Maryland
DEPARTMENT OF HEALTH
Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Dennis R. Schrader, Secretary

December 13, 2021

The Honorable Bill Ferguson
President of the Senate
H-107 State House
100 State Circle
Annapolis, MD 21401-1991

The Honorable Adrienne A. Jones
Speaker of the House
H-101 State House
100 State Circle
Annapolis, MD 21401-1991

RE: SB 501/CH 403 (2020) and HB 998/CH 402 (2020) – Maryland Loan Assistance Repayment Program (MLARP) for Physicians and Physicians Assistants - Administration and Funding – Final Report (MSAR #12844)

Dear President Ferguson and Speaker Jones:

In keeping with the requirements of the SB 501/CH 403 (2020) and HB 998/CH 402 (2020), the Maryland Department of Health (MDH) respectfully submits the final report of the Maryland Loan Assistance Repayment Program for Physicians and Physicians Assistants Stakeholder Workgroup.

In compliance with SB 501 (2020), the Workgroup consisted of a diverse group of stakeholders from across various organizations and universities in the State. The recommendations in this report reflect the opinions of the Workgroup only.

MDH does not concur with the Workgroup's recommendations, and in particular, Workgroup Recommendation 1. We respectfully suggest that the Workgroup's recommendations be further explored on this important subject in the 2022 interim for implementation by MDH or further legislative action in the 2023 session.

The reporting requirements of SB 501 (2020) request the Workgroup report on "findings and recommendations, including recommendations on [...] a permanent funding structure for the Maryland Loan Assistance Repayment Program." The Workgroup's recommendations for a permanent funding structure, include (1) a permanent General Fund appropriation and (2) seeking non-General Fund resources to supplement the MLARP Fund.

We do not believe that the State's General Funds should be the primary funding source of the MLARP Fund. However, MDH does support the Workgroup's recommendation to seek non-General Fund resources, such as employer match, grants, etc. and would be willing to discuss a capped state funding match using general funds to augment a diverse funding match composed of employers, board licensure fees, and hospital revenue in order to maximize our federal funding match opportunity.

If you have any questions about this report, please contact Heather Shek, Director, Office of Governmental Affairs, at heather.shek@maryland.gov.

Sincerely,

Dennis R. Schrader
Secretary

cc: Jinlene Chan, Deputy Secretary, Public Health Services
Webster Ye, Assistant Secretary, Health Policy
Heather Shek, Director, Office of Governmental Affairs
Sarah Albert, Department of Legislative Services, MSAR # 12844 (5 copies)

Workgroup Report: Maryland Loan Assistance Repayment Program (MLARP) for Physicians and Physician Assistants – Administration and Funding

Final Report

As Required by Senate Bill 501 (2020)

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Maryland Loan Assistance Repayment Program Workgroup Membership

Name	Seat
Megan Renfrew, J.D.	Chair of the Maryland Health Services Cost Review Commission or designee
Andrew N Pollak, M.D.	Chair of the Maryland Health Care Commission or the Chair's designee
Karin L. DiBari, M.D.	President of the MD Hospital Association or the President's designee
Donna L. Parker, M.D.	Dean of the University of Maryland School of Medicine or the Dean's designee
Roy Ziegelstein, M.D.	Dean of the Johns Hopkins School of Medicine or the Dean's designee
Gene Ransom	President of MedChi or the President's designee
Elizabeth Vaidya	Representative of the Office of Primary Care
Damean W Freas, D.O.	Representative of the State Board of Physicians
Richard Rohrs, PA-C	Representative of the Maryland Academy of Physician Assistants
Other members as determined by the Maryland Department of Health (MDH) Secretary	
Delegate Erek L. Barron	Maryland House of Delegates
Matthew Dudzic	State Board of Physicians
Stacey Little, Ph.D.	Maryland Hospital Association
Erin M. Dorrien	Maryland Hospital Association
Kimberly Hiner	MDH Office of Population Health Improvement

MDH Staff Assignment: Sara Seitz, Director, Office of Workforce Development, MDH

Department of Legislative Services Staff Consultation: June Chung, Lindsay Rowe

***The recommendations in this report reflect the opinions of the Workgroup and do not necessarily reflect opinions of the Maryland Department of Health.**

Executive Summary

The 2020 Maryland legislative session produced Senate Bill 501 (SB 501 (2020)), in support of the existing Maryland Loan Assistance Repayment Program (MLARP) for Physicians and Physician Assistants. The enrolled legislation altered the administration of the program and established a Maryland Department of Health (MDH)-convened Workgroup to prepare a final report of the Workgroup "findings and recommendations, including recommendations on the structure of a permanent advisory council and a permanent funding structure for the Maryland Loan Assistance Repayment Program." This report, "Workgroup Report: Maryland Loan Assistance Repayment Program (MLARP) for Physicians and Physician Assistants – Administration and Funding," is submitted on behalf of the MLARP Workgroup membership in response to SB 501 (2020) and do not necessarily reflect opinions of the Maryland Department of Health.

Across the state, hundreds of thousands of healthcare providers and their employers work alongside the State to meet the many and varied health needs of Marylanders every day. However, it is evident that underserved populations and healthcare workforce shortages remain. A wide variety of efforts have been implemented to help combat the realities of professional shortage areas, one of them being MLARP. To develop its recommendations regarding the potential expansion and the permanent funding of MLARP, the MLARP Workgroup examined available data related to Maryland's healthcare workforce, higher education debt among medical students, student incentives to serve the underserved, recruitment and retention programs across the nation, and the current structure of MLARP and its sister program, the federally funded State Loan Repayment Program.

As a result of this data collection (summarized in the Workgroup Report), the real-world experience of the Workgroup's membership in Maryland's academic, healthcare, and public health fields, and the Workgroup's collaborative conversations, the following ten recommendations are presented to the Maryland General Assembly via this report:

MLARP Workgroup Recommendation	Method to Achieve
1. Invest in a permanent General Fund appropriation for healthcare workforce educational loan repayment in the Maryland State budget.	Budgetary Appropriation
2. Seek non-General Fund resources to supplement the MLARP Fund, ensuring a diverse revenue pool that is predictable and sustainable.	MDH Internal Policy
3. Invest in a permanent General Fund appropriation for the administration of State-level workforce development activities.	Budgetary Appropriation
4. Establish MLARP systems to regularly monitor and publicly report program outcomes.	MDH Internal Policy

5. Join the multi-state Provider Retention & Information System Management program (PRISM) as a participating member.	MDH Internal Policy
6. Establish a centralized data collection repository to regularly assess Maryland's healthcare workforce supply and demand issues.	Statutory Change, Budget Appropriation
7. Expand program eligibility according to priority areas as determined by robust centralized data collection and analysis.	Statutory Change
8. Establish a regularly updated state-level data repository of health professions trainees in Maryland (i.e. students, resident, and fellows).	Statutory Change, Budget Appropriation
9. Form a permanent advisory council with responsibilities related to not just MLARP, but to the broader field of healthcare workforce development.	Statutory Change
10. Prescribe key members of the advisory board, using the MLARP Workgroup membership as a foundation and allowing for organic growth in additional positions.	Statutory Change

The MLARP Workgroup firmly supports the notion that a strong healthcare workforce is an absolute necessity to providing optimal healthcare access to all Marylanders. As highlighted throughout the contents of the full Workgroup report, a fully supported program of educational loan repayment for healthcare providers is an effective tool for healthcare workforce development. The membership humbly submits this report and its recommendations as key steps to more fully developing the current Maryland Loan Assistance Repayment Program and to building a firm foundation for a future statewide healthcare workforce development strategy.

Introduction and Background

Introduction

The 2020 Maryland legislative session produced Senate Bill 501 (SB 501 (2020)), in support of the existing Maryland Loan Assistance Repayment Program (MLARP) for Physicians and Physician Assistants. The enrolled legislation altered the administration of the program and established a Maryland Department of Health (MDH)-convened Workgroup to "examine how the State can implement a program within or in addition to the Maryland Loan Assistance Repayment Program for Physicians and Physician Assistants to further incentivize medical students to practice in health professional shortage areas and medically underserved areas in the State." [1, 2]

This mandated report, "Workgroup Report: Maryland Loan Assistance Repayment Program (MLARP) for Physicians and Physician Assistants – Administration and Funding," is presented as a result of the Workgroup born from SB 501 (2020) and builds off of the interim report submitted to the General Assembly in accordance with § 2–1257 of the State Government Article in late November 2020. This report is submitted on behalf of the MLARP Workgroup membership as a final report of the Workgroup's "findings and recommendations, including recommendations on the structure of a permanent advisory council and a permanent funding structure for the Maryland Loan Assistance Repayment Program, in accordance with § 2–1257 of the State Government Article, to the General Assembly." The report also presents a review of medical student debt distribution across the United States and Maryland, incentives for medical students to commit to practicing in medically underserved areas, models for physician recruitment and retention from other states, as well as the availability of other federal grants to expand loan repayment and forgiveness for other health professions in the state of Maryland.

Background

Maryland's Healthcare Workforce

In order to provide optimal healthcare access to residents across the State of Maryland, it is vital that the healthcare workforce is available at sufficient levels in all geographic areas and across provider disciplines (e.g. physician, nurse practitioner, licensed clinical social worker, etc.) and specialties (e.g. primary care, mental health, oncology, etc.).

According to the Bureau of Labor Statistics (BLS), Maryland employs approximately 161,220 individuals as healthcare practitioners and in related technical occupations.[3] Of these, BLS documents 108,880 employed individuals as Healthcare Diagnosing or Treating Practitioners. Occupational and wage statistics related to select health practitioners can be seen in Table 1.

1 Maryland Senate Bill 501, Maryland Loan Assistance Repayment Program for Physicians and Physician 3 Assistants – Administration and Funding, 2020, http://mgaleg.maryland.gov/2020RS/bills/sb/sb0501E.pdf

2 Enacted as Chapter 403 of the 2020 Laws of Maryland, codified as §24-1701 - 24-1707 of Maryland's Health General Article

3 May 2020 State Occupational Employment and Wage Estimates. Maryland. U.S. Bureau Labor Statistics. Accessed 7/28/2021. https://www.bls.gov/oes/current/oes_md.htm#29-0000

Table 1. Selected Healthcare Practitioners, Maryland, Occupational Employment and Wage Statistics, May 2020[4]

Occupation	Number Employed	National Ranking based on Number Employed (#/50 states)	Employment per 1,000 jobs	Location Quotient[5]	Annual Mean Wage	National Ranking based on Annual Mean Wage[6] (#/50 states)
Physician Assistants	2,930	13	1.162	1.29	$114,970	23
Nurse Practitioners	3,320	24	1.315	0.87	$115,240	17
Family Medicine Physicians	1,400	21	0.555	0.78	$213,150	32
General Internal Medicine Physicians	1,040	16	0.41	1.13	$239,710	17
Obstetricians and Gynecologists	580	11	0.231	1.7	$224,670	35
Pediatricians, General	740	12	0.294	1.48	$175,470	33
Psychiatrists	920	6	0.364	1.99	$212,790	26
Surgeons, except Ophthalmologists	600	19	0.237	0.87	$287,900	5

At a glance, it can be difficult to determine if the BLS data relates to a Maryland healthcare workforce robust enough to serve all of the state's healthcare needs. As the eighteenth most populous state in the United States, with 6,177,224 residents, Maryland could appear well-resourced based on the number of employed practitioners and with many location quotients greater than 1 noted in Table 1.[7] However, Maryland tends to rank lower in the wages column

4 Occupational Employment and Wage Statistics. U.S. Bureau Labor Statistics. Accessed 8/16/2021. https://data.bls.gov/oes/#/occGeo/One%20occupation%20for%20multiple%20geographical%20areas

5 Location quotients (LQ) are ratios that allow an area's distribution of employment by industry to be compared to a reference area's distribution. If an LQ is equal to 1, then the industry has the same share of its area employment as it does in the nation. An LQ greater than 1 indicates an industry with a greater share of the local area employment than is the case nationwide.

6 Ranking out of states with non-suppressed data.

7 2020 Census Apportionment Results. United States Census Bureau. Accessed 8/17/2021. https://www.census.gov/data/tables/2020/dec/2020-apportionment-data.html

and tends to experience, like the United State as a whole, that practitioners are less likely to choose to work in rural and medically underserved regions of the state than in more urban or thriving communities.[8] This can be somewhat gleaned from BLS data when Maryland is divided into nationally-determined metropolitan and nonmetropolitan areas (Table 2) as the state's less populated jurisdictions experience lower location quotient's and/or annual mean wages than the metropolitan areas called out by BLS. Of note, Table 2 includes licensed healthcare practitioners and technical occupations whereas Table 1 notes licensed practitioners only.

Table 2. Maryland Healthcare Practitioners and Technical Occupations by Metropolitan and Nonmetropolitan Areas

Metropolitan/ Nonmetropolitan Area	Employment number	Employment per 1,000 jobs	Location Quotient	Annual mean wage
Baltimore-Columbia-Towson, MD	88,850	69.005	1.12	$88,020
California-Lexington Park, MD	1,750	38.722	0.63	$70,950
Cumberland, MD-WV	2,760	82.309	1.33	$77,110
Hagerstown-Martinsburg, MD-WV	6,410	66.733	1.08	$87,380
Salisbury, MD-DE	10,340	69.844	1.13	$85,450
Maryland nonmetropolitan area	3,390	60.181	0.98	$80,240

Identifying health professional workforce shortages can be more clearly seen by surveying the state for federally-designated Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas/Populations (MUA/Ps). Shortage areas in primary care, dental care, and mental health persist. Here, primary care is defined as, "The provision of integrated, accessible health services by clinicians who are accountable for:

- addressing a large majority of personal health care needs,
- developing a sustained partnership with patients, and
- practicing in the context of family and community."[9]

As of September 30, 2021, there are a total of 48 primary care HPSAs in the state, inclusive of 887,614 Maryland residents:

- Seven (7) are geographically based (A shortage of providers for an entire group of people within a defined geographic area);
- Twenty-two (22) are population-based (A shortage of providers for a specific group of people within a defined geographic area (i.e. low-income, Medicaid eligible, or homeless population)); and
- Nineteen (19) are facility-based (A shortage of providers based on facility-type: Public or non-profit private medical facilities, correctional facility, state/county mental hospitals,

8 Rural Healthcare Workforce. Rural Health information Hub. Accessed 8/1/2021. https://www.ruralhealthinfo.org/topics/health-care-workforce#workforce

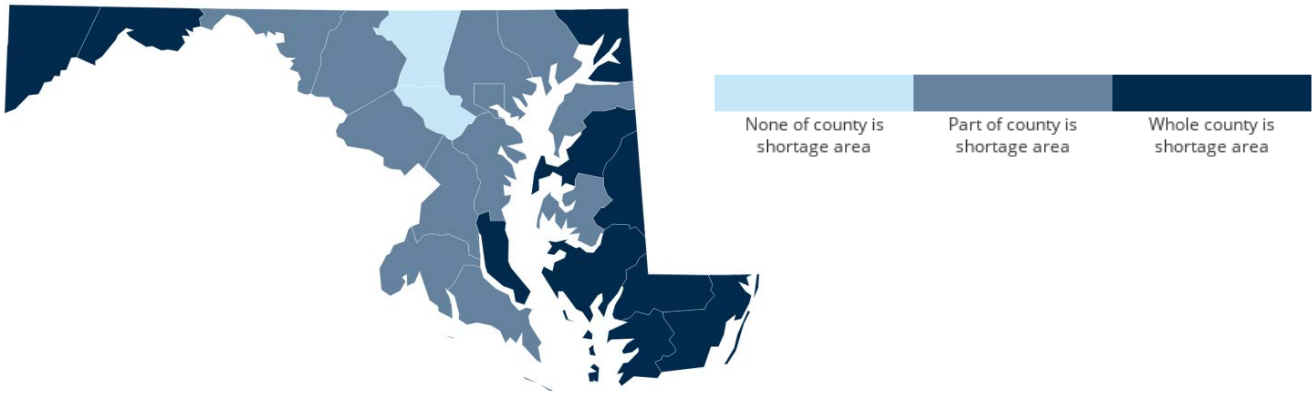
9 Glossary. Health Resources and Services Administration, Bureau of Health Workforce. Access 8/16/2021. https://bhw.hrsa.gov/glossary#p

Federally Qualitied Health Centers (FQHCs), FQHC Look-a-Likes, or CMS-certified Rural Health Clinic)

In order to eliminate the primary care HPSA designations, Maryland needs an additional 141 primary care practitioners to provide services in these areas.[10]

Most of Maryland's 24 jurisdictions are at least partially designated as a primary care HPSA as seen in Map 1. Expanded HPSAs can be seen in Maps 2 and 3 which identify dental care and mental health HPSAs, respectively.

