Madigan Army Medical Center - 18 residencies
 - Virginia Mason Hospital & Medical Center- 6 residencies
 - Providence Sacred Heart Medical Center – 6 residencies
 - Swedish Hospital and Medical Center – 5 residencies King County Medical Examiner’s Office – 1 residency Puget Sound Blood Center – 1 residency

WWAMI Results: 3915 Washington WWAMI graduates are in practice

- Washington WWAMI return rate – 52.8% (2067/3915)
- Washington WWAMI return on investment (ROI) – 57.9% (2268/3915)
- National average return rate – 39%

Research

Preliminary Research Awards in Fiscal Year 2018: University of Washington School of Medicine: \$625,970,766 The final report will be available on the website: <https://www.washington.edu/research/or/research-stats-rankings/uw-research-grant-and-contract-reporting-archives/>

Wyoming WWAMI Fact Sheet

Completing an M.D. through the Wyoming-WWAMI Program

- 1st Year – University of Wyoming (Laramie) for Foundations Phase (integrated sciences/foundations of clinical medicine)
- 2nd Year – University of Wyoming (Laramie) for completion of Foundations Phase and take the USMLE Step 1 Exam and transition to Patient Care Phase of curriculum
- 3rd Year – Patient Care Phase: Required clinical rotations (WWAMI-wide)
 - The Wyoming clerkships are: Internal Medicine in Sheridan, Jackson, Douglas, Gillette, Lander, Cody and Casper; Family Medicine in Buffalo, Torrington, Douglas and Cheyenne; OB/GYN in Cheyenne, Sheridan, Powell and Gillette; Pediatrics in Cheyenne and Jackson; Surgery in Casper and Sheridan; and Psychiatry in Casper and Cheyenne.
 - WRITE (WWAMI Rural Integrated Training Experience) - 5 months in Powell, WY
 - WRITE (WWAMI Rural Integrated Training Experience) - 5 months in Lander, WY
 - WRITE (WWAMI Rural Integrated Training Experience) - 5 months in Douglas, WY
 - WRITE (WWAMI Rural Integrated Training Experience) - 5 months in Thermopolis, WY
- 4th Year – Explore & Focus: Required and elective clinical rotations:
 - Emergency Medicine, Neurology, Rural Surgery and two Advanced Patient Care Clerkships. Also, there are many other 4th year specialty electives available in Wyoming.

Graduate Medical Education – Residencies/Fellowships

- Wyoming based/University of Washington affiliated
 - Family Medicine - Cheyenne and Casper

WWAMI Results: Wyoming WWAMI graduates have completed training

- As of August, 2018, 323 Wyoming students have entered the WWAMI program. 82 students are currently enrolled in the MD program at the UWSOM. 142 students have finished residency training and 95 of the 142 (66.9%) have returned to WY to practice medicine.

Research

- WWAMI supports regional research efforts such as NIH funded research programs initiated through the College of Health Science at the University of Wyoming
- WWAMI is a member-supporter of the Institute for Translational Health Sciences (ITHS)

Rural Underserved Opportunities Program (RUOP)

- One-month opportunity for medical students to spend in a rural or medically underserved community and complete a community service project. During the summer of 2018, 13 medical students completed a R/UOP experience in Wyoming. Twelve of the 13 students were first-year Wyoming students.

Pipeline Programing

- 65 high school students from throughout Wyoming participated in a week-long Healthcare Careers Summer Camp on the UW campus. Campers explore a wide variety of health careers through interactive, hands-on sessions with local professionals and UW faculty. All students earned American Heart Association First Aid and CPR certification. This unique camp was made possible through partnership with Iverson Memorial Hospital, the Wyoming State Office of Rural Health, UW College of Health Sciences, and Snowy Range Vision Center.