MARYLAND APPRENTICESHIP and TRAINING PROGRAM

HEALTHCARE APPRENTICESHIP WORKGROUP

Interim Report 2022

Maryland
DEPARTMENT OF LABOR

Office of the Secretary
1100 N. Eutaw Street, 6th Floor
Baltimore, MD 21201

December 1, 2022

The Honorable Guy Guzzone
Chairman, Senate Budget and Taxation Committee
3 W Miller Senate Office Building
Annapolis, MD 21401

The Honorable Maggie McIntosh
Chairman, House Appropriations Committee
House Office Building, Room 121
Annapolis, MD 21401-1991

RE: Interim Report on Apprenticeships in Healthcare Workgroup – 2022 JCR

Dear Chairmen Guzzone and McIntosh:

In accordance with Pages 153-155 of the 2022 Joint Chairmen's Report, the Maryland Department of Labor is pleased to present this interim report on the Department's efforts to convene a workgroup to explore apprenticeships for public sector healthcare careers. In conducting this workgroup, the Department is pleased to have collaborated with the Maryland Department of Health and many stakeholders from the State's healthcare and education systems.

This interim report offers preliminary assessments on Maryland's State healthcare workforce and considerable discussion of Registered Apprenticeship programs. The workgroup will continue to meet in the coming year and will submit a final report of its activities by June 30, 2023. I look forward to your review of this interim report and will be pleased to respond to any questions.

Sincerely,

Tiffany P. Robinson
Secretary

Enclosure
cc: Members, Senate Budget and Taxation Committee
Members, House Appropriations Committee
Secretary Dennis Schrader, Maryland Department of Health
Emily Haskel, Department of Legislative Services

TABLE OF CONTENTS

SECTION I: INTERIM WORKGROUP REPORT – BACKGROUND

During the 2022 session of the Maryland General Assembly, the Chairmen of the Senate Budget and Taxation Committee and House Appropriations Committee authored the Report on the Fiscal 2023 State Operating Budget (SB 290) and the State Capital Budget (SB 291) and Related Recommendations. The committee narrative on "Apprenticeship Workgroups for Targeted Occupations," outlined the Committees' concern with workforce shortages among government employees in the public safety, health, and transportation sectors. The narrative directed the Maryland Department of Labor to convene workgroups to study and report on the short-term and long-term needs in each respective sector, as well as efforts to:

- Identify the extent of vacancies at the State and local level within each sector, specifically including, but not limited to, police officers, correctional officers, parole and probation agents, direct care and public health workers, bus operators, and vehicle maintenance personnel;

- Review existing apprenticeships in the United States and elsewhere specifically for occupations in these identified sectors;

- Design apprenticeships in the occupations within the identified sectors that have the greatest recruitment challenges and training deficiencies, including estimated costs and potential funding opportunities;

- Identify opportunities to start apprenticeships at the high school level consistent with the Blueprint for Maryland's Future;

• Identify opportunities, in coordination with the University System of Maryland (USM), the Maryland Association of Community Colleges (MACC), University of Maryland Global Campus (UMGC), the Maryland Career and Technical Education (CTE) Committee, and the Maryland State Department of Education (MSDE), to create degree apprenticeship programs and other ways to incorporate associate and bachelor's degrees in apprenticeships; and

• Identify potential apprenticeship sponsors in each occupation.

By request of the Chairmen, the Maryland Department of Labor has authored this interim report on efforts to convene the requested workgroup on healthcare and direct care. The subsequent sections provide data and information gathered through workgroup sessions, present models and existing programs for public safety apprenticeship, and share opportunities and challenges facing apprenticeship as a tool of workforce development for government public safety employees.

SECTION II: WORKGROUP PARTICIPANTS

Beginning in June 2022, MD Labor's Division of Workforce Development and Adult Learning (DWDAL) issued letters to all department-level state agencies identified by the Chairmen requesting that they assign staff designees to serve on a workgroup to study apprenticeship in healthcare. DWDAL additionally consulted the Department of Budget Management's (DBM) list of exclusive bargaining representatives and their respective bargaining units and issued letters to any bargaining representatives that were listed for state occupations that were presumed to be covered by the workgroup's sessions.

Additional workgroup participants were identified from community organizations, trade groups, education institutions, workforce development system constituents, and legislative representatives. Attendance and membership in the workgroup are public and new participants were added as the workgroup sessions progressed. The following roster details agencies and representatives who attended at least one healthcare workgroup session in 2022.