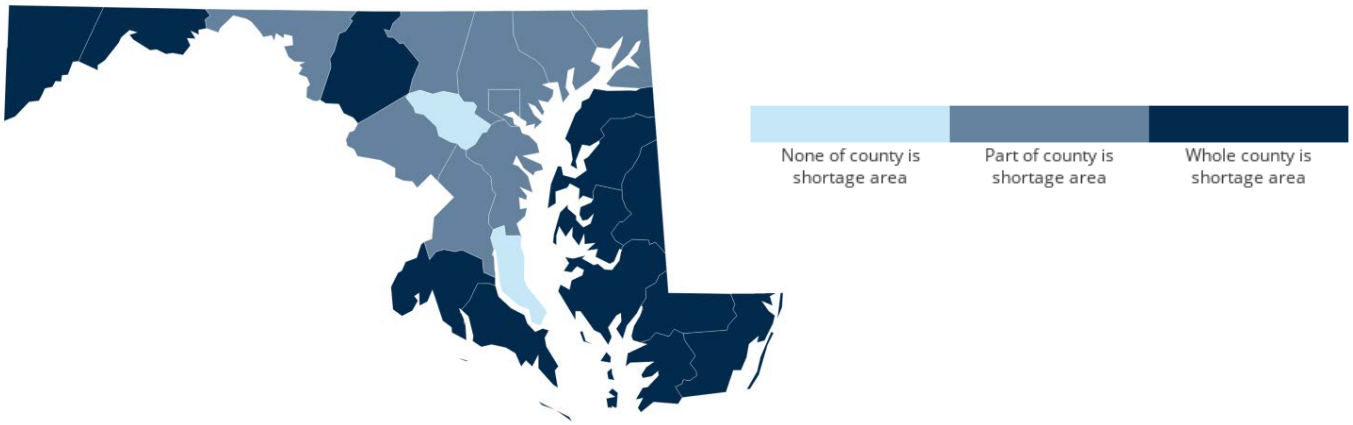
Map 1. Health Professional Shortages Areas: Primary Care, by County, 2021, Maryland[11]



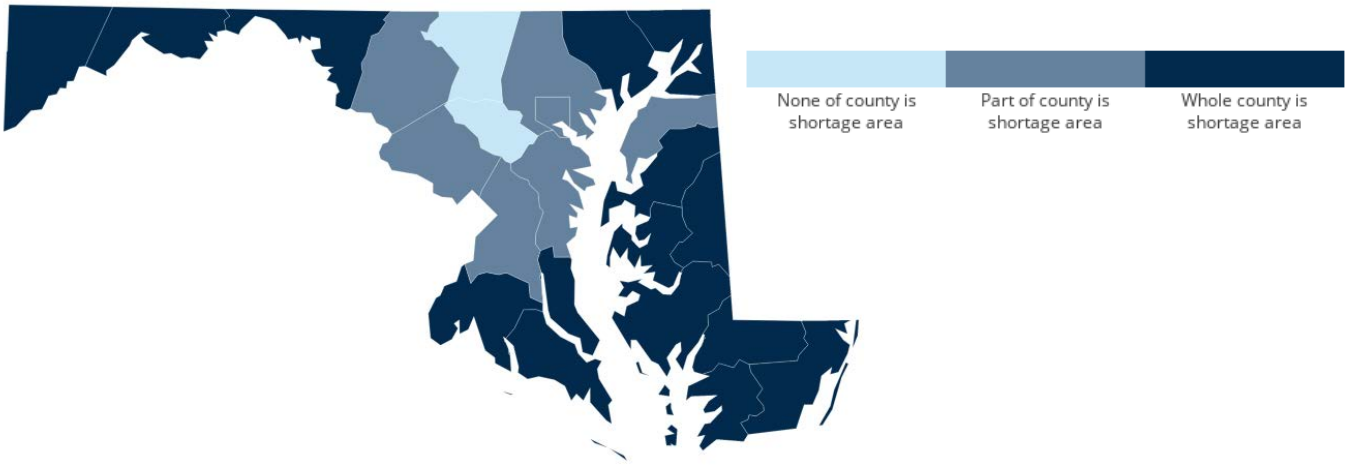
10 Designated Health Professional Shortage Area Statistics; 4th Quarter of Fiscal Year 2021: Designated HPSA Quarterly Summary. Health Resources and Services Administration website. Accessed 10/6/2021.

11 Health Professional Shortage Areas: Primary Care, by County, 2021 – Maryland, Data Visualizations Chart Gallery. Rural Health information Hub. Accessed 8/1/2021. https://www.ruralhealthinfo.org/charts/5?state=MD

Map 2. Health Professional Shortages Areas: Dental Care, by County, 2021, Maryland[12]



Map 3. Health Professional Shortages Areas: Mental Health, by County, 2021, Maryland[13]



The state also receives federal designations for Medically Underserved Areas and Medically Underserved Populations (MUA/Ps) which are defined as "areas or populations designated by the Health Resources and Services Administration (HRSA) as having too few primary care providers, high infant mortality, high poverty or a high elderly population." Maryland has 53 MUA/Ps, covering 502 (35.7%) of the state's 1,406 Census tracts.[14,15]

Healthcare workforce shortages are expected to grow as the Maryland population ages, healthcare practitioners retire, and the number of graduating medical students and residents

12 Health Professional Shortage Areas: Dental Care, by County, 2021 – Maryland, Data Visualizations Chart Gallery. Rural Health information Hub. Accessed 8/16/2021. https://www.ruralhealthinfo.org/charts/5?state=MD

13 Health Professional Shortage Areas: Mental Health, by County, 2021 – Maryland, Data Visualizations Chart Gallery. Rural Health information Hub. Accessed 8/16/2021. https://www.ruralhealthinfo.org/charts/5?state=MD

14 MUA Find. U.S. Human Resources and Services Administration. Accessed 8/19/2021. https://data.hrsa.gov/tools/shortage-area/mua-find

15 U.S. Department of Commerce Economics and Statistics Administration. *2010 Census: Maryland Profile*. Washington, DC: U.S. Census Bureau, 2020.

do not keep pace. The long-term impacts of novel coronavirus disease (COVID-19) on the workforce are unknown at this point. The Association of American Medical Colleges (AAMC) projects that there will be a national primary care physician shortage of between 17,800 to 48,000 physicians and a shortage of non-primary care specialties of between 21,000 and 77,1000 physicians by 2034. The state can be certain that the healthcare workforce is a vital area of concern.[16] Correcting the discrepancies between Maryland's healthcare needs and the healthcare practitioner workforce requires a multi-pronged approach that equally recruits and retains healthcare providers to serve in underserved and rural communities.

It is also important to note the healthcare environment in which provider shortages are taking place. As is the case across the nation, Maryland hosts an intricate system of healthcare service providers and public health institutions within its borders, and in some instances, across state borders. For-profit, non-profit, governmental and non-governmental organizations serve Marylanders at the local, jurisdictional, and state levels. They interact as needed to handle the diverse needs of the state's population, guiding residents through primary, behavioral, dental, specialty, and acute care continuums. Most, if not all, key healthcare and public health stakeholders are focused on the same goals as the Maryland Total Cost of Care (TCOC) Model which is designed to:

- Coordinate care for patients across settings;
- Improve health outcomes; and
- Constrain the growth of health care costs in Maryland.

The TCOC Model structure aims to transition the Medicare payment system from volume to value-based. As described by the Centers for Medicare and Medicaid Services, the Model:

> "sets a per capita limit on Medicare total cost of care in Maryland. The TCOC Model is the first Center for Medicare and Medicaid Innovation (Innovation Center) model to hold a state fully at risk for the total cost of care for Medicare beneficiaries. The TCOC Model builds upon the Innovation Center's [prior] Maryland All-Payer Model, which had set a limit on per capita hospital expenditures in the State. The Maryland TCOC Model sets the state of Maryland on course to save Medicare over $1 billion by the end of 2023, and the Model creates new opportunities for a range of non-hospital health care providers to participate in this test to limit Medicare spending across an entire state."[17]

Key elements of the TCOC Model influence the work of MDH and healthcare providers across the state. The TCOC Model has the following four components:

- Hospitals operate under population-based budgets (referred to as global budget revenue or GBR), which includes payment incentives for hospital quality and controlling costs;

16 IHS Markit Ltd. *The Complexities of Physician Supply and Demand: Projections From 2019 to 2034*. Washington, DC: AAMC; 2021.

17 Maryland Primary Care Program. Overview. Accessed 1/5/2021. https://health.maryland.gov/mdpcp/Pages/home.aspx

18 Maryland Health Services Review Commission. Maryland's Total Cost of Care Model. Accessed 1/5/2021. https://hscrc.maryland.gov/Pages/tcocmodel.aspx

- Hospitals can participate in Care Redesign Programs and Care Transformation Initiatives, which expand the incentives for hospitals to work with other care providers and provide an opportunity for non-hospital based providers to participate in value-based payment programs;
- The Maryland Primary Care Program encourages practices to adopt advanced approaches to primary care which enhance management of chronic conditions to improve the health of Medicare enrollees; and
- The TCOC Models' population health focus leverages public / private partnerships to bring sustained coordinated effort and investments to statewide goals related to diabetes, opioid addiction, and maternal and child health.[18]

The research, conversations, and recommendations developed by the MLARP Workgroup take into consideration and support the state's healthcare environment and the overarching goals of the state's investment in the move from volume to value-based care and the TCOC Model.

Maryland Loan Assistance Repayment Program

A wide variety of tactics are currently utilized within this state to help meet the healthcare workforce needs of Marylanders, with the Maryland Loan Assistance Repayment Program for Physicians and Physician Assistants (MLARP) serving as a means of incentivizing qualifying physicians and physician assistants to practice in underserved areas in exchange for educational loan repayment. Generally, in exchange for a two-year service obligation in an underserved area of the state, physicians and physician assistants are eligible for up to a total of $100,000 in educational loan repayments if selected for participation in the program. Final-year medical residents are also eligible for award. MLARP recipients may reapply for an award after completion of the first two-year service obligation. A recipient's total award amount cannot exceed $200,000, or two 2-year obligations.

MLARP has been a state-funded resource for provider recruitment and retention in Maryland since 1994. Administration of the program in most recent years has been shared by the Maryland Higher Education Commission (MHEC) and MDH. SB 501 (2020) streamlined management of MLARP by centralizing oversight of the program in MDH. As of July 1, 2020, the program is completely administered by MDH's Office of Workforce Development which resides within the Office of Population Health Improvement, Public Health Services. In addition to MLARP, the Office of Workforce Development administers the federally-funded National Health Service Corps State Loan Repayment Program (SLRP) (Appendix A). The HRSA-funded SLRP follows slightly different eligibility criteria, requiring eligible physicians and physician assistants to serve their service obligation in a federally-designated HPSA in traditional primary care specialties to include: Family Practice, Internal Medicine, Pediatrics, Geriatrics, Obstetrics and Gynecology, Psychiatry. Though the federal program allows a wider range of disciplines to be funded via the program, Maryland has traditionally opened eligibility to physicians and physician assistants only. Important to the Workgroup's discussions is the point that federally-

allowable SLRP-funded disciplines include:

- Allopathic Medicine (MD)
- Osteopathic Medicine (DO)
- General and Pediatric Dentistry (DDS/DMD)
- Nurse Practitioner (NP)
- Certified Nurse-Midwife (CNM)
- Physician Assistant (PA)
- Registered Dental Hygienist (RDH)
- Health Service Psychologist (HSP) (Clinical and Counseling)
- Licensed Clinical Social Worker (LCSW)
- Psychiatric Nurse Specialist (PNS)
- Licensed Professional Counselor (LPC)
- Marriage and Family Therapist (MFT)
- Registered Nurse (RN)
- Pharmacist (PharmD)
- Substance Use Disorder Counselors

In line with its establishing legislation, MLARP is available to physicians and physician assistants serving in traditional primary care roles with the addition of those practicing in emergency medicine or a medical specialty other than primary care if there is an identified shortage in that specialty.

Federal funds for SLRP are traditionally received by the state annually, September 1, with a competitive grant application required every four (4) years. Across the country, 41 states, the District of Columbia, and one territory have current SLRP project periods running September 1, 2018 through August 31, 2022. Federal funding for these state programs ranges from $68,000 to $1,000,000.[19] The Office of Workforce Development expects a competitive continuation proposal to be completed Winter 2021/2022 in order to receive future federal funding for the program. As noted above, state funds allow Maryland to expand eligibility beyond federally-designated HPSAs and non-profit primary care settings to best meet the state's workforce needs. State-level funding also enables Maryland to meet the current 1:1 match requirement of the federal funds ($360,000), however, the dollar amount prohibits Maryland from fully leveraging the maximum federal funding potentially available ($1,000,000) for loan repayment. In addition, integral to the Workgroup's conversations is the reality that up to this point, all state funds have been provided to the program through Maryland Board of Physicians licensure fee collections. On average, SLRP has received $360,000 annually and MLARP, $400,000. Recent appropriations increased SLRP funding to $800,000 and $1,000,000 in fiscal years 2021 and 2022, respectively. The longevity of the increases is unknown. Together, the state-funded MLARP and federally-funded SLRP are generally referred to as the Maryland Loan Repayment Programs.

19 State Loan Repayment Program Grantee Awards Map. Health Resources and Services Administration website. Accessed July 28, 2021. https://nhsc.hrsa.gov/loan-repayment/state-loan-repayment-program/map

Annually, MDH facilitates the Maryland Loan Repayment Programs application cycle during which eligible healthcare providers submit applications for educational loan repayment award by established deadlines. The application process requires submission and verification of a variety of documentation to ensure eligibility criteria are verifiable and to gather the appropriate information to facilitate technical scoring based on program priorities. MDH reviewers perform eligibility checks and apply technical scoring to each loan repayment program application. Eligible applicants are categorized to a "priority tier" based on legislative priorities, identified areas of State need, and the applicant's practice specialty. Applications are ranked by technical score within their tier. The level of potential award (dollar amount) is determined by the technical score, up to $50,000 per year for the highest scoring applications. Of note, the total award amount cannot be greater than a potential awardee's educational debt. The number of awards possible for each fiscal year is determined by the federal and state funding allocations for that particular year as well as for the anticipated future year to ensure ability to fund the full two-year service obligation.

Upon award, each loan repayment recipient signs a promissory note and service obligation agreement. This signature triggers payment of the first service year award. Renewal documentation at the start of the second service obligation year allows for the second service year award to be released.

Up until the aforementioned transition of MLARP fully to MDH, MHEC solely managed the state funding and payment aspects of MLARP. These roles now fall to MDH. Therefore, the transition of the program required operational updates, including:

- Recipient Documentation and Communication: Awardee documentation has MDH as the sole point of contact and was reviewed and approved by the MDH Assistant Attorney General's office.
- Accounts Receivable: Developed processes to receive LRP funds with MHEC guidance, and in concert with the Maryland Board of Physicians and MDH General Accounting.
- Awardee Payments: Developed Standard Operating Practices and necessary documentation to meet MDH internal processing requirements and accountability standards to make payments directly to awardees' lending institutions.
- Data Handling and Storage: Explored data system needs, including the capacity to securely accept electronic program applications and ongoing awardee documentation. Requested fiscal year 2022 funding to procure a data system to serve MLARP.

Of note, the Office of Workforce Development supports two staff members via state general funds at a total of 0.7 full-time equivalent (FTE) for the administration of MLARP, SLRP, the Conrad 30 (J-1 Visa Waiver) Program, and Tax Credits for Preceptors in Areas with Health Care Workforce Shortages Program. Office staff, including the Office of Workforce Development Director (0.2 FTE) and Coordinator (0.5 FTE), have provided staffing and facilitation to the MLARP Workgroup.

As mentioned above, the MLARP Workgroup was established "to examine how the State can implement a program within or in addition to the Maryland Loan Assistance Repayment

Program for Physicians and Physician Assistants to further incentivize medical students to practice in health professional shortage areas and medically underserved areas in the State" as well as explore and research a variety of other related topic areas, including:

1. Medical school student debt experienced in the United States and Maryland;
2. Models for physician recruitment and retention that operate in other states, including how these models are funded and how to improve MLARP to ensure that the Program is competitive with other states;
3. Methods to incentivize medical students to commit to practicing in medically underserved areas in the State before entering a residency program or on graduation from medical school; and
4. Availability of other federal grants to further expand loan repayment and loan forgiveness for other health professionals in Maryland.

In addition, the Workgroup shall submit a final report, including recommendations on:

1. The structure of a permanent advisory council; and
2. A permanent funding structure.

Subsequent sections of this report share the process by which the MLARP Workgroup worked to meet these requirements over the course of the latter months of 2020 and much of 2021, summaries of Workgroup research, and the resulting recommendations for the future of MLARP.

MLARP Workgroup

As noted in the Introduction of this report, SB 501 (2020) calls for the establishment of a Workgroup to explore and recommend how the State should consider moving forward for further recruitment and retention of providers in geographic priority areas. In compliance with SB 501 (2020), the Workgroup membership consists of the following 14 stakeholders:

1. Chair of the Health Services Cost Review Commission, or the Chair's designee;
2. Chair of the Health Care Commission, or the Chair's designee;
3. President of the Maryland Hospital Association, or the President's designee;
4. Dean of the University of Maryland School of Medicine, or the Dean's designee;
5. Dean of the Johns Hopkins School of Medicine, or the Dean's designee;
6. President of MedChi, or the President's designee;
7. Director of the Office of Primary Care;
8. A representative of the Board Chair of the State Board of Physicians;
9. A representative of the Maryland Academy of Physician Assistants; and
10. Any other members as determined by the Secretary of Health. Five additional members were designated by the Secretary, including the Director of the MDH Office of Population Health Improvement, two additional representatives of the Maryland Hospital Association, an additional representative of the Board of Physicians, and a member of the Maryland Legislature.

Workgroup appointments were finalized and communication with MDH staff began in early October 2020. Over the course of that month, workgroup members contributed relevant data and resources into a common cloud-based storage folder. The initial meeting of the Workgroup took place virtually on October 28, 2020 and was open to public attendance in accordance with the Maryland Open Meetings Act. During the initial meeting and follow-up communication, the Workgroup determined a key list of priorities to be addressed alongside the SB 501 (2020) mandated areas of exploration. On December 15, 2020, the SB 501 (2020) MLARP Workgroup Interim Report was submitted to the General Assembly. The report lists the five priorities that the MLARP Workgroup focused on throughout future discussions:

Priority #1: Seek out a broader array of stakeholders and revenue sources. The source of funding for MLARP has always been physician and allied health practitioner licensing fees via the Board of Physicians Fund as established in Maryland Code, Health Occupations, § 14-207. Since 1997, the Board of Physicians Fund has distributed more than $11 million for MLARP. Expansion of MLARP should be accompanied by a more robust funding source representative of the provider disciplines to be served.

Priority #2: Take full advantage of federal funds available through the State Loan Repayment Program (SLRP), which provide loan repayment for eligible primary care providers who serve in federally-designated HPSAs. A larger range of provider disciplines are eligible for SLRP than Maryland currently allows (physicians and physician assistants only). SLRP requires a 1:1 match of state (non-federal) to federal funds. This is an important aspect when determining potential revenue sources. Of note, SLRP funds are available for those practicing in primary care only, not sub-specialties. Expanded revenue is needed in order to fully leverage available federal funds and specialty types beyond primary care.

Priority #3: Ensure flexibility of provider disciplines and specialties/sub-specialties benefiting from MLARP based on the stated needs and available data of local communities.

Priority #4: Obtain additional provider workforce data. State level data regarding the provider workforce is needed in order to build a more robust methodology to determine population-provider ratios across provider disciplines and specialties. There are currently no state level data sources providing full time equivalent data by provider discipline to MDH. MDH must currently rely on claims data for this information, which does not provide a complete story.

Priority #5: Balance the efforts undertaken at the state level with those of local healthcare organizations and offices. Though hospitals and individual provider practices that directly fund loan repayment for employees pay the loan repayments and associated taxes out of their bottom line, doing so allows them to meet their specific provider shortage needs with less administrative burden than is necessary if practitioners seek loan repayment at the state or federal levels.

In response to the listed priorities, the Workgroup formed three subgroups focusing on Building a Sustainable Funding Structure, MLARP Data and Its Use, and Student Incentives.

1. The "Funding Structure" subgroup served to develop recommendations specific to building a sustainable funding structure for MLARP. This primarily includes diversification of revenue sources and the development of a broader base of program partners as noted in stated priorities 1 and 2. The following guiding principles resulted from this group's work:
    a. At a minimum, funding levels should allow the state to meet the maximum federal match ($1,000,000). However, a $1,000,000 investment of State funds is insufficient to fully meet State health care workforce development and retention needs, including providing loan repayment assistance to providers who are not eligible for the federal program.
    b. Funding source(s) should be predictable and sustainable.
    c. If general fund revenue is not provided, revenue should be collected from multiple sources.

2. Speaking to Priorities 3, 4 and 5, the "Data and its Use" subgroup focused on the identified need to build a statewide source of workforce supply data. The group also discussed the need to incorporate regular monitoring and evaluation measures into the work of the Maryland Loan Repayment Programs to ensure their effectiveness in supporting the healthcare workforce.

    The following guiding principles resulted from this group's work:
    a. Robust program data should be collected and published to assist in administration of the program and to make future recommendations regarding program priorities.
    b. Additional program data can be collected via mandatory surveys of participants and sites, exit interviews and post-completion surveys, as well as by participating in multi-state collaboratives.
    c. Wherever possible, identify existing sources of workforce and population data, so that program resources are going toward providers rather than being spent on data collection.
    d. Collecting data is only one part of the problem. Once collected, data must be analyzed and a system must be established that can use that data to properly match providers with communities.

3. The "Student Incentives" subgroup explored various methods of incentivization targeting medical students pre-residency and pre-graduation to provide service in underserved areas. The group gathered data on methods of incentivization toward medical students and determined the following guiding principles:
    a. In order to make incentives appealing at the time of loan repayment assistance eligibility, potential careers in underserved areas should be introduced and

nurtured early in the academic career, during undergraduate and medical school years.

b. Medical residency is the time at which budding physicians determine where they will most likely settle. Efforts to attract medical residents to work in Maryland are important during this learning phase. Residents should not be left out of incentive discussions.
c. All students need to receive information about potential loan repayment assistant opportunities early and often.
d. State-wide data is necessary to map the flow of students in and out of the state and its medically underserved areas at each level of healthcare professional training (undergraduate, medical school, residency, fellowship).

Each of the subgroups followed the same basic process to provide input to the full Workgroup:

- Research completed by subgroup members;
- Developed guiding principles;
- Analyzed research using guiding principles; and
- Developed consensus recommendations for presentation to the full Workgroup.

Over the course of its work, the full Workgroup met a total of seven times, with an additional eight subgroup meetings. Meeting proceedings were documented and summaries are available in Appendix B.

At the time of this submission, further information regarding the MLARP Workgroup meetings and minutes can be found on the developed MLARP Workgroup web page: https://pophealth.health.maryland.gov/Pages/MLARP-for-Physicians-and-Physician-Assistants-Workgroup0909-7173.aspx.

Throughout discussions of the MLARP Workgroup and its subgroups, key areas of research and exploration noted in SB 501 (2020) were taken under consideration, as described below.

Key Considerations

Higher Education Debt

Tuition costs for higher education have increased over recent years, with annual growth exceeding monetary inflation by more than two and a half times.[20] This trend can be seen in average medical school costs for both public and private academic institutions in Table 3.

Table 3. Average Tuition for Medical School by Public vs. Private School and Residency Status, 5 Academic Years[21]

Academic Year	Average Cost Public Medical School		Average Cost Private Medical School	
	Resident	Non- Resident	Resident	Non- Resident
2018-2019	$36,755	$60,802	$59,076	$60,474
2017-2018	$35,704	$60,141	$57,194	$58,709
2016-2017	$34,594	$58,740	$55,587	$56,912
2015-2016	$33,895	$57,834	$53,968	$55,398
2014-2015	$32,554	$56,150	$52,155	$53,691
5 Year % Change	12.9% increase	8.3% Increase	13.2% increase	12.6% increase

In addition to tuition, students must also account for costs related to mandatory fees, health and malpractice insurance, vaccinations, uniforms, instruments, books, transportation, and living expenses. The University of Maryland School of Medicine (UMD SOM) 2019-2020 academic year cost of attendance report shares a bottom line of $79,141 per year for Maryland residents and $110,723 for out-of-state attendees.[22] The University froze costs for the 2020-2021 academic year. Maryland's private School of Medicine, Johns Hopkins University, shares a 2021-2022 cost of attendance average of $90,730 for its students, including direct (tuition) and indirect costs of attendance.[23]

20 Student Loan Debt Statistics. EducationData.org. Accessed 8/16/2021. https://educationdata.org/student-loan-debt-statistics

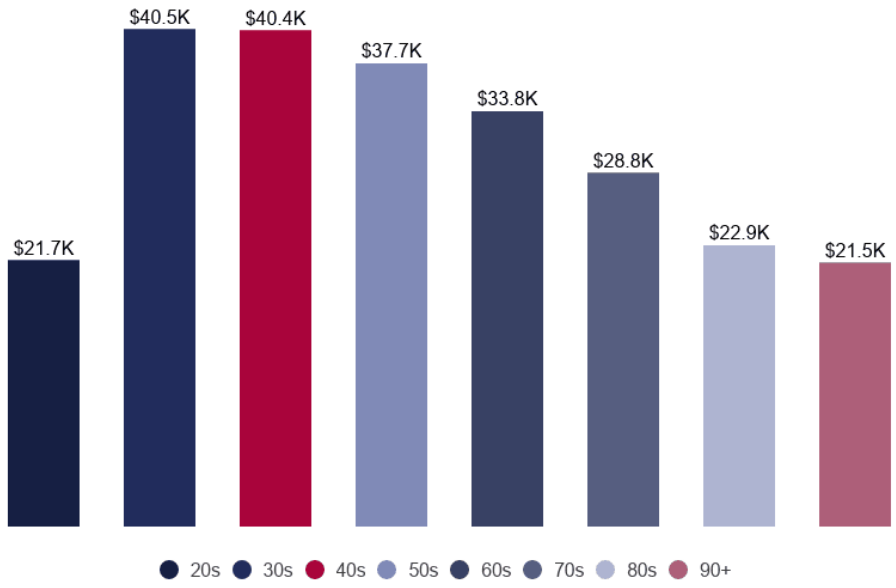
21 Average Medical School Debt: How Much It Really Costs to Be a Doctor. Student Loan Planner. Accessed 8/1/2021. https://www.studentloanplanner.com/average-medical-school-debt/

22 University of Maryland Student Financial Assistance, UMD SOM Cost of Attendance: 2019-2020 Academic Year, 2019.

23 2021-2022 Cost of Attendance. Johns Hopkins University School of Medicine Office of Financial Aid. Accessed 8/17/2021. https://www.hopkinsmedicine.org/som/offices/finaid/cost/med.html

Increases in tuition costs are one factor in growing student loan debt statistics. Recent data boasts an outstanding 1.7 trillion dollars' worth of debt owed to lenders of educational loans in the United States. Forbes notes, "U.S. student loan debt is now the second highest consumer debt category, second only to mortgage debt and higher than debt for both credit cards and auto loans." [24] Educational loan debt follows students in the United States far into and sometimes past their careers, as noted in Figure 1.

Figure 1. Average Student Loan Debt by Age Group[25]



Among all states, Maryland has the second highest average student loan debt per borrower at $42,592. [26] Maryland's average debt per borrower seems relatively low when compared to the average debt of individuals with professional degrees. As educational degree level increases, so does the average debt amount (Table 4).

24 Student Loan Debt Statistics In 2021: A Record $1.7 Trillion. Forbes. Accessed 8/16/2021. https://www.forbes.com/sites/zackfriedman/2021/02/20/student-loan-debt-statistics-in-2021-a-record-17-trillion/?sh=3507e1061431

25 Student Loan Debt Statistics. EducationData.org. Accessed 8/16/2021. https://educationdata.org/student-loan-debt-statistics

26 State Loan Repayment Program Grantee Awards Map. Health Resources and Services Administration website. Accessed July 28, 2021. https://nhsc.hrsa.gov/loan-repayment/state-loan-repayment-program/map

Table 4. National Average Student Loan Amounts by Debt Type[27]

Debt Type	Average Debt
Bachelor's degree	$28,950
Graduate school	$71,000
Nursing school	$19,928: Associate Degree Nursing (ADN) $23,711: Bachelor of Science in Nursing (BSN) $47,321: Master of Science in Nursing (MSN)
Physician Assistant school	$107,821[28]
Law school	$145,500
Medical school	$201,490
Dental school	$292,169
Pharmacy school	$179,514
Veterinary school	$183,302

In the AAMC survey of 2021 medical school graduates, 32.5% of respondents (n=15,447) from across the United States noted having outstanding educational loans for their college/premedical education, with the median premedical school debt being $28,000. Almost 71% (n=14,985) of medical school graduates noted additional medical school education debt at a median amount of $200,000. Another 17.9% of recent graduates responded that they are currently carrying, on average, an additional $13,000 in consumer debt. [29]

Maryland's Johns Hopkins School of Medicine notes a similar level of debt ($180,000 to $200,000) for its students who do not receive scholarship funding and borrow funds to pay for medical school. The University notes an average of $8,000,000 in educational loans borrowed by its students per year.

Table 5 displays Johns Hopkins University School of Medicine (JHU SOM) Financial Aid Office data comparing JHU graduate debt (inclusive of students with generous scholarship packages) against the national average.[30]

27 What Is the Average Student Loan Debt for Graduate School? NerdWallet. Accessed 8/16/2021. https://www.nerdwallet.com/article/loans/student-loans/average-student-loan-debt-graduate-school

28 Median Debt: Physician Assistant Education Association, By the Numbers: Student Report 4: Data from the 2019 Matriculating Student and End of Program Surveys, 2020.

29 Association of American Medical Colleges. Medical School Graduation Questionnaire: 2021 All Schools Summary Report, July 2021.

30 Debt Management. Johns Hopkins School of Medicine Office of Financial Aid. Accessed 8/17/2021. https://www.hopkinsmedicine.org/som/offices/finaid/debt-mgmt/

Table 5. JHU SOM Medical School Debt as Compared to the National Average[31]

Graduating Class Year	Average Debt - JHU SOM	National Average – Private
2017	$109,692	$206,204
2016	$113,684	$203,201
2015	$109,471	$193,483
2014	$113,144	$190,053
4 Year %	3.1% decrease	8.5% increase

Though the average JHU SOM debt has fluctuated year to year, there is a -3.1% change from 2014 to 2017 for JHU SOM student debt whereas the average level of debt has trended upward during that same time period, representing an 8.5% change increase.

Available University of Maryland School of Medicine (UMD SOM) data also reflects debt lower than national averages (Table 6).[32]

Table 6. UMD SOM Average Loan Debt as Compared to the National Average of Private and Public Schools

2019 Graduating Class Year	UMD SOM	Public Schools	Private Schools
% with Education Debt	65%	74%	71%
Average Debt	$186,838	$193,186	$215,000

In addition to debt averages increasing due to seeking a professional degree or the specific academic institution attended, further student demographic factors, such as race and ethnicity play a role in student debt statistics as well. As reported by the AAMC, Black non-Hispanic medical school graduates have the highest percentage of student debt at 91% and a median debt level of $230,000. Asian non-Hispanic graduates have the lowest percentage of student debt at 61% and a median debt level of $180,000, though this group attends private schools at a higher rate (Table 7). AAMC notes, “Key drivers of variations in education debt by race and

31 Debt Management. Johns Hopkins School of Medicine Office of Financial Aid. Accessed 8/17/2021. https://www.hopkinsmedicine.org/som/offices/finaid/debt-mgmt/

32 University of Maryland School of Medicine 2019 Debt Information. University of Maryland Student Financial Assistance. November 2019.

ethnicity among medical school graduates include school type attended, school location, and funding sources."[33]

Table 7. Education Debt Data for 2019 Medical School Graduates by Race and Ethnicity

Race or Ethnicity	With Education Debt	Median Education Debt	Public/ Private School	Median Self-Reported Parental Income	Average for % of medical education to be financed with:		
					Personal/ Family Funds	Scholarship/ Work-study	Loans
All	73%	$200,000	61%/39%	$130,000	24%	19%	56%
American Indian and Alaska Native	80%	$212,375	71%/29%	$90,000	14%	33%	52%
Asian, not Hispanic	61%	$180,000	56%/44%	$120,000	33%	17%	49%
Black, not Hispanic	91%	$230,000	50%/50%	$80,000	8%	34%	57%
Hispanic	84%	$190,000	57%/43%	$70,000	13%	25%	61%
White, not Hispanic	75%	$200,000	65%/35%	$150,000	24%	17%	58%
All others, mostly multiple selections or "other"	71%	$200,000	59%/41%	$110,000	24%	23%	53%

Of note, the AAMC notes similar debt levels for female and male medical school graduates, despite differences in attendance at public and private academic institutions (Table 8).

Table 8. Percentage of Female and Male Graduates With Debt and Their Median Education Debt Levels by Public and Private Medical School, 2015-2019[34]

Year	All	Female			Male		
	Female/Male Graduates	Public/Private Schools	With Education Debt	Median Debt of Graduates	Public/Private Schools	With Education Debt	Median Debt of Graduates
2019	49%/51%	60%/40%	72%	$200,000	62%/38%	74%	$200,000
2018	49%/51%	59%/41%	75%	$200,000	62%/38%	74%	$200,000
2017	49%/51%	60%/40%	75%	$190,000	61%/39%	75%	$195,000
2016	48%/52%	60%/40%	76%	$183,000	61%/39%	77%	$192,000
2015	49%/51%	59%/41%	81%	$180,000	61%/39%	81%	$189,000

As noted above, though Maryland students may see lower educational loan debt upon matriculation, the majority of medical school students in the United States and Maryland face six-figure balances upon graduation, with years of lower paid residency training ahead of them. As stated by the Johns Hopkins University Office of Financial Aid, "Loan borrowing is a necessary part of graduate education…. Although low-interest educational loans are made available to students, the fact is, that it is a loan and 'loans must be repaid.'"[35]

33 Youngclaus J, Fresne JA. Physician Education Debt and the Cost to Attend Medical School: 2020 Update. Washington, DC: AAMC; 2020.

34 Youngclaus J, Fresne JA. Physician Education Debt and the Cost to Attend Medical School: 2020 Update. Washington, DC: AAMC; 2020.

35 Debt Management. Johns Hopkins School of Medicine Office of Financial Aid. Accessed 8/17/2021. https://www.hopkinsmedicine.org/som/offices/finaid/debt-mgmt/

Student Incentives to Serve the Underserved

Like most college graduates, burgeoning healthcare professionals have many decisions to make regarding their future work environment, including practice specialty, geographic location, and community to be served. Among these options, fewer individuals than are necessary to the health of our citizens choose to practice in primary care, rural areas, and in the service of the medically underserved. As noted in the background section of this report, a multi-pronged approach is required to attract individuals to these areas of health professional shortages. Both recruitment, "attracting current health professionals and students to open positions or to future positions," and retention, "keeping healthcare professionals employed in their healthcare facilities and communities," are strategies vital toward developing and maintaining a strong workforce. [36]

Recruitment activities can start as early as middle and high school with "grow-your-own" and pipeline programming that introduces students to the health professions field. Alongside introductions to health professions, early and ongoing exposure to serving priority populations can be a key component of building career-long dedication to those populations. Undergraduate and medical school student programs presenting the benefits of primary care and service in rural and underserved communities can have lasting impacts on students. A variety of programs across the country (See Appendix C for examples of programs across the nation) and in Maryland work toward this purpose, including Maryland's Area Health Education Center (AHEC) regional centers which:

> Strengthen the supply and distribution of healthcare professionals in rural and underserved areas, focusing on primary and preventive care. AHECs act as liaisons between communities and academic institutions and assist in arranging training opportunities for health professions students, tailoring their programs and activities to the needs of their region. AHECs help prepare students for rural healthcare through activities such as:
>
> - Recruiting and training minority students and those from disadvantaged backgrounds;
> - Placing students in community-based clinical practices settings, focusing on primary care;
> - Improving quality of care by promoting interprofessional education and collaboration;
> - Facilitating programs and continuing education resources for health professionals in rural and underserved areas; and
> - Conducting pipeline activities to expose pre-college students to health careers.[37]

Maryland's AHEC, facilitated by the UMD SOM, conducts this work via its regional centers in Western Maryland, on the Eastern Shore, and in Central Maryland. The HRSA-funded AHEC

36 Recruitment and Retention for Rural Health Facilities. Rural Health Information Hub (RHIhub). Accessed 8/18/2021. https://www.ruralhealthinfo.org/topics/rural-health-recruitment-retention#barriers

37 Education and Training of the Rural Healthcare Workforce. Rural Health Information Hub (RHIhub). Accessed 8/18/2021. https://www.ruralhealthinfo.org/topics/workforce-education-and-training?utm_source=racupdate&utm_medium=email&utm_campaign=update072821#ahec

Scholars program provides interprofessional education opportunities to students in rural and underserved areas.