Maryland Department of Labor

Office of the Secretary	Andrew Fulginiti, Director of Legislative Affairs Mike Preisinger, Legislative/Policy Assistant Will Grant, Policy Officer
Division of Workforce Development & Adult Learning	Assistant Secretary James Rzepowski Deputy Assistant Secretary Erin Roth Logan Dean, Policy Analyst

Apprenticeship & Training Program	Christopher MacLarion, Director Jeffrey Smith, Program Manager Faith Ramsburg, Apprenticeship Navigator Ginamarie Best, Program Manager Jane Sinclair, Apprenticeship Navigator Jennifer Runkles, Apprenticeship Navigator
Governor's Workforce Development Board	Michael DiGiacomo, Executive Director Kenneth Lemberg, Deputy Director Molly Mesnard, Workforce Engagement Director

Maryland Department of Health

Office of Governmental Affairs	Megan Peters, Acting Director
Office of Population Health Improvement	Tina Backe, Coordinator, Community Health Worker Program Alphius Sesay, Program Policy Analyst
Spring Grove Hospital Center	Dwain Shaw, Chief Executive Officer
Frederick County Health Department	Dr. Miriam Dobson, Division Director Community Health Services
St. Mary's County Health Department	Dr. Meenakshi Brewster, Health Officer Dr. Kyle Bishop, Deputy Health Officer
Board of Nursing	Karen E. B. Evans, Executive Director Rhonda Scott, Deputy Director Iman Farid, Health Policy Analyst

Education & Workforce Agencies

Asian American Center of Frederick	Elizabeth Chung, Executive Director Vanda Yamkovenko, Program Coordinator
Community College of Baltimore County	Linda Rhodes, Adjunct Instructor Ted McCadden, Program Coordinator
Employ Prince George's, Inc.	Becca Webster, Director, Strategic Planning & Development
Howard Community College	Minah Woo, Vice President of Workforce, Innovation, and Strategic Partnerships

University of Maryland, Baltimore	Theresa Neumann, Associate Program Director
It Works Learning Center, Inc.	Mort Lapides, Executive Director

Labor and Trade Organizations

1199SEIU	Joshua Harrold, Regional Director Synkeithia Holly, Field Coordinator
AFSCME Council 3	Denise Gilmore, Legislative Director Ikeia Cornish, President, Local 770
Baltimore Alliance for Careers in Healthcare	Karen Hayward-West, Executive Director
Health Facilities Association of Maryland	Joseph DeMattos, President and CEO Hope Morris, Manager, Outreach & Government Relations
Maryland Nurses Association	Dr. Christie Simon-Waterman, President
Maryland Hospital Association	Nicole Dempsey Stallings, Senior Vice President, Government Affairs & Policy Erin Dorrien, Vice President, Policy Jane Krienke, Legislative Analyst
Maryland Apprenticeship and Training Council	Dr. Shaunta Chapple, Public Representative

Legislative Participants

Maryland District 21	Senator James Rosapepe Owen Khan, Chief of Staff
Office of the Senate President	Jody Sprinkle, Deputy Chief of Staff Damian Lang, Public Policy Fellow

Guest Presenters

Alabama Office of Apprenticeship	Josh Laney, Director Meredith Smith, Statewide Project Manager

Session Schedule & Attendance Record

	Date	Time	Session Location	Attended / Invited
Session 1	08/08/2022	1 PM - 2:30 PM	Virtual	31 / 49
Session 2	09/12/2022	1 PM - 2:30 PM	Virtual	33 / 49
Session 3	10/11/2022	1 PM - 2:30 PM	Virtual	32 / 49
Session 4	11/14/2022	1 PM - 2:30 PM	CCBC - Essex	33 / 49

SECTION III: BACKGROUND, DEFINITIONS, & INFORMATION FOR APPRENTICESHIP

Background on Apprenticeship & The Registered Apprenticeship Program

Apprenticeship is a centuries old practice of employee training that has been widely practiced in countries around the world, primarily in the skilled trades. Registered Apprenticeship pairs trainees (apprentices) with skilled tradespeople (journeyworkers) and utilizes mentorship and on-the-job learning to confer occupation specific skills that become more complex over the course of training. Unlike other forms of training, apprentices are considered full time, W-2 employees from the outset and are paid for their work and for progressive skill gains throughout their apprenticeship.

In the United States, apprenticeship was formalized by the National Apprenticeship Act (NAA) of 1937, also known as the Fitzgerald Act. The NAA established the basis for America's modern leading model for apprenticeship, the Registered Apprenticeship Program. The Act also gave the US Department of Labor (USDOL) the authority to issue regulation protecting the health, safety, and general welfare of apprentices (29 CFR Part 29) as well as preventing racial, ethnic, religious, age, disability and gender discrimination in apprenticeship programs (29 CFR Part 30). In the 2021 fiscal year, the US Department of Labor reported 593,690 active Registered Apprentices across the United States.

Registered Apprenticeship is a structured approach to apprenticeship that requires sponsor organizations or employers to develop program standards and register with either USDOL or an authorized State Apprenticeship Agency. The process of registration provides opportunities for technical assistance, validation, and oversight which ensures that all apprentices receive a consistent and comprehensive standard of training and related instruction, and secures the health and safety of all apprentices. In the state of Maryland, the Maryland Department of Labor (MD Labor) is the State Apprenticeship Agency which has been authorized by USDOL since 1962 to register and oversee Registered Apprenticeship Programs.

Within MD Labor, Registered Apprenticeship is administered by the Maryland Apprenticeship and Training Program (MATP), an office of the Division of Workforce Development and Adult Learning (DWDAL). MATP provides technical assistance to sponsors seeking to register an apprenticeship program in Maryland. Once a sponsor has created apprenticeship standards and

an organized program curriculum that meets Maryland's requirements, it goes before the Maryland Apprenticeship and Training Council (MATC) for approval. MATC approved programs are registered with the State. The employer or sponsor is also responsible for registering their apprentices with MATP.

As of September, 2022, there were more than 12,000 apprentices registered in Maryland, across 182 active Registered Apprenticeship programs, encompassing 3,879 employers.

Key Definitions & Components for Registered Apprenticeship in Maryland

In order to register an apprenticeship program in Maryland, sponsors must typically present the Maryland Apprenticeship and Training Council with apprenticeship standards and a curriculum that include at least the following key components:

National Occupational Credential	Every graduate of a Registered Apprenticeship program must receive a nationally recognized credential referred to as a certificate of completion. The portable credential signifies that the apprentice is fully qualified to perform the essential functions of the occupation.
On the Job Learning (OJL)	A foundational component of Registered Apprenticeship, OJL refers to the hands-on training an apprentice receives while engaging in the functions of the registered occupation during paid employment. OJL is supervised and led on a 1:1 basis by an experienced mentor referred to as a journeyworker. Apprenticeship standards submitted by a sponsor will specify which skills an apprentice learns on the job and whether the skills are validated by accrued work hours, demonstration of competency, or both. Programs registered in Maryland generally must include at least 2,000 of OJLfor each year of the apprenticeship..
Registered Apprenticeship Sponsor	An entity, business, committee, or organization that manages a Registered Apprenticeship program that has been approved by the Maryland Apprenticeship and Training Council (MATC). Employers can serve as sponsors, but sponsors may also be committees of employers and labor unions, community organizations, colleges and universities, local workforce boards, or other entities that earn approval from MATC.
Related Instruction (RI)	Another required component of Registered Apprenticeship, RI refers to the more formalized classroom-style instruction that is offered in conjunction with OJT. Related instruction is often provided by a community college, trade school, labor union, virtual learning platform, correspondence school, or third party, but can also be provided in-house by the employer. Programs registered in Maryland must include at least 144 hours of related instruction for each year of the apprenticeship. .
Rewards for Skill Gains	As apprentices gain experience and progress through their training schedule they must earn progressive wage increases. Progressive wage increases and the skill gains associated are outlined in the standards for a

	proposed Registered Apprenticeship.

Youth Apprenticeship in Maryland

In 2015, the Maryland Youth Apprenticeship Advisory Committee authored its first report on Youth Apprenticeship in Maryland and set into motion plans for a statewide system for implementing Youth Apprenticeship as a means of training and developing the State's young workers. While Registered Apprenticeship programs typically require that apprentices be at least 18 years of age and in possession of a high school diploma or its equivalent, or able to earn one during the course of the apprenticeship, Youth Apprenticeship establishes standards that can be embedded in secondary education, reaching apprentices as young as 16 or 17 years of age with parent or guardian consent.

After a successful pilot program, the Apprenticeship Maryland Program (AMP) was launched as a statewide program in 2018 to administer Youth Apprenticeship through joint oversight by MD Labor and the Maryland State Department of Education (MSDE). Youth Apprentices involved in AMP work a minimum of 450 hours with a certified employer while receiving Related Instruction through their school district, a community college, or other trade school. The program allows apprentices to make progress toward their diploma while also earning a wage and developing industry-recognized vocational skills. As of November 2022, 22 of Maryland's 24 school districts participated in AMP, enrolling 423 students across 368 employers.