Additional medical school level program initiatives include Primary Care Tracks at the UMD SOM and JHU SOM and clinical rotation opportunities in Western Maryland, on the Eastern Shore, and in Baltimore City. Rural residency training (RRT) programs also offer continued exposure to serving underserved communities and demonstrate effectiveness in recruiting physicians to rural areas.[38] One rural residency training program is currently under development by the UMD SOM and will create partnerships to serve Maryland's Mid-Shore. Beyond early introduction to the benefits of practicing healthcare in underserved areas, incentivization programming is an effective tool in the development of the healthcare workforce. Student incentives are a type of rewarding system to motivate students to partake in a particular activity. Incentives to participate in medical school studies followed by a service obligation can include scholarships, subsidized tuition, the provision of loans at low or reduced interest rates, recruitment and placement services, monthly stipends or financial assistance, and loan forgiveness. These particular incentive programs focus on students before graduation from medical school, prior to residency. Service obligations may require in-state service or be specific to service in priority underserved areas and therefore call medical students back to the state in the case that they follow residency training outside of their home/medical school state. Student incentive programming is most often offered through academic institutions, state or federal government. Maryland State healthcare professional programs offered via MHEC to students include the Tuition Reduction for Non-Resident Nursing Students and Workforce Shortage Student Assistance Grant Program.[39]

Incentives at the residency and beyond level can also draw healthcare professionals to practice in underserved areas. Methods at this stage can include employer early-signing payments and loan repayment assistance or forgiveness. Some employers, through early-signing agreements pay residents a stipend if they commit to service prior to residency completion and employment initiation. Loan repayment assistance and forgiveness programs can be offered at the employer, state, or federal level. Better known federal programs include the Public Service Loan Forgiveness Program (PSLF) and National Health Service Corps (NHSC) programming. PSLF requires recipients to have made 120 on-time monthly payments toward their federally-held education loans while working full time in public service during that time. NHSC programs are specific to health professionals, with priorities set by national HPSA needs. Maryland State healthcare professional programs include MLARP and SLRP as well as the MHEC-administered Janet L. Hoffman Loan Assistance Repayment Program and Maryland Dent-Care Loan Assistance Repayment Program.

When surveyed on methods to incentivize medical students to commit to practicing in medically underserved areas in the State, UMD SOM students perceived cost-effective tuition,

38 Patterson, D., Longenecker, R., Schmitz, D., Phillips R., Skillman, S. Doescher, M., Rural Residency Training for Family Medicine Physicians: Graduate Early-Career Outcomes, 2008-2012, *2013*.

39 State Financial Aid Programs. Maryland Higher Education Commission. Accessed 8/18/2021. https://mhec.maryland.gov/preparing/Pages/FinancialAid/descriptions.aspx

subsidized tuition, and loan forgiveness/stipends as motivating incentives. Students responded strongly to the concept of proactively eliminating the need for student debt through cost-effective tuition/fees.[40]

Loan Repayment Programs in Other States

The majority of states across the country administer some version of a loan repayment program for healthcare professionals for the purpose of incentivizing practitioner service in underserved areas. States make the program available through a variety of means and funding sources and utilizing differing eligibility criteria for healthcare professionals. Selected states' programs are noted in Table 9.

Table 9. Summary of Loan Repayment Programs, by State[41]

State	Provider Disciplines Served*	Funding Sources					
		State	Federal	Trusts/ Foundations	Employers	Local Entities	Licensure/ Medical Fees
Alaska[42]	Tier 1: MDs, DOs, PharmDs Tier 2: PAs, NPs, RNs, PTs, LCPs, LCSWs, DHs	✓	✓		✓		
Arkansas	MDs, DOs	✓				✓	
California	MDs, DOs, NPs, PAs, CNMs, PharmDs, DDS, RDHs, LCPs, LMFTs, LPCs, PMHNPs	✓			✓		
DC	MDs, DOs, DDS, DHs, RNs, PAs, APRNs, LCSWs, LCPs, LPCs	✓					
Hawaii	MDs, DOs, NPs, CNMs, PAs, LCPs, LCSWs, LPCs, LMFTs		✓		✓		
Idaho	MDs, DOs, RNs, LCSWs, LCPs, LPCs		✓		✓		
Kansas	MDs, DOs, DDS, DMDs, APRN/NPs, PAs, CNMs, RDHs, HSPs, LCSWs, LMACs, LPCs, MFTs, PNS	✓				✓	

40 University of Maryland Undergraduate Medical Education survey, October 2020.

41 See Appendix D for a glossary of discipline acronyms

42 See Appendix E for a list of state program websites/ source information, Accessed 8/1/2021.

Kentucky	MDs, DOs, DDS, DHs, PAs, NPs, CNMs, RNs, LCSWs, LPCs, MFTs, PNS, CSACs, PharmDs		✓	✓	✓		
Massachusetts	CNMs, DDS, DMD, RDHs, LPCs, LICSWs, LADC-1s, LPCs, NPs, PAs, PharmDs, DOs, MDs		✓		✓		
Michigan	DDS, DMDs, MDs, DOs, PAs, NPs, psychiatrists, CNMs, LCPs, MFTs, LCSWs, MSWs	✓	✓		✓		
Montana	MDs, DOs					✓	✓
Nebraska	MDs, DOs, DDS, RDHs, LCPs, LMHCs, CADCs, psychiatrists, PTs, PharmDs, OTs	✓				✓	
New Hampshire	Tier 1: MDs, DOs, DDs Tier 2: APRNs, CNMs, PAs, MLADCs, PsyD, LICSWs, PMHNP, MHCs, MFTs Tier 3: RDHs, LADCs, RNs	✓			✓	✓	
North Dakota	MDs, DOs, DDS, RDHs, NPs, PAs, CNMs, LPCs, LCSWs, MFTs, RNs, PharmDs		✓	✓	✓		
Ohio	MDs, DOs						✓
Oklahoma	MDs, DOs			✓		✓	
Oregon	MDs, DOs, NPs, PAs, CNMs, DDS, DMD, RDHs, LCPs, LCSWs, MFTs, RNs, PharmDs, ADCs		✓		✓		
Pennsylvania	MDs, DOs, PAs, NPs, CNMs, DDS, RDHs, LCPs, LCSWs, LPCs, MFTs		✓	✓			
Utah	MDs, DOs	✓			✓		
Virginia	MDs, DOs, CNMs, PAs, DDS, RDHs, LCPs, LCSWs, MFTs, ADCs, CNMs, PharmDs			✓	✓		

Many states have found documented success within their programs. States with replicable features are noted below, with further state program descriptions shared in Appendix F:

Alaska. Alaska's SHARP-2 program has been Alaska's most successful program and has had a positive impact on the state. SHARP-2 retained 83 clinicians who cared for patients in 25 designated rural areas over the course of 2013 to 2015. Alaska's SHARP

programs are funded by the state, HRSA and employers of loan repayment recipient's practice sites.[43]

California. California has a state loan repayment program for physicians, dentists, nurse practitioners, physician assistants, pharmacists, and registered dental hygienists. Through the 2020 program, the physician awardees are providing care to 40 counties throughout California, while representing 50 specialty areas of medicine, including pediatrics, psychiatry, obstetrics/gynecology, child neurology and pediatric cardiology.[44] The California loan repayment program for dentists has also seen success for the 2020 year awardees that are providing services to Medi-Cal (Medicaid) patients in 30 counties throughout California, representing both general and pediatric dentists, as well as oral surgeons.[45] California's program has gained funding through the state and employers.

Michigan. Michigan's tax-free loan repayment program saw a record-breaking number of applications with 84 healthcare professionals receiving awards in 2019. The total funding for that year was $3,006,000, which came from a variety of sources such as employers, the state, and HRSA.[46] The state was able to meet its goal of increasing the number of obstetric healthcare providers in rural areas to 15, up five the previous year. That same year, Michigan's program was ranked second overall for the number of providers they have been able to support through the loan repayment program. Michigan credits its funding structure as the reason for the success of their program.

As described through this report, other state-administered programs differ in structure from Maryland in a number of ways. These include:

Funding. Other states do not rely solely on State funds for their non-federal repayment programs. Whereas State funds have traditionally and completely been sourced from the Maryland Board of Physicians for MLARP, other state programs feature a broader variety of funding sources. Currently, 15 states, including California and Alaska, support employer matching through their state loan repayment programs. This allows the employer who has an employee enrolled in the program to make a non-elective contribution to the loan repayment program in a usually identical amount as the state contribution to the healthcare professional. This can provide further incentive for physicians and other healthcare professionals to serve in medically underserved areas. Texas has found success in increasing funding for its loan repayment program through the taxation of smokeless tobacco. This has made their program more competitive compared to other states. Texas's House Bill 2154 (2009) made changes to the taxation of smokeless tobacco and added a revenue stream to the loan repayment program,

43 Alaska's SHARP Program. Alaska Department of Health and Social Services. Accessed 8/1/2021. http://dhss.alaska.gov/dph/emergency/pages/healthcare/sharp/default.aspx

44 Cal Health Cares. Physicians for a Healthy California website. Accessed August 2, 2021. https://www.phcdocs.org/Programs/CalHealthCares

45 Cal Health Cares. Physicians for a Healthy California website. Accessed August 2, 2021. https://www.phcdocs.org/Programs/CalHealthCares

46 Rural Health and Underserved areas. Idaho Department of Health and Welfare website. Accessed August 2, 2021. https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/loan-repayment-and-grants

which led to increases in loan repayment awards.[47] In the years 2010 to 2011, $22 million was incorporated into the loan repayment program solely from the smokeless tobacco tax.[48]

Additionally, due to the relatively limited amount of non-federal funding available to MLARP, the program has not been able to request increased SLRP funding as the state cannot meet the traditionally required 1:1 match. Currently, 18 states receive more funding from HRSA than Maryland. Colorado, Washington, Arizona, California, and Alaska each receive $1,000,000 annually in federal funds.[49]

Disciplines. Maryland only funds physicians and physician assistants through the Maryland Loan Repayment Programs. The vast majority of other states utilize state and federal funds to support loan repayment assistance for a wider array of disciplines as listed in Table 9. Notably, these states include those receiving more in SLRP funds than Maryland. In this way, the states build flexibility into the program as they are more able to appropriately pair healthcare professional disciplines with the needs of the medically underserved.

Time Commitment. MLARP and SLRP both require eligible applicants to work at least 40 hours per week, with a minimum of 32 hours spent in direct patient care (Hands on, face-to-face contact with patients for the purpose of diagnosis, treatment, and monitoring). In other words, part-time service is not eligible for loan repayment assistance. Realizing that full-time work is not the best fit for every healthcare professional, other states allow practitioners working at least 20 hours per week to apply for pro-rated loan repayment benefits.

Stakeholder and Partner Engagement. Non-Maryland states participate in a variety of partnerships to improve the effectiveness of their workforce development programs. For example, increased formal relationships with non-State entities can support diversified revenue bases. Also, partnerships can provide networking and technical assistance where there are State knowledge or manpower gaps. The Western Interstate Commission for Higher Education (WICHE) helps 15 states and two territories build resources and develop solutions to needs (such as health) within society through promotion of higher education in the Western United States.[50] Montana utilizes this partnership for their state loan repayment program. Another example includes the Provider Retention & Information System Management program (PRISM) at the National Rural Recruitment and Retention Network (3RNET) which partners with 22 states in order

47 House Bill 2154. Texas Legislature. Accessed on 8/2/2021. https://capitol.texas.gov/tlodocs/81R/senateamendana/pdf/HB02154A.pdf

48 The Physician Education Loan Repayment Program. Texas Legislative Budget Board. Accessed on 8/2/2021. https://www.lbb.state.tx.us/Documents/Publications/Issue_Briefs/463_Pelrp.pdf

49 State Loan Repayment Program Grantee Awards Map. Health Resources and Service Administration. Accessed 8/2/2021. https://nhsc.hrsa.gov/loan-repayment/state-loan-repayment-program/map

50 Western Interstate Commission for Higher Education. Accessed on 8/2/2021. https://www.wiche.edu/about-us/

"to collect data to identify and document program outcomes to enhance the retention of clinicians" (See Appendix G).[51] According to the Collaborative, PRISM:

- "Provides a standardized and state-of-the-art way for states to routinely gather real-time data from clinicians as they serve in states' and the National Health Service Corps' (NHSC) loan repayment, scholarship and other incentive programs.
- Is a broad, multi-dimensional and adaptable platform.
- Gathers, analyzes and presents retention data for clinicians (of all types) serving in incentive programs in a variety of settings
- Is the first system for collecting and sharing retention information within states and nationally."

Additional details regarding PRISM can be reviewed in Appendix G.

Last, Virginia supports the Healthcare Workforce Data Center, which partners with appropriate agencies across the state "to improve the data collection and measurement of Virginia's healthcare workforce through regular assessment of workforce supply and demand issues among the over 62 professions and the over 380,000 practitioners licensed in Virginia" by the "Commonwealth of Virginia's Department of Health Professions.[52] The Data Center regularly releases profession reports, dashboards, and workforce briefs to inform state needs.

Other Federal Grants to Further Expand MLARP

In addition to potential expansion of state funds for loan repayment, the Workgroup investigated other potential federal grants to further expand loan repayment in Maryland. Currently, HRSA provides $360,000 to Maryland annually for the facilitation of SLRP. There are a few other HRSA-administered programs that could potentially offer additional funds to the State to further the loan repayment program. The following programs match the mission of SLRP:

1. Grants to States to Support Oral Health Workforce Activities: The program goal is to encourage and support an increase in oral health services for populations living in dental care HPSAs within states and increase the accessibility and quality of oral health services. Expanding SLRP to include dental professionals would allow the program to match the mission of this grant project. [53]

2. National Organizations of State and Local Officials Programs: There are three different versions of this program that aim to assist states and local authorities in

51 Provider Retention and Information System Management. Accessed on 8/2/2021. https://www.practicesights.org

52 Healthcare Workforce Data Center. Commonwealth of Virginia Department of Health Professions. Accessed 8/18/2021. https://www.dhp.virginia.gov/PublicResources/HealthcareWorkforceDataCenter/

53 Grants to States to Support Oral Health Workforce Activities. Health Resources & Services Administration website. Accessed on 8/2/2021. https://www.hrsa.gov/grants/find-funding/hrsa-18-014

the preservation of public health, increasing the capacity to support public health matters and limiting the spread of communicable diseases. For the following programs, the award amounts range from $639,250 to $1,065,416 per year.[54]

a. National Organizations of State and Local Officials: Public Health Capacity Program
b. National Organizations of State and Local Officials: Health Care Payment and Financing Program
c. National Organizations of State and Local Officials: Health Legislation and Governance Program

Further exploration and potential application of these programs could offer support for expansion of the Maryland Loan Repayment Programs such as in including more healthcare specialties, providing more financial assistance to healthcare professionals, and increasing access to better healthcare in Maryland.

Workgroup Recommendations

Under the direction of SB 501 (2020), the MLARP Workgroup gathered pertinent information through each Workgroup and subgroup meeting and conducted thorough research to formulate these final recommendations related to MLARP. The Workgroup suggests that these recommendations be implemented in stages and the progress toward improving healthcare access be evaluated regularly. The Workgroup respectfully submits the following recommendations related to the future of MLARP:

Permanent Funding Structure

Recommendation 1:

Invest in a permanent General Fund appropriation for healthcare workforce educational loan repayment in the Maryland State budget. A consistent State fiscal commitment will enable MLARP to build and leverage additional future funding sources (see Recommendations 2 and 7) while maintaining program flexibility to meet Maryland's identified healthcare workforce needs (see Recommendations 6 and 9), independent of external federal or local resources.

As determining the appropriate level of ongoing General funds investment and that of other funding sources (see Recommendation 2) may take time, General Fund bridge funding to provide loan repayment in Fiscal Year 2023 should be included in legislative language.

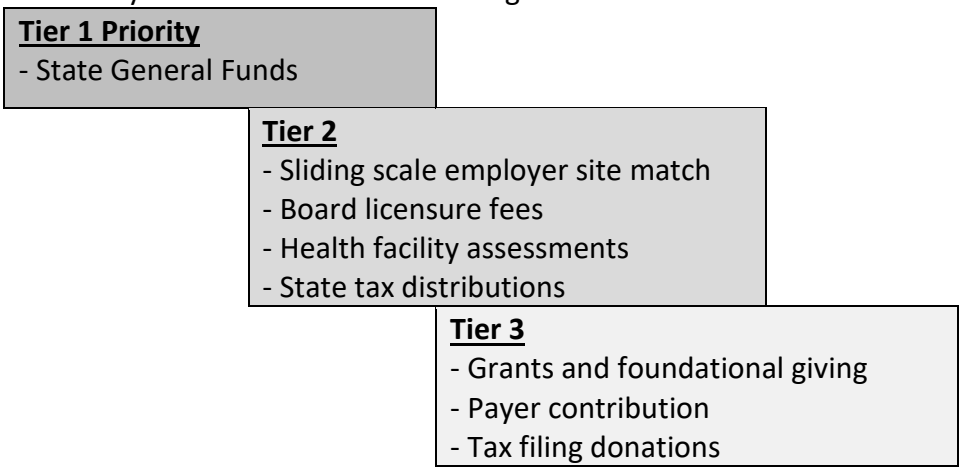
Investing in healthcare workforce development is a key component of supporting necessary healthcare transformation throughout the state.

54 Notice of Funding Opportunity. Health Resources & Services Administration website. Accessed on August 2, 2021. https://www.hrsa.gov/grants/find-funding/hrsa-20-084

Recommendation 2:

Seek non-General Fund resources to supplement the MLARP Fund, ensuring a diverse revenue pool that is predictable and sustainable. Based on predicted levels of predictability and sustainability, the Workgroup determined a tiered strategy to approach potential future funding resources as displayed below (Figure 2):

Figure 2. Priority Tiers for Permanent Funding Structure Recommendations



Maryland Board of Physicians fees should not serve as the sole nor foundational funding source of the MLARP Fund. If future legislative language incorporates mandated Board of Physicians contributions to MLARP, the language should include a capped maximum.