While AMP has posted year-over-year gains in apprentice participation and business and school district engagement since its inception, the program is expected to expand rapidly to meet the State's goals for career and technical education. The Blueprint for Maryland's Future sets a goal for 45 percent of high school graduates completing apprenticeships or industry-recognized occupational credentialing by the 2030-2031 school year. Based on 2021-22 school year enrollments, around 25,800 high school graduates will need to be engaged in apprenticeship or other CTE programming by 2030-2031 to meet the Blueprint's goal. Currently only about 7 percent of Maryland high school graduates meet the Blueprint's CTE criteria.

Potential Strengths of Registered Apprenticeship & Youth Apprenticeship

Despite its long history, Registered Apprenticeship in the United States has a fairly limited body of comprehensive longitudinal research. The USDOL Office of Apprenticeship and many State Apprenticeship Agencies, including MD Labor, are working to expand and improve data systems to better study the potential benefits of apprenticeship. Existing data, primarily from the building trades and skilled crafts indicates strong lifetime wage outcomes for apprentices and improved retention and training outcomes for employers.

A November 2021 report by the Maryland Longitudinal Data System Center[1] (MLDS) examined five-year outcomes from apprentices that completed the Maryland Apprenticeship and Training Program in 2012-2013. The analysis found that the cohort reported median quarterly wages of

[1] Exploring Workforce Outcomes Of Maryland Apprenticeship And Training Program Completers. (2021). Maryland Longitudinal Data System Center.

$20,725, equating to a median annual salary of $82,900. Findings from this cohort demonstrate that apprenticeship completers, while a minority of the workforce, earn median quarterly wages that are nearly double those of associate's degree holders.

Case studies published by the USDOL Office of Apprenticeship[2] on long term federally registered apprenticeships indicate that apprenticeship completers see a $300,000 lifetime earning advantage over peers not involved in apprenticeship, and that apprentice employers retain as many as 93 percent of their apprentice employees after training.

SECTION IV: OCCUPATION PROFILES

The Chairmen requested the Workgroup on Apprenticeships in Healthcare to study and report on vacancy and other occupational information for target occupations in Maryland's public sector healthcare system, specifically, "direct care and public health workers." Whereas the Maryland Department of Health (MDH) is both the largest employer of public sector healthcare workers in Maryland and the agency authorized to credential most healthcare professionals, this report will profile the requested occupations according to MDH's staff classifications and the credentialing requirements outlined in State law and regulation.

For the purposes of this report, "direct care" workers will refer to occupations that provide direct medical care to patients, or otherwise assist in the delivery of direct care, broadly: nursing assistants (Subsection B) and licensed and registered nursing occupations (Subsection C). "Public health workers" will refer to Community Health Workers (Subsection A), but will also include other nurses and nursing assistants employed in the delivery of public health services such as Community Health Nurses, Home Health Nurses, and other nursing occupations covered in Subsection C.

Behavioral health care professionals, such as psychologists, social workers, Licensed Professional Counselors (LPCs), and others are also integral parts of the healthcare and direct care system. However, for the purposes of this interim report and Workgroup discussions these positions were not closely examined. The Workgroup recognizes the importance of including these professions in conversations about improving training and retention and plans to revisit and examine these classifications in future sessions.

Figure 1 - Summary Table: Direct Care and Healthcare Position Certification and Licensure Requirements in Maryland

	Minimum Education Requirement	Standardized Examination	Apprenticeable Occupation in MD
Community Health Worker (CHW)	Approved Training Program	None	Yes

[2] USDOL OA Apprenticeship Case Studies. (2022). USDOL.

Certified Nursing Assistant (CNA)	Approved Training Program	None	Yes
Geriatric Nursing Assistant (GNA)	Approved Training Program	GNA Examination	Yes
Licensed Practical Nurse (LPN)	High School Diploma and Postsecondary Certificate	NCLEX-PN®	Yes
Registered Nurse (RN)	Associate's Degree or higher	NCLEX-RN®	No

Source: Maryland Board of Nursing, Maryland Department of Labor

SUBSECTION A: COMMUNITY HEALTH WORKERS

Maryland State law[3] defines Community Health Workers as frontline public health workers who facilitate access to healthcare and social services through the provision of outreach, social support, and advocacy services. As non-medical healthcare staff, Community Health Workers play a vital role in the delivery of public health services by expanding access to care, programming, and health information, particularly in minority communities and communities with barriers to service.

The Code of Maryland Regulations (COMAR) 10.68.02.02 outlines MDH's authority to accredit programs for the training of Certified Community Health Workers. Within MDH's operations, the role of Community Health Worker best aligns with the classifications of Community Health Outreach Worker I and II, which primarily serve Local Health Departments and are overseen by the Office of Population Health Improvement (OPHI). However, these classifications do not require Community Health Worker certification for employment.

Staffing Levels & Vacancy

According to MDH's FY23 Proposed Operating Budget Detail for all positions,[4] The Department budgeted for 15 Community Health Outreach Worker I positions and 48 Community Health Outreach Worker II positions in FY22. Vacancy data supplied by the MDH Office of Human Resources (OHR) for July 2021 through October 2022 indicated that there was 1 ongoing vacancy for Worker I positions (6.6%) and 5 for Worker II positions (10.4%)

Figure 2 - MDH Community Health Outreach Worker Vacancy based on FY22 Budgeted Positions

Classification	Budgeted Positions (FY22)	Vacant Positions	Vacancy Rate	Average Time Vacant (Weeks)
CH Outreach Worker I	15	1	6.6%	28
CH Outreach Worker II	48	5	10.4%	26

[3] Annotated Code of Maryland, Health-General Article, Title 13, Subtitle 36

[4] FY 2023 Proposed Operating Budget Detail by Agency. (2022). Maryland Department of Budget and Management.

Total	63	6	9.5%	27

Sources: DBM FY23 Proposed Budget Data & MHD OHR supplied vacancy information

Current Training, Certification, or Recruitment Processes

The standardized and certified CHW occupation that exists today is fairly new to Maryland, beginning in 2014 with a workgroup mandated by HB856/SB592 which was then informed further by legislation that led to an advisory group, the development of a certification standard, and an accreditation process.[5] As of October 7, 2022, MDH has accredited 13 CHW training programs in Maryland. Two of the MDH accredited programs are registered with MD Labor as Registered Apprenticeship sponsors for the occupation of Community Health Worker. As of October 2022, 16 Community Health Worker Apprentices were active in Maryland.

In order to be certified, CHWs must complete 100 hours of instruction with an accredited provider, complete a 40-hour practicum, and pass an objective knowledge assessment. While CHW skills align with the MDH Community Health Outreach Worker occupations reviewed in this subsection, no MDH staff classification explicitly requires CHW certification as a condition of employment. Additionally, CHW certification does not require applicants to possess a high school diploma, but the MDH Community Outreach Worker I and II classes do.

The United States Bureau of Labor Statistics (BLS) reports that the mean annual wage for a CHW is $47,780. Salaries for MDH Community Health Outreach Workers range between $32,873 and $46,595 across all classes.[6]

SUBSECTION B: NURSING ASSISTANTS

A large group of direct care occupations can be broadly considered "nursing assistant"occupations. In Maryland, any person offering direct care under the direction of a nurse or other healthcare provider must be a Certified Nursing Assistant (CNA). CNAs must attend an approved training program accredited by the Maryland Board of Nursing (MBON). In addition to the general CNA certification, there are more specialized nursing assistant credentials that are also overseen by MBON - Geriatric Nursing Assistant (GNA), Home Health Aide (HHA), Certified Medicine Aide (CMA), and Dialysis Technician (CNA-DT).

Staffing Levels & Vacancy

In FY22, MDH budgeted for a total of 578 full time equivalent staff positions that were linked to nursing assistant occupations, including Direct Care Assistant I, II, and Trainee, court-involved (CI) positions, and Geriatric Nursing Assistant I and II. The majority of budgeted nursing assistant positions were assigned to MDH's hospitals or other State-run inpatient facilities across the state. Several of MDH's facilities provide treatment to patients who are admitted following or concurrent with involvement in the justice system. Classifications associated with MDH's court-involved treatment spectrum are identified as CI classifications.

[5] Community Health Worker History in Maryland. (2022). Maryland Department of Health.
[6] Salary Plan. (July 18, 2022). Maryland Department of Budget and Management.

Vacancy rates were calculated based on vacancy data supplied by MDH OHR for the July 2021 through October 2022. Vacancy among MDH nursing assistant positions was highest for the Direct Care Trainee (22.2%), Direct Care Assistant I (21.3%), and GNA II classifications (17.9%).

Because the total number of budgeted positions per classification reported by DBM for FY22 did not distinguish CI and non-CI classifications, vacancy rates reported in Figure 3 also do not differentiate between CI and non-CI classifications. However, of the 17 Direct Care I positions vacant, 13 were court-involved positions. For Direct Care II, 21 of the 33 vacant positions were court-involved. All vacant Direct Care Trainee positions were court-involved positions.