Recommendation 3:

Invest in a permanent General fund appropriation for the administration of State-level workforce development activities. The MDH Office of Workforce Development requires adequate funding to appropriately administer the programs under its auspices, including MLARP. Administrative tasks include program management, marketing, customer service, application and award cycles, data collection and analysis, monitoring and evaluation, and reporting (also see Recommendation 4). Appropriately staffing workforce development initiatives is vital to ensuring quality, efficiency, and sustainability of programs.

Operational

Recommendation 4:

Establish MLARP systems to regularly monitor and publicly report program outcomes. Program data regarding position fill rates, service completion rates, post-obligation retention rates, number of patient encounters and other program-related factors could allow the administrators of the program to track its success rates and make recommendations for further improvements. Subjective data from program participants and the facilities and communities where they serve is also valuable. This data can be compared with other state models to assist in making recommendations. It will also be

useful if alternative funding solutions such as employer matches or private donations/grants are implemented. This data should include (but is not limited to):

- Position fill rates;
- Rate of completion of service obligation;
- Geographic distribution;
- Demographic data of program participants;
- Specialty/subspecialty of participants;
- Hours worked;
- Total number of patient encounters;
- Number of patient encounters for Medicaid, Medicare, CHIP and uninsured encounters using a sliding fee scale;
- Three, 12, and 36-month post-obligation retention rate; and
- Overall satisfaction with the loan assistance repayment recipients, their employers, and communities served.

Program data should be collected via mandatory annual reporting from program participants and facilities, exit interviews, tallies of grievances and post-obligation surveys of program alumni.

Recommendation 5:

Join the multi-state Practice Sights Retention Collaborative & Data Management System, a multi-state collaborative and data gathering platform that provides states with support-for-service programs to compare data and assists in monitoring and analyzing program success. The Collaborative will provide data gathering and analysis related to program participant recruitment and retention. In addition, membership will allow for networking and data sharing with other states to ensure that MLARP is competitive with other states' programs (see Appendix G for more information).

Recommendation 6:

Establish a centralized data collection repository to regularly assess Maryland's healthcare workforce supply and demand issues. In order to match practitioners with appropriate communities via provider incentive programs, robust and current workforce and population data is required. The establishment of a Statewide workforce data repository, funded independently from resources earmarked for loan repayment, will allow MLARP and other state programs to:

- Identify a more detailed and comprehensive level of data to include full time equivalents, discipline level needs (e.g. physicians, advanced practice providers, other licensed practitioners), and specialty shortage information to build the ideal workforce to meet population needs over time;
- Focus on diversity, equity and inclusion, by collecting and analyzing data related to provider demographics such as race, ethnicity, gender, and language; and
- Further develop a diverse workforce to more effectively meet the healthcare needs of Maryland's underserved/under-resourced populations.

A sustained and targeted healthcare workforce data collection system will require collaboration between State agencies, including licensing bodies and the Maryland Commission on Health Equity. This can result in more freely shared resources and the development of a comprehensive model to evaluate the healthcare workforce in Maryland. Available data could be used to encourage additional licensure boards and disciplines (beyond currently eligible physicians and physician assistants) to officially document relevant health professional shortage areas and the potential positive impacts of funding loan repayment and other recruitment and retention mechanisms for expanded provider disciplines in Maryland (see Recommendations 2 and 7).

Recommendation 7:

Expand program eligibility according to priority areas as determined by robust centralized data collection and analysis (see Recommendations 6 and 9) **and funding source diversification** (see Recommendation 2). Initial focus areas should include the expansion of disciplines eligible for MLARP, and, importantly, the addition of part-time healthcare professionals as eligible for MLARP.

Student Incentives

Recommendation 8:

Establish a regularly updated data repository of health professions trainees in Maryland (i.e. students, resident, and fellows) (alongside a centralized data collection repository of Maryland's healthcare workforce, Recommendation 6) to enable the state to build state-wide knowledge about the flow of students, residents, and fellows in and out of the state. Data should be consistently collected from across Maryland's medical and health professions programs. Understanding the trends of in and out migration of health professions trainees at the statewide level will better inform workforce development incentivization programs and help ensure that Maryland programs are competitive with other states.

Structure of a Permanent Advisory Council

Recommendation 9:

Form a permanent advisory council with responsibilities related to not just MLARP, but to the broader field of healthcare workforce development. Building on the success of the MLARP Workgroup structure, a permanent healthcare workforce development advisory council should be developed to discuss and offer General Assembly recommendations regarding the development of a Maryland workforce focused on effectively eliminating healthcare professional shortage areas throughout the state.

Initial work of this advisory council should include MLARP-specific responsibilities related to guiding the program's expansion and development of the permanent funding structure, while ensuring effectiveness of MLARP and its use as an incentive to health care providers to practice in underserved areas. It should be the responsibility of the

advisory council to determine potential strategies to further improve the program based on gathered data. Functions of the council could include active research on underserved areas within Maryland in addition to using the MLARP program to further incentivize provider service across specialties and disciplines.

Beyond the scope of MLARP, the advisory council should tackle additional student incentive program discussions to work in conjunction with MLARP as workforce development tools.

Recommendation 10:

Prescribe key members of the advisory board, using the MLARP Workgroup membership as a foundation and allowing for organic growth in additional positions. Roles to be fulfilled include an Advisory Chair and other individuals to advise in the following areas (Table 10):

Table 10. Recommended Advisory Council Representation

Organization Types	Subject Matter Experts
MDH Office of Workforce Development	Philanthropy
Schools of Medicine	Data collection and analysis
Physician Assistant training programs	Marketing and outreach
Funded discipline academic programs	Discipline representatives
Funding source representatives	Academic financial aid
Governor's Workforce Development Board	

The overall responsibilities and implementation of the permanent advisory council will ensure that MLARP can most effectively operate, and best incentivize healthcare providers to practice in underserved communities across Maryland.

Conclusion

The development and passing of SB 501 (2020) demonstrate the General Assembly's commitment to achieving healthcare access across Maryland. The Maryland Department of Health and members of the workgroup are appreciative of the opportunity to examine and offer recommendations related to strengthening MLARP and the Maryland healthcare provider workforce through its work from the interim report to this final reporting.

Much of the language in SB 501 (2020) focuses on medical students, and therefore the report focused on this area. However, Workgroup discussions more broadly included additional discipline research, noting that issues of debt, incentivization, etc. are universal. Recommendations resulting from the Workgroup's research and conversations reflect the broad need for sustained State level attention to the topic of healthcare workforce development to further transform Maryland's healthcare system to best serve every Marylander's health needs.

Appendices

Item	Title
A	National Health Service Corps State Loan Repayment Program (SLRP)
B	MLARP Workgroup Meeting Summaries
C	Student Incentive Program Examples
D	Glossary of Discipline Acronyms
E	State Program Websites/ Source Information
F	State Loan Repayment Program Summaries
G	PRISM Project Description

NATIONAL HEALTH SERVICE CORPS

State Loan Repayment Program (SLRP)

Program Description	The Health Resources and Services Administration (HRSA) State Loan Repayment Program (SLRP) provides cost-sharing grants to all U.S. states and territories to operate their own loan repayment programs. These state programs offer loan repayment to primary care providers working in Health Professional Shortage Areas (HPSAs).
Eligible Disciplines	**Varies from state to state, but may include:** • Physicians (MDs or DOs specializing in pediatrics, geriatrics, psychiatry, family or internal medicine, or obstetrics and gynecology) • Nurse Practitioners (specializing in adult, family, pediatrics, psychiatry/mental health, geriatrics, women's health, and certified nurse-midwives) • Physician Assistants (specializing in adult, family, pediatrics, psychiatry/mental health, geriatrics, or women's health • Dental Professionals (general, pediatric, registered dental hygienists) • Mental Health Professionals (health service psychologists, licensed clinical social workers, psychiatric nurse specialists, licensed professional counselors, marriage and family therapists) • Registered Nurses • Pharmacists • Substance use disorder counselors (licensed/credentialed/certified by their state of practice that meet educational requirements and master's degree requirement)
Service Commitment	• Minimum 2-year service commitment • Additional 1 year of service for each year of additional support • States may require longer minimum service commitments (more than 2 years) or negotiate individual contracts with providers for different service commitment periods (e.g., 2 years for physicians, 3 years for dentists, 4 years for physician assistants) to meet community needs SLRP participants are now also eligible for the Part-Time Service option that is available through the National Health Service Corps.
Financial Benefits	Loan repayment assistance for qualified education debt (amount varies state to state)

Tax Liability	Not taxable
Application Requirements	• U.S. citizen (U.S. born or naturalized), U.S. national, or Lawful Permanent Resident • Licensed to practice in the state where they will work (where work will occur) • Currently work or be applying to or be accepted to work at an eligible site that is located in a federally designated Health Professional Shortage Area (HPSA) • Unpaid government or commercial loans for school tuition, reasonable education expenses and reasonable living expenses, segregated from all other debts (that is, not consolidated with non-educational loans)
Web Site	Visit the State Loan Repayment Program page for more information.

Appendix B
MLARP Workgroup Meeting Summaries

Meeting Date: Group	Attendees	Meeting Summary
October 28, 2020: Full Workgroup	**Workgroup Members:** Delegate Erek Barron, Karin DiBari, Erin Dorrien, Matthew Dudzic, Cheryl De Pinto, Damean Freas, Adam Kane, Stacey Little, Donna Parker, Andrew Pollack, Gene Ransom, Richard Rohrs, Elizabeth Vaidya, Roy Ziegelstein, **MDH Staff:** Sara Seitz **Guest Speakers:** Delegate Sheree Sample-Hughes, Senator Melony Griffith	● Introductions, opening remarks ● Review of statutory mandate and timeline. ○ Provide background to MLARP and SLRP. ● Discuss Work Plan for Deliverables. ○ MLARP oversight transferred solely to MDH. ○ Priorities: ■ Seek out more revenue sources. ■ More resources for sub-specialties. ■ More flexibility in benefiting Provider types. ■ Balance between state level and provider level programs. ■ Gather more State-level data regarding provider workforce.
January 8, 2021: Full Workgroup	**Workgroup Members:** Karin DiBari, Erin Dorrien, Matthew Dudzic, Cheryl Duncan De Pinto, Damean Freas, Stacey Little, Donna Parker, Gene Ransom, Richard Rohrs, Roy Ziegelstein **MDH Staff:** Sara Seitz, Sadé Diggs **Additional Attendees:** Shadae Paul, Maryland Health Care Commission; Hannah Friedman-Bell, Maryland Health Services Cost Review Commission; Jane Krienke, Maryland Hospital Association; June Chung, Appropriates Committee Counsel; Jennifer Witten, Maryland Hospital Association; Karin Weaver, MedStar Good Samaritan Hospital; Kelly Kyser, MedStar Health; Kelly Schutz, MedStar Emergency Physicians; Megan Renfrew, Maryland Health Services Cost Review Commission; Susan Lawrence, University of Maryland Baltimore; Tracey DeShields, Maryland Health Care Commission; Tyler Babic, Department of Legislative Services	● Discuss the Interim report to the General Assembly, discuss the list of priorities from the Interim Report. ● Matthew Dudzic, Board of Physicians, presented regarding successful State Loan Repayment programs across the country. ● Erin Dorrien, Maryland Hospital Association, presented data on provider recruitment and retention. ● Sadé Diggs, Office of Workforce Development, MDH, presented on current flexibilities available in use of State Loan Repayment Program Federal funds. ● Major area topics discussed: ○ State programs usually have more than one funding source. ○ Need more data regarding physician and mid-level practitioners to inform workforce policy. ○ Discipline expansion may benefit to keep healthcare students in-state.
March 12, 2021: Full Workgroup	**Workgroup members:** Karin DiBari, Matthew Dudzic, Cheryl Duncan De Pinto, Damean Freas, Stacey	● Robert Sewell, Alaska Division of Public Health, Alaska DHSS, presented on the state's loan repayment programs.

	Little, Donna Parker, Andrew Pollack, Gene Ransom, Richard Rohrs, Elizabeth Vaidya **MDH Staff:** Sara Seitz **Additional Attendees:** Anish Prakash, California SLRP; Jane Krienke, Maryland Hospital Association; Kelly Kyser, MedStar Emergency Physicians; Susan Lawrence, Government Affairs, University of Maryland, Baltimore (UMB); Tia Murphy, Maryland Hospital Association; Shadae Paul, Maryland Health Care Commission; Megan Renfrew, Maryland Health Services Cost Review Commission; Caryn Rizell, California SLRP; Kelly Schutz, MedStar Emergency Physicians; Robert Sewell, Alaska SHARP, Ben Steffen, Maryland Health Care Commission; Karin Weaver, MedStar Good Samaritan Hospital	● Caryn Rizell and Anish Prakash, California State Loan Repayment Program, presented on California's repayment program. ● Elizabeth Vaidya, Maryland Primary Care Office, presented data used to determine provider shortages for Health Professional Shortage Area designations, as well as areas that currently require more data. ● Major area topics discussed: ○ The goal of repayment programs is to increase the healthcare provider pool, improving access to healthcare across the state. ○ Alaska and California access greater federal funding for state loan repayment programs by having a greater diversity of disciplines and partners. ○ Funding sources should be expanded. ○ Find more opportunities to leverage other Maryland loan repayment programs. ● Discussed developing subgroups to tackle the Workgroup's tasks. Subgroup topic areas may include sustainable funding structure, healthcare workforce data, and student incentives.
April 29, 2021: Funding Structure Subgroup	**Attendees:** Matthew Dudzic, Board of Physicians Megan Renfrew, Health Services Cost Review Commission Erin Dorrien, Maryland Hospital Association Jane Krienke, Maryland Hospital Association Shamonda Braithwaite, Mid-Atlantic Association of Community Health Clinics Sara Seitz, Maryland Department of Health Sadé Diggs, Maryland Department of Health	● Subgroups have developed and are introduced. ● Group brainstorms potential future funding sources: ○ Assessment on insurers. ○ Surcharge on license. ○ Employer match. ○ Assessment on health care facilities. ○ Grants and Private foundation donations. ○ Dedicated tax. ○ State tax donations. ○ Schools and universities. ○ Total Cost of Care/Center for Medicare and Medicaid Innovation. ● Plan of action for recommendations. ● Subgroups to provide summary reports to the larger Workgroup on May 14, 2021. ● General Assembly Report due by December 1, 2021, recommendations drafted by September 2021.
May 6, 2021: Data and Its Use Subgroup	**Attendees:** Matthew Dudzic, Board of Physicians Elizabeth Vaidya, Primary Care Office Jane Krienke, Maryland Hospital Association Shamonda Braithwaite, Mid-Atlantic Association of Community Health Clinics Sara Seitz, Maryland Department of Health Sadé Diggs, Maryland Department of Health	● Subgroups report out on work done since the last meeting. ● Areas of data are discussed surrounding subgroups: ○ Subgroup purpose. ○ Goals for data collection. ○ Two faces of data collection. ○ Workforce data-identifying current healthcare workforce and areas of continued need. ○ Program data-outcome monitoring and program accountability.

	Rick Rohrs, Maryland Academy of Physician Assistants Jennifer Witten, Maryland Hospital Association	
May 14, 2021: Full Workgroup	**Attendees:** Delegate Erek Barron, Erin Dorrien, Matthew Dudzic, Damean Freas, Stacey Little, Gene Ransom, Megan Renfrew, Richard Rohrs, Elizabeth Vaidya, Roy Ziegelstein **MDH Staff:** Sara Seitz , Tina Backe, Latiqua Holley **Additional Attendees:** Jane Krienke, Maryland Hospital Association; Kelly Kyser, MedStar Emergency Physicians; Susan Lawrence, Government Affairs, University of Maryland, Baltimore (UMB); Kelly Schutz, MedStar Emergency Physicians; Ben Steffen, Maryland Health Care Commission; Karin Weaver, MedStar Good Samaritan Hospital; June Chung, Maryland Department of Legislative Services, Jason Caplan, MDH Office of Regulation and Policy Coordination, Jennifer Witten, Maryland Hospital Association; Lindsay Rowe, Maryland Department of Legislative Services	● Kimberly Hiner named as OPHI Acting Director ● Continuing payments to 2021 awardees upon receipt of required documentation. ● Fiscal Year 2021 application cycle is closed. Subgroup Recap: ○ Sustainable Funding Structure: Goals of program to grow and engagement of workforce. Discussed further potential funding sources ○ Data and its Use: Discussed expectations for MLARP and how the subgroup can aid meeting the goals of the program. Necessary data includes workforce data as well as program data. ○ Student Incentives: Examine incentive methods for students before entering residency or graduation.
May 18, 2021: Funding Structure Subgroup	**Attendees:** Matthew Dudzic, Board of Physicians (BOP) Megan Renfrew, Health Services Cost Review Commission (HSCRC) Erin Dorrien, Maryland Hospital Association (MHA) Jane Krienke, Maryland Hospital Association (MHA) Shamonda Braithwaite, Mid-Atlantic Association of Community Health Clinics (MACHC) Delegate Erek Barron, Maryland House of Delegates Sara Seitz, Maryland Department of Health (MDH) Sadé Diggs, Maryland Department of Health (MDH)	● Continue to develop recommendations ○ Future state funding sources: ■ Insurers ■ Provider Licensure Surcharge ■ Employer Match ■ Assessment on Health Care Facilities ■ Rate Setting ■ Grants and Private Foundations ■ Dedicated Tax ■ Community/local investment ■ Schools and Universities ○ Sustainable funding options. ● Member Action Steps ○ MHA and MedChi to meet with HSCRC in future in regards to rate setting with CMMI. ○ MHA to look into new assessments outside of rate setting. ○ MHA, Board of Physicians, and MedChi to discuss licensure surcharge ideas.
June 2, 2021: Data and Its Use Subgroup	**Attendees:** Matthew Dudzic, Board of Physicians Elizabeth Vaidya, Primary Care Office	● Workforce Data Discussion ○ MHA Research: ■ HPSA designations.