Figure 3 - MDH Nursing Assistant Vacancy based on FY22 Budgeted Positions

Classification	Budgeted Positions (FY22)	Vacant Positions	Vacancy Rate
Direct Care Trainee	18	4	22.2%
Direct Care Assistant I	80	17	21.3%
Direct Care Assistant II	426	33	7.7%
Geriatric Nursing Assistant I	4	0	0%
Geriatric Nursing Assistant II	68	12	17.9%
Total	596	66	11.1%

Sources: DBM FY23 Proposed Budget Data & MHD OHR supplied vacancy information

Current Training, Certification, or Recruitment Processes

CNAs and GNAs must be certified by the MBON based on the processes outlined in COMAR 10.39.01-07. In order to pursue CNA certification, an applicant must complete a CNA training program approved by MBON and the Maryland Higher Education Commision (MHEC) that includes 100 hours of instruction with 60 hours devoted to laboratory practice and 40 hours devoted to clinical experience in a licensed facility. The applicant must pass an evaluation associated with their training program and pay a certification fee. MBON reports that most CNA/GNAs have their certification costs covered by an employer or training program. Graduates of approved Registered Nursing (RN) or Licensed Practical Nursing (LPN) programs are eligible to be certified and work as CNAs without additional training.

In addition to the CNA requirements, federal law requires that nursing assistants working in licensed comprehensive care facilities must also be qualified by examination as GNAs. MBON receives and processes the results of National Nurse Aide Assessment Program GNA examinations and maintains the State's federally mandated registry of GNAs.

As of June 23, 2021, there were around 130 programs in Maryland approved to offer CNA

training,[7]of which, 35 were high school-based programs and 21 were based in community colleges or community college partnerships. The remainder were offered by free standing programs or directly by healthcare and long term care institutions. The Maryland Apprenticeship and Training Council previously approved CNA/GNA as an apprenticeable occupation, but as of October 2022, no CNA/GNA Apprenticeships were active in Maryland.

Salaries for MDH nursing assistant classifications range from $35,710 for a new Direct Care Assistant I to $68,061 for a Court-Involved Direct Care Assistant II. The US Bureau of Labor Statistics reports that the national mean annual wage for CNA-credentialed nursing assistants is $33,250[8].

SUBSECTION C: NURSING OCCUPATIONS

Nursing occupations examined in this section primarily refer to the two largest classes of professional nurses, Licensed Practical Nurses (LPNs) and Registered Nurses (RNs). Each profession has varying scopes of practice that allow them to provide direct medical care to patients in various settings. Within each occupation, there are also structured supervisory roles and highly-specialized sub-occupations requiring additional education, certification, or years of experience.

Beyond RNs, there are also Advanced Practice Registered Nurses who may earn additional education and certification to function as Nurse Practitioners, Nurse Anesthetists, Nurse Midwives, Forensic Nurses, Clinical Nurse Specialists, and Nurse Educators.

Information for Practical Nursing Occupations

Staffing Levels & Vacancy

For FY22, MDH budgeted 259 full-time equivalent positions that required at least an LPN qualification. Most of these positions were for hospital or inpatient settings, including court-involved service facilities. A minority (31 positions) were for public health roles (OPHI).

As observed with nursing assistants, entry level LPN classifications report the highest vacancy rate with nearly 31 percent of LPN I positions reported as vacant since July 2021. Also, as in the previous section, data in the table do not differentiate CI and non-CI classifications. Half of LPN I vacancies, 15 of the 24 LPN II vacancies, and all of the LPN III, Advanced vacancies were CI positions. Notably, the LPN III, Lead classification additionally reported a significantly higher vacancy rate (20%) than LPN III Advanced.

[7] Maryland Board of Nursing. (2021). Approved CNA Programs

[8] Occupational Employment and Wages, May 2021 31-1131 Nursing Assistants. (2021). US BLS.

Figure 4 - MDH Practical Nursing (LPN) Vacancy based on FY22 Budgeted Positions

Classification	Budgeted Positions (FY22)	Vacant Positions	Vacancy Rate
Licensed Practical Nurse I	13	4	30.8%
Licensed Practical Nurse II	161	24	14.9%
Licensed Practical Nurse III Adv.	36	3	8.3%
Licensed Practical Nurse III Ld.	10	2	20%
Security Attendant LPN	39	3	7.7%
Total	259	36	13.9%

Sources: DBM FY23 Proposed Budget Data & MHD OHR supplied vacancy information

Current Training, Certification, or Recruitment Processes

Practical nursing exceeds the scope of nursing assisting, allowing the professional to provide several direct medical services to patients with or without supervision. Unlike nursing assisting, practical nursing does require post-secondary education at an institution approved by a board-recognized nursing accreditation agency. As of October 2022, there are 11 approved LPN programs in the State, hosted by the following Maryland Community Colleges:

- Allegany College of Maryland
- Anne Arundel Community College
- Baltimore City Community College
- Carroll Community College
- Cecil Community College
- College of Southern Maryland
- Community College of Baltimore County - Dundalk
- Frederick Community College
- Hagerstown Community College
- Howard Community College
- Wor-Wic Community College

The practical nursing educational credential is typically awarded as a Practical Nursing Certificate representing around 35 credit hours of classroom, laboratory, and clinical instruction. Most programs are designed to be completed in one calendar year and qualify students to sit for the National Council Licensure Examination (NCLEX-PN®). A significant number of the approved LPN programs in Maryland directly connect to a full associate's degree-bearing program or an articulation scheme with a four-year university. In FY21, 221 first time testers took the NCLEX-PN® and 203 (91.4%) passed.[9]

The Baltimore Alliance for Careers in Healthcare (BACH) is a Registered Apprenticeship

[9] NCLEX-PN 1st Time Candidate Performance for Maryland School. (2021). National Council State Boards of Nursing (NCSBN) and Pearson VUE

sponsor for an LPN Apprenticeship program, which offers Related Instruction through the Community College of Baltimore County. Apprentice Practical Nurses take part in OJL at the level of a CNA and gradually progress through LPN competencies in conjunction with clinical education offered through Related Instruction. As of October 2022, there are 8 active practical nursing apprentices registered in Maryland.

MDH-employed LPNs earn between $42,874 for an LPN I and $88,315 for an LPN III, Lead. The national annual mean salary for LPNs as reported by the BLS is $48,070.

Information for Registered Nurses

Staffing Levels & Vacancy

Across all MDH institutions and programs, there were more than 1,300 budgeted full time equivalent positions requiring or preferring an RN qualification in FY22. Approximately 223 were entry-level positions requiring only an RN qualification and no additional experience or certification, while more than 1,100 were supervisory or highly-specialized positions. Many RNs serve in hospital, inpatient, psychiatric, and court-involved facilities operated by MDH, while around 640 RNs were employed in Local Health Departments or other programs overseen by OPHI.

Among the non-supervisory and non-advanced RN classifications, Home Health Nurses and Registered Nurses (all classes and programs) reported the highest vacancy at 24.1 and 28.6 percent respectively. Vacancy was calculated based on data supplied by MDH OHR for new vacancies from July 2021 to October 2022.

Figure 5 - MDH Registered Nursing (RN) Vacancy based on FY22 Budgeted Positions (non-supervisory, non-advanced classifications)

Classification	Budgeted Positions (FY22)	Vacant Positions	Vacancy Rate
Registered Nurse	199	48	24.1%
Home Health Nurse	7	2	28.6%
Respiratory Care Nurse	17	1	5.9%
Total	223	51	22.9%

Sources: DBM FY23 Proposed Budget Data & MHD OHR supplied vacancy information

The RN classifications distinguished in this report as “supervisory, advanced, and specialized” encompass positions that require incumbents to possess higher degrees, such as a Bachelor’s of Science (BSN) or Master’s of Science in Nursing (MSN), and/or significant specialized training and experience beyond just an RN qualification. Among this group, the overall average vacancy rate was around 14.9 percent.

The classification with the highest vacancy at approximately 46.3 percent is Health Facility

Surveyor Nurse I, a position responsible for conducting on-site surveys of healthcare providers across Maryland. The classification requires a BSN or comparative experience as an RN. At 38.9 percent vacant, Nursing Program Consultant/Administrators (all classes and programs) reported the second highest vacancy rate for supervisory, advanced, and specialized MDH nurses. The Nursing Program Admin classification provides consultation, education, and technical assistance to many of MDH's programs across the state and incumbents are generally required to possess an MSN or related advanced degree, in addition to several years of experience as an RN.