	Jane Krienke, Maryland Hospital Association Jennifer Witten, Maryland Hospital Association Karin Weaver, MedStar Good Samaritan Hospital Kelly Kyser, MedStar Health Shamonda Braithwaite, Mid-Atlantic Association of Community Health Clinics Rick Rohrs, Maryland Academy of Physician Assistants Sara Seitz, Maryland Department of Health Sadé Diggs, Maryland Department of Health	■ Goal is to make sure to have the right healthcare providers in the right locations. o Potential Draft Recommendations: ■ Require providers to complete a survey with license-certification renewals. ■ Establish a central workforce data collection unit for the state. ■ Expand healthcare workforce planning beyond physicians and PAs. ■ Establish State-defined parameters to determine where state resources should go for provider recruitment. o Data Collection: ■ Mandate the survey in legislation. ■ NCCPA asks demographic questions regarding specialties and practice sites in its survey, and gets a high response rate. ■ Workgroup can request data to gather state specific data on PAs ■ MD can partner with Practice Sight's Retention Collaborative & Data Management System for further data analysis and comparisons o Program Data ■ Look at Colorado Model for methods of data collection ● Semiannual reporting ● Exit Survey ● Site visits
June 21, 2021: Data and Its Use Subgroup	**Attendees:** Matthew Dudzic, Board of Physicians Jane Krienke, Maryland Hospital Association Rick Rohrs, Maryland Academy of Physician Assistants Jennifer Witten, Maryland Hospital Association Sadé Diggs, Maryland Department of Health Sara Seitz, Maryland Department of Health Nathan Rashti, MPower Summer Workforce Intern (MDH)	• Draft Recommendations o Develop model to evaluate healthcare workforce in MD following: 1. (sub)specialty distribution, geographic distribution, diversity, age, population trends, disease/health needs disparities. 2. Improve use of data and data collection for program monitoring/evaluation o Details 3. Develop a database for current and past practice sites of applicants/participants 4. Develop survey for sites and participants under MLARP program 5. Increase funding to support data collection

		6. In future, develop tier list for the workgroup's recommendations 7. Require semiannual reports from program participants. • Discussion on Recommendations • Next Steps
June 29, 2021: Student Incentives Subgroup	**Attendees:** Gene Ransom, MedChi Roy Ziegelstein, Johns Hopkins University School of Medicine Jane Krienke, Maryland Hospital Association Emily Fronczek, MedChi Nidhi Goel, University of Maryland School of Medicine Kelly Kyser, MedStar Emergency Physicians Kelly Schutz, MedStar Emergency Physicians Susan Lawrence, University of Maryland School of Medicine Sadé Diggs, Maryland Department of Health Sara Seitz, Maryland Department of Health Mmasinachi (Marie) Ezuma-Ngwu, MDH Workforce Intern	● Introductions o Timeline o Subgroup goals ● Discussion o Residency as Key Time to Incentivize Future Practice in Maryland o Incentives Brainstorming/ Assumptions o Medical Students ● Action Steps o Survey for Students o Areas of needed further exploration
July 1, 2021: Funding Structure Subgroup	**Attendees:** Matthew Dudzic, Board of Physicians (BOP) Jane Krienke, Maryland Hospital Association (MHA) Erin Dorrien, Maryland Health Association (MHA) Rick Rohrs, Maryland Academy of Physician Assistants (MAPA) Megan Renfrew, Health Services Cost Review Commission (HSCRC) Shamonda Braithwaite, Mid-Atlantic Association of Community Health Clinics (MACHC) Sara Seitz, Maryland Department of Health (MDH) Mariah McLaren, MPower Summer Workforce intern, MDH	o The group discussed each component of the MLARP funding source chart initially drafted via brainstorm at a prior meeting. o Employer Match ▪ MHA believes this is beneficial to the program ▪ A long term goal o Assessment on Healthcare Facilities ▪ Equitable option ▪ From the FQHC perspective, there may be pushback if benefits are not seen for keeping the provider for a long period of time, however, a tier approach could make this more equitable. ▪ Other states do not utilize a tier approach for this funding source ▪ Could be posed as an option for hospitals o State General Funds ▪ An opportunity to promote health equity and support the healthcare system

		▪ Could be the main funding source in the future o Dedicated Tax ▪ More political ▪ Legislators should decide if they want to pursue this option ▪ Look into the Cigarette Restitution Fund and the Opioid Restitution Fund o Community/local investment ▪ Chambers of Commerce could help rural areas and improve retention rates o State Tax Donation ▪ Gives individuals the ability to donate ▪ Small donations could add up ▪ Presents the option to potential donors o Schools and Universities ▪ How would this work? o Insurers ▪ A route to building network adequacy • Next Steps
July 16, 2021: Full Workgroup	**Attendees** Matthew Dudzic, Damean Freas, Stacey Little, Donna Parker, Richard Rohrs, Megan Renfrew, Erin Dorrien **MDH Staff:** Sara Seitz, Alphius Sesay **Additional Attendees** Jane Krienke, Maryland Hospital Association Susan Lawrence, Government Affairs, University of Maryland, Baltimore Shadae Paul, Maryland Health Care Commission June Chung, Maryland Department of Legislative Services Lindsay Rowe, Maryland Department of Legislative Services	• MLARP Operational Updates shared • Presentations by each Workgroup subgroup: o Sustainable Funding Structure o Data and Its Use o Student Incentives • Discussion o Review of mandated activities and timeline o Permanent Advisory Council recommendations • Next Steps
August 10, 2021: Student Incentives Subgroup	**Attendees** Jane Krienke, Maryland Hospital Association Nidhi Goel, University of Maryland School of Medicine	• **Review of Old Business** a. Residency (vs. medical school) may be the more successful time to incentivize students.

	Richard Colgan, University of Maryland, School of Medicine (AHEC) Sadé Diggs, Maryland Department of Health Sara Seitz, Maryland Department of Health Susan Lawrence, University of Maryland School of Medicine Marissa Flaherty, University of Maryland Donna Parker, University of Maryland Pamela Kasemeyer, MedChi	b. Subgroup provided feedback regarding an informal medical school student survey to gather information about student incentive motivations. MedChi distributing to contact list; results pending. A similar survey may want to be used with residents to see if the responses are the same or if responses have changed. ● Dr. Richard Colgan, University of Maryland, discussed the three regional AHEC offices and their work in building interest among medical students in practicing with underserved and rural Marylanders. ● UMD SOM has several courses in which students can choose to participate, including the Primary Care Track ● Potential connections to MLARP technical scoring. ● Potential for similar programs in other disciplines to give early exposure to underserved areas Other states have established incentivize programs that impact students earlier in their academic career than what Maryland currently offers.
September 10, 2021: Full Workgroup	Minutes not yet approved by Workgroup members.	Agenda: Review and discussion /consensus on recommendations language.
November 12, 2021: Full Workgroup	Minutes not yet approved by Workgroup members.	Intended agenda: Review of work completed by Workgroup; future activities to pursue.

Appendix C

Student Incentive Program Examples, by Education Level

Pre-Professional Degree

Missouri

Lester R. Bryant Scholars Pre-Admission Program: Students accepted into the pre-admission program are offered acceptance into the MU School of Medicine on the condition that they achieve certain academic standards, demonstrate ongoing professionalism, and participate in required activities.

To be eligible to apply to the Bryant Scholars Pre-Admissions Program students must:

- Have an undergraduate graduation date two academic years from the time of application.
- Show high academic achievement during high school.
- Have minimum 3.3 cumulative GPA and minimum 3.3 Math/Science GPA. Dual-credit courses are not included in the GPA calculation.
- Have A or B grades in required lecture/lab courses already taken at the time of application.
- Show evidence of leadership and interest in a variety of extracurricular activities.
- Be a Missouri resident.
- Have a rural permanent home address. Rural is defined as a home address with a Rural-Urban Community Area (RUCA) Code of 2-10.
    - Applicants must have lived at their permanent home address for at least 2 years. Applicants who have not lived at their current permanent home address for at least two years, must submit a report for their prior permanent home address with their application. Applicants must have a PDF of their "Am I Rural?" report(s) to upload and submit with their application.
- Be full-time enrolled at public or independent four-year college or university in Missouri or a contiguous state (Iowa, Illinois, Kentucky, Tennessee, Arkansas, Oklahoma, Kansas, and Nebraska).
    - Students who attend out-of-state colleges or universities in contiguous states are eligible to apply to the Bryant Scholars Program, but must be a Missouri resident.
- Students currently enrolled at a two-year public or independent college in Missouri or a contiguous state are eligible to apply, but must provide proof of acceptance at a four-year public or independent college or university in Missouri or a contiguous state. Upon acceptance into the Bryant Scholars Program, students must provide enrollment verification at the four-year college or university they are attending.

Program (Primo) Primary Care Resource Initiative for Missouri

- A Missouri resident
- Full-time student: Enrolled in a participating institution in a formal course of instruction leading to one of the following degrees/licensures:

- a bachelor of science degree leading to a doctor of dentistry, or a doctor of allopathic; or osteopathic medicine;
- a degree as a doctor of allopathic or osteopathic medicine;
- a as a doctor of dentistry; or
- a degree leading to licensure as a registered dental hygienist.

Maximum Loan Repayment Amounts Awarded per Year (Reapply every year). Awards support partial in-state tuition assistance and ramps up each year during schooling. Award amounts depend on part-time vs. full time; could be $3,000 – 25,000 per year. The number of years for service obligation commitment in rural area is based on how many years assistance was received (only receive 1 year of assistance, you serve 1 year, 2 years of assistance, etc.) Award amounts also based on student's chosen discipline, educational status, and the institution's tuition rates.

Oklahoma

Oklahoma State University Bridge Program

- Promotes entry into the osteopathic medical profession of high-potential students who come from disadvantaged or medically underrepresented backgrounds or are pursuing medicine as a second career. OSU supports such students by providing an admissions option that includes a year of academic preparation prior to entering medical school. If students meet program requirements during this year (outlined below), they will matriculate to the OSU College of Osteopathic Medicine.
- Applicants to the Bridge Program must follow application procedures for the College of Medicine. Students who have been accepted to the Bridge Program by the OSU College of Osteopathic Medicine will then be referred to the Graduate Certificate in Medical Sciences Program for one year. The Certificate Program prepares Bridge students to succeed in medical school by providing a foundation in biomedical sciences.

Blue Coat to White Coat

- OSU-CHS is partnering with the Future Farmers of America for the Blue Coat to White Coat program, a program to identify and cultivate talented students interested in a career as a physician.
- FFA members are uniquely suited to serve rural communities, so the Blue Coat to White Coat program helps foster members' interest in health care.

3+1 Program

- The 3+1 Program allows undergraduate students to complete the academic requirements for their bachelor's degree and their doctor of osteopathic medicine degree in seven years instead of the traditional eight years. OSU-COM offers the 3+1 Program to certain partner universities in Oklahoma. The goal of the program is to increase physicians who want to live and practice in rural parts of the state since many of these universities are located in rural areas.

Professional / Post Graduate Degree Students

Arkansas

Rural Practice Scholarship Program

- Resident of Arkansas enrolled at University of Arkansas College of Medicine
- There is a Rural Practice Board who determines eligibility of applicants, sets amounts, disburses and collects
- Student must be in good academic standing, in need of financial assistance to complete medical studies participating in medically underserved and rural practice curriculum who commits to practicing full time primary care medicine in rural community (like AHEC)
- Qualified community is less than 20,000 population and more than 20 miles from community or more than 20,000 population

Maine

The Maine Health Professions Loan Program is a need-based, competitive loan for Maine students pursuing postgraduate medical, dental and veterinary education. Loan funds are paid directly to the school for credit to the student's account. The interest rate can be as low as 0% and is based on location and type of practice and/or population served.

Maine Health Professions Loan Program Repayment Chart

Practice Type and Location	Annual Interest Rate
1. Primary healthcare physicians and general dentists practicing at least 20 hours/week in a Health Professional Shortage Area (HPSA) in Maine.	0%
2. Veterinarians practicing in areas of Maine with insufficient veterinary services and providing at least 20 hours/week of veterinary services to livestock.	0%
3. Primary healthcare physicians and general dentists attending to patients at least 20 hours/week in a non-HPSA in Maine; any physician attending to patients at least 20 hours/week in an underserved specialty in Maine; any physician attending to patients in an underserved population group in Maine at least 20 hours/week.	3%
Practicing in Maine, but not subject to 1, 2, or 3 above.	5%
Not practicing in Maine or withdrew from professional education.	8%

Missouri

The MU AHEC Rural Track Pipeline Program is designed to encompass four distinct but related curricula and clinical components. The sequential programs provide students with ongoing exposure to rural medicine. Programs include:

Rural Track Summer Community Program (Part of the Rural Scholars Program)

- For rising second year medical students
- 4 to 6-week program with a community-based preceptor, sponsored by a rural hospital
- The local hospitals provide room and board if possible, unless the student chooses to stay with a family member living in the community. Students completing a four-week experience receive a $1,400 stipend. For a six-week experience, they receive a $2,100 stipend.

Rural Track Clerkship Program (Part of the Rural Scholars Program)

- For third year medical students
- Rural scholars are required to complete three clinical rotations at their continuity site.

Rural Track Elective Program

- For fourth year medical students

Over the past 20 years, the Rural Track Pipeline Program has successfully produced rural physicians for the state. Approximately 55 percent of physicians practice in a rural location, and 80 percent of Bryant Scholars stay in Missouri.

Oregon

Primary Care Loan Forgiveness Program (PCLF)

Students receive one or more years of tuition and fees to cover their health care education in the program in which they are participating. PCLF awards may cover full tuition and fees, but cannot exceed the highest resident tuition rates at the publicly-funded health professional training programs in Oregon.

Students must:

- Be in good academic standing; AND
- Be participating in the Oregon AHEC Scholars Program or accepted to an approved Oregon rural training track (Western University: D.O.); AND
- Be prepared to begin practice in primary care at an approved rural practice site within 90 days of graduation or completion of residency (if applicable)

Residency/ Post Residency

Arkansas

Community Match Rural Physician Recruitment Program run by Board

- Physician who is either in residency or no more than 2 years out of residency in rural community. Jointly apply with practicing site. Agree to practice 4 years - in return community and State each pay $10,000 per year for a total of $80,000 per 4 years

Iowa

Primary Care Incentive Program in Rural Areas

- Matriculate in and graduate from Des Moines University College of Osteopathic Medicine or the University of Iowa Carver College of Medicine.
- Complete an Iowa-based residency program (an accredited medical residency located in Iowa).
- Become licensed and employed in the practice of medicine and surgery or osteopathic medicine and surgery, specializing in family medicine, pediatrics, psychiatry, internal medicine or general surgery within nine months of completing residency.

Work for a minimum of 5 consecutive years in an eligible service commitment area following completion of residency; $40,000 per year.

Appendix D
Glossary of Discipline Acronyms

Acronym	Discipline
ADC	Alcohol and drug counselor
APRN	Advanced practice registered nurse
CADC	Certified alcohol and drug
CNM	Certified nurse midwife
CSAC	Certified substance abuse
DDS	Doctor of dental surgery
DH	Dental hygienist
DMD	Doctor of medicine in dentistry
DO	Doctor of osteopathic medicine
LADC	Licensed alcohol and drug
LCP	Licensed clinical psychologist
LCSW	Licensed clinical social worker
LICSW	Licensed independent clinical social
LMHC	Licensed mental health counselor
LMFT	Licensed marriage and family
LPC	Licensed professional counselor

Acronym	Discipline
LPN	Licensed practical nurse
MHC	Mental health counselor
MFT	Marriage and family therapist
MD	Medical doctor
MLADC	Master licensed alcohol and drug
MSW	Master of social work
OT	Occupational therapist
NP	Nurse practitioner
PA	Physician assistant
PharmD	Pharmacist
PMHNP	Psychiatric mental health nurse
PNS	Psychiatric nurse specialist
PsyD	Doctorate in psychology
PT	Physical therapist
RDH	Registered dental hygienist
RN	Registered nurse

Appendix E
State Program Websites/ Source Information

State	Website
Alaska	https://explorehealthcareers.org/funding_opportunity/alaskas-sharp-program/
Arkansas	https://medicine.uams.edu/admissions/rural-practice-programs/community-match-rural-physician-recruitment-program/
California	https://oshpd.ca.gov/wp-content/uploads/2020/12/STLRP-Grant-Guide-FY-2020-21.pdf
DC	https://dchealth.dc.gov/service/dc-health-professional-loan-repayment-program-hplrp
Hawaii	https://www.ahec.hawaii.edu/loan/
Idaho	https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/loan-repayment-and-grants
Kansas	https://www.kdheks.gov/olrh/FundLoan.html
Kentucky	https://ruralhealth.med.uky.edu/kentucky-state-loan-repayment-program
Massachusetts	https://www.mass.gov/doc/health-care-workforce-center-annual-report-2017-2/download
Michigan	https://www.michigan.gov/mdhhs/0,5885,7-339-71551_2945_40012---,00.html
Montana	https://mus.edu/Prepare/Pay/Loans/MRPIP.html
Nebraska	https://dhhs.ne.gov/Pages/Rural-Health-Nebraska-Loan-Repayment-Programs.aspx
New Hampshire	https://www.dhhs.nh.gov/dphs/bchs/rhpc/repayment.htm
North Dakota	https://www.ndhealth.gov/pco/slrp.asp
Ohio	https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/primary-care-office/workforce-programs
Oklahoma	https://pmtc.ok.gov/physician-loan-repayment-program
Oregon	https://www.ohsu.edu/oregon-office-of-rural-health/oregon-partnership-state-loan-repayment-program-slrp
Pennsylvania	https://www.health.pa.gov/topics/Health-Planning/Pages/Loan-Repayment.aspx
Utah	https://ruralhealth.health.utah.gov/workforce-development/rural-physician-loan-repayment-program-rplrp/
Virginia	https://www.vdh.virginia.gov/health-equity/virginia-loan-repayment-programs-2/

Appendix F
State Loan Repayment Program Example Summaries

Alaska's SHARP program provides financial assistance to healthcare professionals in the medical, dental and behavioral health field. There are three different versions of the program. SHARP-1 is their loan repayment program, and it is funded by their partnership with HRSA.[55] SHARP-2 is another loan repayment program, but it is funded through the state as well as through matching funds from the employer.[56] SHARP-3 is their new program that provides direct incentive to healthcare professionals through multiple funding sources such as employers, a broader eligibility range, use of tax exemption and more blended funding.[57] SHARP-2 has been their most successful program and has had a positive impact on the state. They retained 83 clinicians who cared for patients in 25 classified rural areas over the course of 2013 to 2015.

The **Arkansas** Community Match Rural Physician Recruitment program is offered to physicians in primary care specialties ranging from family medicine to emergency medicine. It is a four-year commitment with an award amount up to $80,000 for the four year period. For funding, $10,000 is provided by the community and $10,000 is matched by the state per year.[58]

California has a state loan repayment program for physicians, dentists, nurse practitioners, physician assistants, pharmacists, and registered dental hygienists. There is a full-time program with a minimum of 40 hours per week and a half-time program with a minimum of 20 hours per week. For their 2020 program, the physician awardees are providing care to 40 counties throughout California, while representing 50 specialty areas of medicine, including pediatrics, psychiatry, OB/GYN, child neurology and pediatric cardiology.[59] Their dentist loan repayment program has also seen success for the 2020 year awardees that are providing services to Medi-Cal patients in 30 counties throughout California, representing both general and pediatric dentists, as well as oral surgeons.[60]

The **District of Columbia** offers the Health Professional Loan Repayment Program. Physicians can earn up to $151,841.29 over four years and other healthcare professionals such as mental health specialists and nurses can earn up to $83,510.61 over four years. There is a minimum of 40 hours per week that is required. Title 7 of the Code of the District of Columbia outlines a non-lapsing health professional recruitment fund.[61] The mayor is to add general revenue funds, fees and funds on behalf of the program into the recruitment fund. This ensures that the program will keep running effectively each year and that the maximum number of awards can be distributed.

55 https://www.ashnha.com/wp-content/uploads/2020/12/SHARP-Handout-12-16-20.pdf

56 http://www.akleg.gov/basis/get_documents.asp?session=31&docid=35918

57 https://www.ashnha.com/wp-content/uploads/2020/12/SHARP-Handout-12-16-20.pdf

58 https://medicine.uams.edu/wp-content/uploads/2019/05/Community-Match-Rural-Physicians-Recruitment-Program.pdf

59 https://www.phcdocs.org/Programs/CalHealthCares

60 https://www.phcdocs.org/Programs/CalHealthCares

61 https://code.dccouncil.us/dc/council/code/sections/7-751.15a.html

Hawaii has a state loan repayment program open to physicians and nurse practitioners over a wide range of specialties. They offer either a two year full time program or four year halftime program. Employers are required to match funds as there is a limited fund available to cover their program.[62] This is beneficial because it allows for an increased amount of funds to be available for loan repayment.

Idaho's SLRP offers nurses, physicians and clinicians with loan repayment in exchange for service in a designated HPSA. The state receives a grant from HRSA that is then required to be matched 1:1 by the employer.[63] This allows for healthcare professionals to receive as much money as possible for loan repayment. There is a minimum of two years of service required and the awards range from $10,000 to $25,000 per year.[64]

The **Kansas** Bridging program is for physicians and psychiatry residents. Funding is through the state and matched through a local healthcare organization which helps to provide an increased amount of funds for applicants. The minimum award amount is $26,000. Each year, there are 14 spots available for primary care specialists and 3 spots for psychiatry residents. Since the program's start, there have been 337 residents involved and 245 applicants that have completed the program with 85% of applicants continuing to practice within Kansas.[65]

Kentucky offers a tax-free state loan repayment program. Funding is sourced through federal dollars and each federal dollar must be matched by a sponsor. The sponsor does not have to be the employer, it can be a corporation, a private foundation, a rural organization or a philanthropy. Matching dollars from the employer is not required and outside resources can be the source of funding which makes their program unique. In addition, their program includes pharmacists, dentists and registered nurses aside from traditional physicians. There is a minimum commitment of two years of service in a rural area. Physicians, dentists and pharmacists can earn up to $80,000, RNs can earn up to $20,000 and physician assistants can receive up to $40,000.[66]

The Health Care Workforce Center of **Massachusetts** was started in 2008 with the purpose of improving healthcare access across the state. From this initiative, the state loan repayment program was born. The program is split into two components, Component A and Component C. Component A is funded through HRSA and there is a matching requirement that can be fulfilled by an employer or another non-federal source. Component C is supported by the Health Workforce Transformation Fund which is an agreement between the state department and the Executive Office of Labor and Workforce Development. 20% of the fund goes toward MLRP. The state has received an increase from $350,000 to $550,000 per year in funds from HRSA which has coincided with an increased number of applications for the program. The highest number of

62 https://www.ahec.hawaii.edu/wp-content/uploads/sites/16/2016/05/2016-2017-HSLRP-Application-Fillable.pdf

63 https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/loan-repayment-and-grants

64 https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/loan-repayment-and-grants

65 https://www.kumc.edu/community-engagement/rural-health/kansas-bridging-plan.html

66 https://ruralhealth.med.uky.edu/kentucky-state-loan-repayment-program

awards that a physician or nurse practitioner applicant can receive is $40,000 for two years of service. For other health professionals, it is up to $30,000 for a two-year period. In 2016, a total of 32 awards were given out to healthcare professionals between Component A and Component C applicants. These awards were funded 31% by the state, 48% by HRSA and 21% by the Health Workforce Transformation Fund for a total of $1.2 million in awards.[67]

Michigan's tax-free loan repayment program (MSLRP) has three sources of funding that support medical, dental, and mental health professionals with repayment of their loans. Funds come 40% from HRSA, 40% from the state and 20% from employers. There is a two-year minimum requirement of service with a potential award total of $200,000 within those two years. In 2018, the program supported 86 healthcare professionals with $2,577,000 in funding.[68] In 2019, the state saw a record breaking number of applications with 84 healthcare professionals receiving awards. The total funding for that year was $3,006,000.[69] The state was able to meet their goal of increasing the number of obstetric healthcare providers in rural areas which was 15, up 5 from the previous year. That same year, Michigan's program was ranked second overall for the number of providers they have been able to support through their loan repayment program. Michigan credits its funding structure as the reason for the success of their program.

Montana offers a rural physician incentive program for MD or DO physicians. There is a trust to fund the program that is from medical fees endured by Montana medical and osteopathic medical students a part of the WWAMI Regional Medical Education program and the Western Interstate Commission for Higher Education (WICHE).[70] Montana has a partnership with WICHE that allows the state to attract students from other states. Maryland can look into a related partnership that can offer the same benefits to the state. Through this program, a physician can earn up to $150,000 over a five-year period.

Nebraska's loan repayment program has a 93% success rate.[71] The program requires a minimum of 3 years of practice in a rural area. The program is open to physicians, mental health professionals and physician assistants. As of 2020, there have been 636 healthcare professionals that have participated in the program. 93% of these professionals have either completed the program or are currently completing the program. In 2020, there were 73 loan applicants and they are now serving up to 900,000 people in the state. Nebraska believes that the economic benefit of healthcare providers outweighs the financial investment that is required to fund their various incentive programs.

New Hampshire's state loan repayment program is offered through three tiers. Tier 1 involves dentists and physicians; Tier 2 is dedicated to mental health professionals and nurse practitioners and Tier 3 encompasses dental hygienists and registered nurses. There is a full

67 https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/loan-repayment-and-grants

68 https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/loan-repayment-and-grants

69 https://healthandwelfare.idaho.gov/providers/rural-health-and-underserved-areas/loan-repayment-and-grants

70 https://mus.edu/Prepare/Pay/Loans/MRPIP.html

71 https://dhhs.ne.gov/RH%20Advisory%20Commission/Annual%20Report%202020.pdf

time and a half time program. Tier 1 professionals can earn $75,000 for 3 years, Tier 2 professionals can earn $45,000 and Tier 3 professionals can earn $30,000 with possibility of extension of their service.[72] Within their program, there is priority given to applicants that can secure a 1:1 match through non-federal funds for each state dollar, allowing for applicants to receive more funding towards loan repayment.

North Dakota offers SLRP which is open to physicians, nurses, mental health professionals, dentists, practice clinicians and pharmacists. There is a full time or half time option. For full time applicants, they can receive up to $50,000 and for half time applicants, it is up to $25,000. Community matching is required through the program where applicants must match federal funds 1:1 from a non-federal sponsor such as a practice site, a private foundation, or a rural organization.[73] This allows for flexibility for which applicants can seek extra funds and also increase their total award amount.

The **Ohio** Physician Loan Repayment program (OPLRP) offers a full time or part time program. For the full-time program, the healthcare professional must work a minimum of 40 hours per week while for the part time program, the requirement is 20 hours per week. Telemedicine can be included in the service hours and offers flexibility to the applicants who might not be able to commute to these rural sites. For the first two years, full time applicants can earn up to $50,000 for two years and then up to $35,000 for years three and four. The program is funded by a $20 physician licensure fee. However, in 2020, this fee led to outrage by physicians who were disappointed to see this fee support other causes such as the loan repayment program.[74]

Oklahoma offers a physician loan repayment program for a variety of primary care physician specialties. The program is funded through the Tobacco Settlement Endowment Trust (TSET) which receives funds through the tobacco industry. Additional funding comes from matching funds through public and private entities like hospitals, cities, medical associations or banks.[75] In the state, the American Medical Association reported that one physician brings $1.9 million annually to their community.[76] This program has been a great revenue stream for the state.

Oregon offers a state loan repayment program for physicians, dentists, dental hygienists, physician assistants, nurses, certified midwives, pharmacists and mental health professionals. 50% of the funds come from HRSA and the other 50% comes from the employer.[77] This allows for an increased amount of funds for applicants. For the first two years, applicants can receive $35,000 per year and then $17,500 for years three and four.

72 https://www.dhhs.nh.gov/dphs/bchs/rhpc/repayment.htm

73 https://www.ndhealth.gov/pco/slrp.asp

74 https://www.dispatch.com/article/20100718/news/307189781

75 https://tset.ok.gov/content/physician-manpower-training-commission

76 https://tset.ok.gov/content/physician-manpower-training-commission

77 https://www.ohsu.edu/sites/default/files/2018-12/2018%20SLRP%20FAQs.pdf

Pennsylvania has a loan repayment program that supports physicians, dentists, physician assistants, certified midwives, dental hygienists, and mental health professionals. In 1992, the Primary Health Care Practitioner program was established and currently provides funding to the program along with HRSA.[78] Physicians and dentists can earn up to $100,000 and other healthcare professionals can earn up to $60,000. These amounts are halved for part time service within the program.

The **Virginia** State Loan Repayment program is focused on providing health equity opportunities to people throughout the state. For a minimum of 2 years, healthcare professionals can earn up to $100,000 towards loan repayment. There is a requirement that match funding is provided by the practice site of the physician for amounts under $50,000. The state also offers loan repayment from their Virginia Health Care Foundation specific program for mental health professionals. The Virginia Health Care Foundation assists uninsured civilians in rural communities in receiving adequate healthcare in the mental health, medical and dental specialties.[79] The foundation also provides financial assistance to free clinics and community health centers in order to expand the type of care provided to patients. Since the foundation's start in 1992, they have been able to provide $15.5 million in grants to various Virginia programs so it is evident that it is an asset to the state.[80] The Maryland Health Care Foundation was terminated in 2003 due to a lack of funds, but maybe the foundation can be restarted in order to provide support to HPSAs in Maryland.[81] In addition, there is a loan repayment program that receives funding through the Tobacco Region Foundation which seeks to repair the Virginia Tobacco Region and make it more attractive for potential business expansion.[82] This program has no employer funding match requirement so it offers flexibility for the practice site in that they do not have to use their own funds to support their employee's loan repayment.

Utah's Rural Physician Loan Repayment program awards nine applicants a year in specialties ranging from surgery to primary care. The department funds the program with the approved rural hospital matching the amount.[83] There is a two-year commitment with a one year extension possible.

78 https://www.health.pa.gov/topics/Documents/Health%20Planning/Request%20for%20Applications%20(RFA)%2067-114.pdf

79 https://www.vhcf.org/about/

80 https://www.vhcf.org/about/

81 https://msa.maryland.gov/msa/mdmanual/25ind/priv/defunct/health.html

82 https://www.vdh.virginia.gov/content/uploads/sites/76/2021/01/2021-Virginia-State-Loan-Repayment-Program-VA-SLRP-Eligibility-Guidelines.pdf

83 https://ruralhealth.health.utah.gov/wp-content/uploads/2019/08/R434-45-Rural-Physician-Loan-Repay-rule-publication-July2015-1.pdf

Appendix G

3RNET

Provider Retention & Information System Management

PRISM

The Provider Retention & Information System Management program (PRISM) at the National Rural Recruitment and Retention Network (3RNET) is a partnership between state organizations, the Cecil G. Sheps Center for Health Services Research at the University of North Carolina (Sheps Center), and 3RNET. The purpose of PRISM is two-fold:

- Routinely collect data to identify and document outcomes to enhance the retention of clinicians and, through its collaborative design,
- Build shared interest, cooperation and group wisdom in best practices to promote retention among collaborative states.

The PRISM Leadership Team is comprised of representatives from the PCOs, Sheps Center, and 3RNET.

In, 2012, state Primary Care Offices supported by HRSA and participating in a National Health Service Corps ARRA grant program created a collaborative to learn from one another and share information and ideas regarding best practices for retention. It quickly expanded to include all NHSC and state loan repayment program health care providers. Through this collective approach and, in partnership with the leadership team, information is collected and shared. Healthcare provider recruitment and retention is the core of meaningful healthcare transformation. The Collaborative will not only collect data but provide opportunities to explore use of the data as it relates to new models of healthcare and unique recruitment and retention needs.

PRISM

- Provides a standardized and state-of-the-art way for states to routinely gather real-time data from clinicians as they serve in states' and the National Health Service Corps' (NHSC) loan repayment, scholarship and other incentive programs.
- Is a broad, multi-dimensional and adaptable platform.
- Gathers, analyzes and presents retention data for clinicians (of all types) serving in incentive programs in a variety of settings
- Is the first system for collecting and sharing retention information within states and nationally.

PRISM collects data through online questionnaires sent to clinicians and practice administrators via email.

- Each state independently manages the operation of the program to gather information from site administrators and clinicians serving within their state.
- Computer, analytic and faculty staff of the Sheps Center provide expertise on data collection, analysis and dissemination.
- Data collected is the property of the collaborative member.

PRISM is programmed to cue Start of Service, End of Year, End of Contract, Administrator and Alumni questionnaires at specific points in time during a clinician's service obligation.

The questionnaires were developed at the Sheps Center and tested in North Carolina prior to the development of PRISM. All states/programs utilize the same set of questionnaires. Requests to revise or add additional questions will be reviewed by the Leadership Team and Sheps Center to determine if the requested changes would be relevant and useful across the programs/states in the collaborative and to determine the cost for such changes. Please let us know if you would like to review the questionnaires currently available in the system.

How States Use PRISM

- Send questionnaires
- Follow up with reminders
- Access data collected in the form of individual clinician responses and summative reports.

Clinician and site administrator responses are the key to providing a rich set of data and the system is designed so that states can routinely follow-up with clinicians to increase the rate of questionnaire completions.

Summative reports are available on demand with up-to date data per program/per state for:

- Start of Service
- End of Year/End of Contract
    - Includes the ability to compare data from multiple programs within a state and programs in other states (a minimum of 3 other states' programs must be designated to maintain anonymity).
    - Filtering option to compare disciplines, specialties, gender, practice type and in state/out of state education and upbringing with a specific program.
- Administrator
- Alumni
    - Filtering option to compare disciplines, specialties, gender, practice type and in state/out of state education and upbringing with a specific program.

Webinars are conducted throughout the project year to assist in education, interpretation and opportunities to use the data and assist states' in their recruitment and retention work. Webinars will also suggest ways in which programs can work with other stakeholders in their state regarding workforce issues and support.

Ongoing Development

The PRISM program has continued to evolve since its inception in 2013. System expansions are, and will be, a continual process with input from members as we learn and better understand how the system can be used and what types of changes or new features/enhancements will best serve states. Enhancements are undertaken as funding permits.

Funding

PRISM's funding is principally from an annual sub-award agreement administered by the National Rural Health Association (NRHA) funded by HRSA's Federal Office of Rural Health Policy (FORHP). **Collaborative states pay an annual fee of $2,000.00.** Collaborative members enter into an Agreement with 3RNET for PRISM. Services provided by 3RNET to collaborative members include:

- Training
- Technical Assistance
- Sheps Center management and monitoring of the system
- Preparation and upload of NHSC clinician and administrator data files
- Assistance in preparation and upload of state program clinician and administrator data files
- Coordination of meetings/webinars for collaborative members
- Ongoing development is limited by the imagination and resources available.

State Participants Roles and Responsibilities

- Maintain up-to-date data for obligated providers within PRISM.
- Monitor and initiate the questionnaire process in PRISM.
- Review completed questionnaires and provide any follow-up needed.
- Provide feedback to PRISM staff on the usefulness of the PRISM software, on system bugs, and suggested changes.
- Actively participate in the communications, idea-sharing, and community-building activities of the collaborative.
- Provide PRISM's annual base financial support amount of $2,000 and if possible additional support for enhancements.

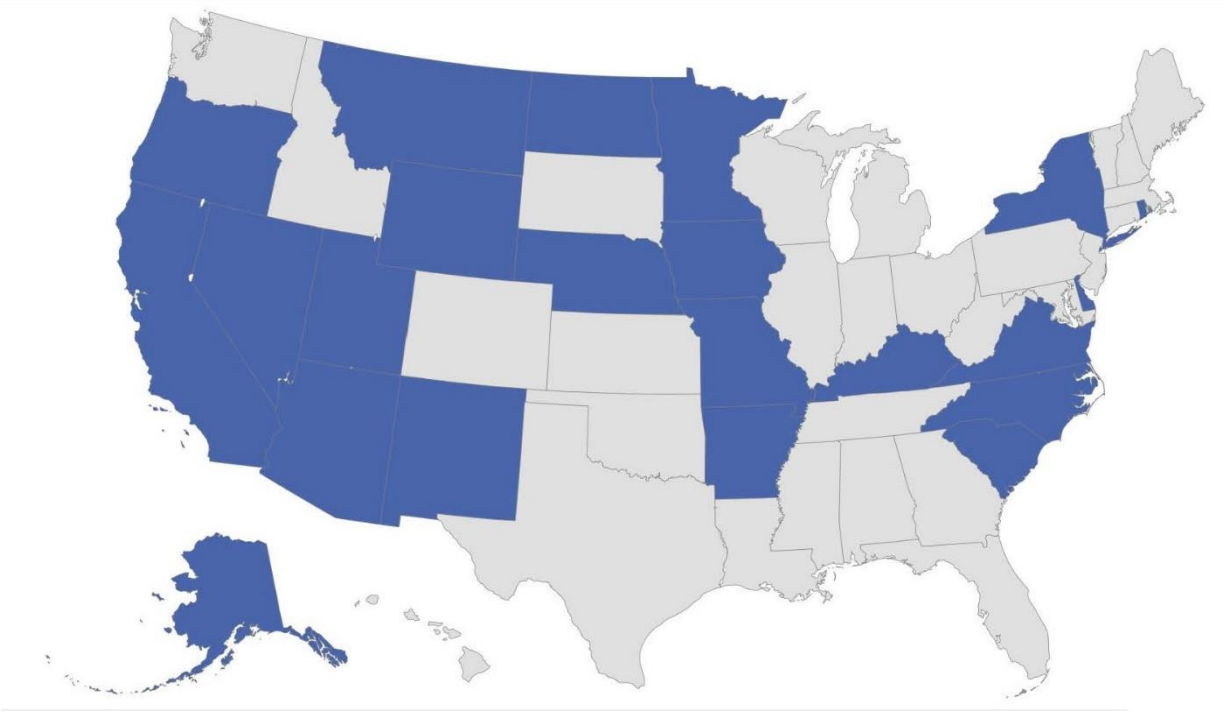
UNC Sheps Responsibilities

- Academic guidance
- System management and enhancements

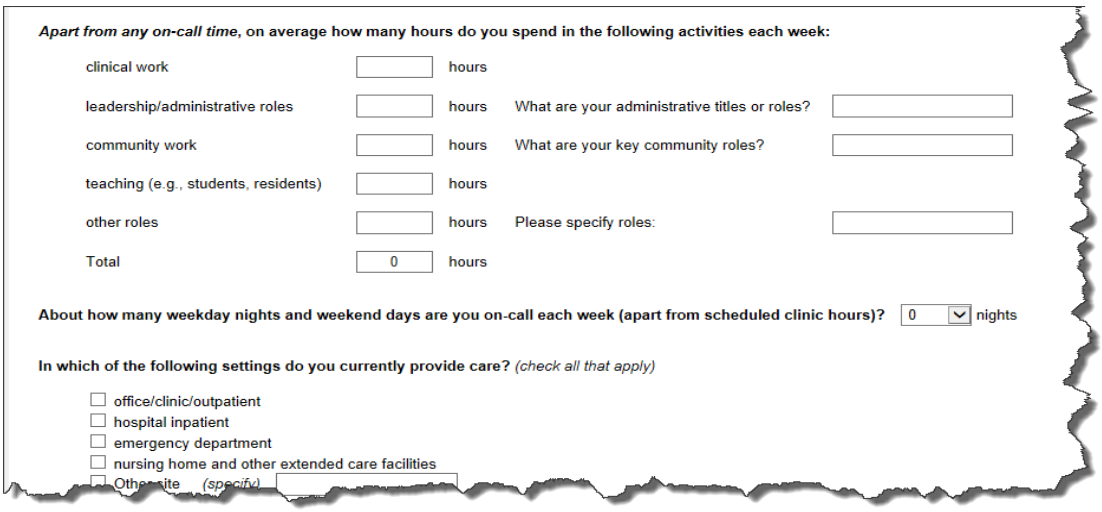
For more information on the PRISM program visit https://3rnet.org/prism or contact Jackie Fannell at fannell@3rnet.org.

Participating States & Organizations

Alaska Department of Health and Social Services
Arizona Department of Health Services
Arkansas Department of Health
California Office of Statewide Health Planning and Development
Delaware Division of Public Health
Iowa Department of Public Health
Kentucky Department of Public Health
Minnesota Department of Health
Missouri Department of Health and Senior Services
Montana Department of Health and Human Services
Nebraska Department of Health and Human Services
Nevada Division of Public & Behavioral Health / Office of Primary Care
Nevada Office of Rural Health
Nevada Primary Care Association
New Mexico Health Resources, Inc.
New York State Department of Health
North Carolina Office of Rural Health
North Carolina Medical Society Foundation
The Center for Rural Health / University of North Dakota
Oregon Health Authority / Primary Care Office
Oregon Office of Rural Health
Rhode Island Department of Health
South Carolina Office of Rural Health
South Carolina Dept. of Health & Environmental Control / Office of Primary Care
South Carolina AHEC / Medical University of South Carolina
Utah Department of Health
Virginia Department of Health
Wyoming Department of Health



Sample Questions from End of Contract Questionnaire



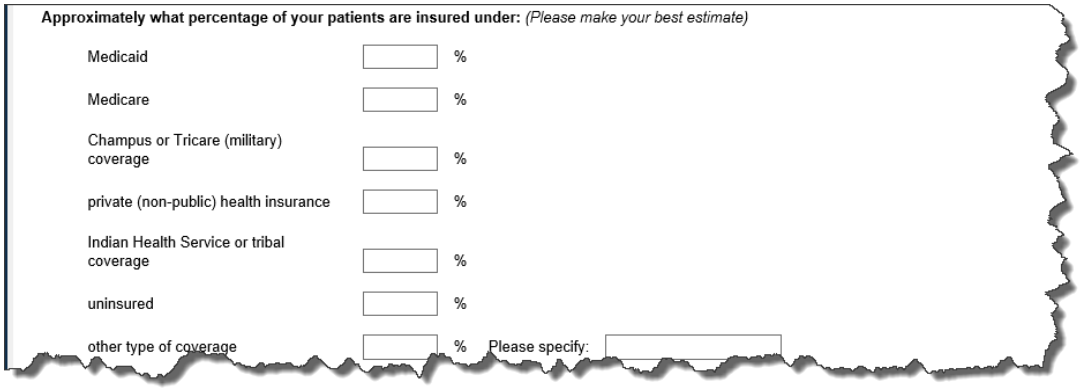
***Apart from any on-call time*, on average how many hours do you spend in the following activities each week:**

clinical work		hours		
leadership/administrative roles		hours	What are your administrative titles or roles?	
community work		hours	What are your key community roles?	
teaching (e.g., students, residents)		hours		
other roles		hours	Please specify roles:	
Total	0	hours		

About how many weekday nights and weekend days are you on-call each week (apart from scheduled clinic hours)? 0 nights

In which of the following settings do you currently provide care? *(check all that apply)*

- ☐ office/clinic/outpatient
- ☐ hospital inpatient
- ☐ emergency department
- ☐ nursing home and other extended care facilities
- ☐ Other site *(specify)*



Approximately what percentage of your patients are insured under: *(Please make your best estimate)*

Medicaid		%	
Medicare		%	
Champus or Tricare (military) coverage		%	
private (non-public) health insurance		%	
Indian Health Service or tribal coverage		%	
uninsured		%	
other type of coverage		%	Please specify:

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Please indicate your level of agreement or disagreement with each of the following statements about your current practice/office/organization.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Work rarely encroaches on my personal time.	○	○	○	○	○
My work leaves me enough time for my personal life.	○	○	○	○	○
I have the needed flexibility in my work hours.	○	○	○	○	○
I feel a strong personal connection with my patients.	○	○	○	○	○
I feel that I am doing important work.	○	○	○	○	○
I fully value the mission of my practice.	○	○	○	○	○
My practice is well linked with the broader medical, mental and dental health care systems.	○	○	○	○	○
I have good backup from partners or supervising clinicians.	○	○	○	○	○
I am able to provide the full range of services for which I was trained and wish to perform.	○	○	○	○	○
Staff in my practice support my professional judgment.	○	○	○	○	○
Staff in my practice are a major source of personal support.	○	○	○	○	○
My practice/organization is financially stable.	○	○	○	○	○
The staffing of my practice is stable - not much recent turnover.	○	○	○	○	○
The administrator of my practice/organization is effective.	○	○	○	○	○
I have a good relationship with the practice administrator.	○	○	○	○	○
...ve real input into administrative decisions.	○	○	○	○	○

Please indicate how much you agree or disagree with each of the following statements about how well you and your family are faring in your community.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	NA
My spouse is happy in the community.	○	○	○	○	○	○
My spouse is happily employed.	○	○	○	○	○	○
My children are happy in the community.	○	○	○	○	○	○
The community provides well for my children's needs.	○	○	○	○	○	○
I / We live close enough to family.	○	○	○	○	○	
I / We enjoy the activities the community offers.	○	○	○	○	○	
I / We have access to most of the things we like to do.	○	○	○	○	○	
I / We feel safe in the community.	○	○	○	○	○	

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Your future

Looking ahead from now, about how many years do you anticipate remaining in:
(provide a single year best estimate, even if only a rough guess)

your current practice?	☐ years	
your current community?	☐ years	
rural practice?	☐ years	☐ NA, not now in a rural practice
a medically underserved area, whether urban or rural?	☐ years	☐ NA, not now in an underserved area
North Carolina?	☐ years	

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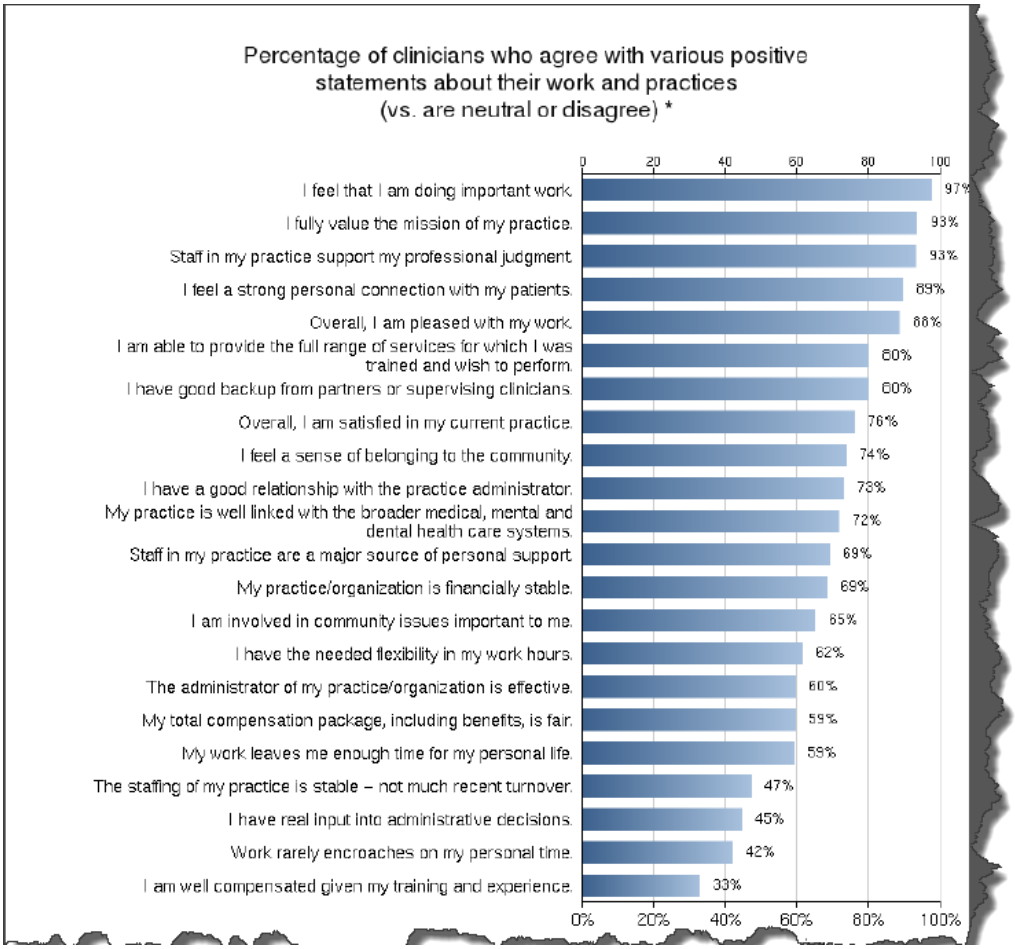
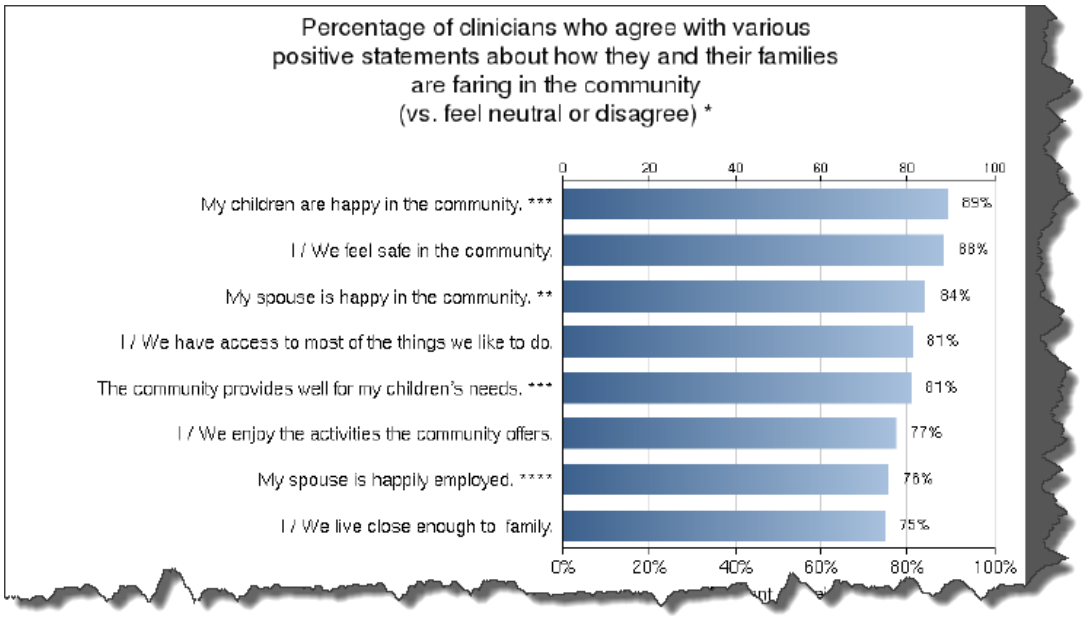
Sample Report Data from End of Contract Questionnaire

Weekly work hours *			
	Average	Median	% of clinicians reporting hours
Clinical work	38.1	40	98.8%
Leadership and administrative work	2.2	0	38%
Community work	0.8	0	16.8%
Teaching	1.9	0	21.6%
Other roles	0.9	0	10.8%

Number of nights and/or weekend days on-call each week		
	Average	Median
Among all clinicians	1.4	0
Among clinicians who do any call	3.4	2

Locations where clinicians provide care (n=333 clinicians) *		
	Number	Percent
Office/clinic/outpatient	312	94%
Hospital inpatient	46	14%
Emergency department	17	5%
Nursing home and other extended care facilities	32	10%
Other	33	10%





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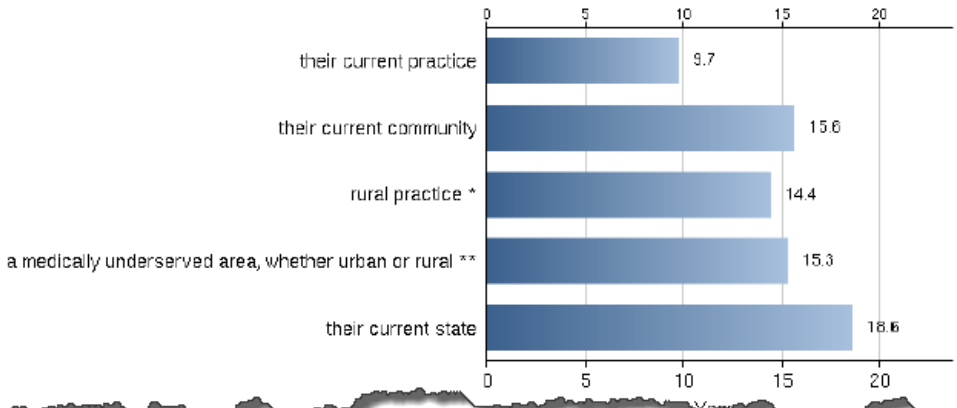
D. Clinicians' anticipated retention and future practice plans

How many more years clinicians anticipate they will remain in . . .				
	Mean	Median	25th Percentile	75th Percentile
their current practice	9.7 year(s)	5 year(s)	2 year(s)	15 year(s)
their current community	15.6 year(s)	10 year(s)	5 year(s)	30 year(s)
rural practice *	14.4 year(s)	10 year(s)	5 year(s)	20 year(s)
a medically underserved area, whether urban or rural **	15.3 year(s)	15 year(s)	5 year(s)	25 year(s)
their current state	18.6 year(s)	20 year(s)	6 year(s)	30 year(s)

* excludes those who indicate they are not currently in a rural area
** excludes those who indicate they are not currently in a medically underserved area

Average number of years clinicians now anticipate they will remain in . . .



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