Figure 6 - MDH Registered Nursing (RN) Vacancy based on FY22 Budgeted Positions (supervisory, advanced, and specialized classifications)

Classification	Budgeted Positions (FY22)	Vacant Positions	Vacancy Rate
Clinical Nurse Specialist	6	1	16.7%
Community Health Nurse I	13	1	7.7%
Community Health Nurse II	363	42	11.6%
Community Health Nurse, Supervisory	202	14	6.9%
Health Facility Surveyor Nurse I	54	25	46.3%
Health Facility Surveyor Nurse II	75	1	1.3%
Home Health Nurse Supervisor	2	0	0%
Medical Services Reviewing Nurse	9	1	11.1%
Nurse Practitioner, Psych	7	1	14.3%
Nurse Practitioner, Midwife	32	6	18.8%
Nursing Program Admin. (all classes)	18	7	38.9%
Registered Nurse, Charge	226	30	13.3%
Registered Nurse Manager	42	9	21.4%
Registered Nurse Supervisor	93	14	15.1%
Registered Nurse, Quality Improvement	5	0	0%
Total	1,129	145	14.9%

Sources: DBM FY23 Proposed Budget Data & MHD OHR supplied vacancy information

Current Training, Certification, or Recruitment Processes

The minimum training and education required for RN licensure in Maryland is an associate's degree in nursing from an accredited program. Associate's degree RN programs typically include 65-70 credit hours of classroom and practical instruction with around 1,400 hours of clinical education in various patient care settings. Most programs are structured to span two years (four semesters) and students can typically earn CNA, GNA, and LPN qualification as they progress through the program. Upon completion, candidates can sit for the NCLEX-RN® examination and earn RN licensure. As of October 2022, 15 Maryland Community Colleges, all but Garett

College, offer associate's level nursing degrees that qualify a candidate for the NCLEX-RN®.

In addition to associate's level nursing programs, candidates can alternatively seek licensure through a BSN program or by articulation of associate program credits to a BSN program. BSN programs not only train and qualify candidates for the essential functions of Registered Nursing, but additionally offer specialized training and skills required for supervisory and advanced nursing positions. As of October 2022, the following 10 colleges and universities in Maryland are approved by MBON to offer Baccalaureate programs that prepare candidates for the licensure as an RN:

- Bowie State University
- Coppin State University
- Hood College
- Morgan State University
- Notre Dame of Maryland University
- Salisbury University
- Stevenson University
- Towson University
- University of Maryland - Baltimore
- Washington Adventist University

In addition to the above list, Frostburg State University and the University of Maryland Global Campus are additionally approved to offer BSN completion coursework, or "RN-BSN," for students already licensed as RNs. Johns Hopkins University and the University of Maryland School of Nursing are approved to grant MSNs.

In FY21, 2,664 first-time candidates sat for the NCLEX-RN® exam in Maryland, of which 2,303 (86.45%) passed. The majority of testers in FY21 were candidates from associate's level nursing programs (1,376).[10]

The US BLS reports that the annual average salary for RNs nationally is $77,600.[11] Salaries for RN credentialed MDH classifications range from $54,992 for an entry level Community Health Nurse I up to $168,161 for a Psychiatric Nurse Practitioner.

SECTION V: APPRENTICESHIP IN HEALTHCARE – CASE STUDIES

CASE STUDY A: THE HISTORIC RELATIONSHIP

[10] NCLEX-RN 1st Time Candidate Performance for Maryland School. (2021). National Council State Boards of Nursing (NCSBN) and Pearson VUE

[11] Occupational Employment and Wages, Registered Nurses. (2021). US BLS.

BETWEEN APPRENTICESHIP AND NURSING

As is the case for nearly all professions with long histories, apprenticeship was at one time the only model for training nurses and other medical staff. The practice began as early as the middle ages in Europe and became somewhat formalized in the United States through nursing schools that began to open across the country following the Civil War and into the twentieth century.[12] Early nurses were instructed first and foremost by working in hospitals, sanitariums, and asylums, which sponsored nearly all nurse training schools. These programs offered as little as 100 hours of actual medical education over three or more years of training and essentially provided cheap or unpaid labor for care facilities. As hospitals, technology, and society progressed, the vocational approach to nursing education left many nurses woefully unqualified to provide the level of care patients required and even experienced nurses found themselves academically unprepared to progress into additional trainings that would allow them to become supervisors, clinicians, and educators in the healthcare field.

Nursing programs slowly standardized and integrated with higher education in the early twentieth century and in 1965 the American Nurses Association released a position report which declared that nursing education should take place within higher education institutions. That report also laid out three familiar levels for nurse training: associate, baccalaureate, and vocational programs - with vocational programs referring to training for what we today know as CNAs. While clinical education remained an important part of these new standardized degree programs, total hospital hours decreased and the cost of tuition for nursing programs shifted from hospitals to nursing students.

Nursing's professionalization brought massive improvements to the field and made nurses an indispensable part of the modern healthcare system. However, the shift to a higher education-led model is sometimes seen as a rejection of apprenticeship as a viable means for educating nurses. Healthcare occupations are a minority of all Registered Apprenticeship programs both in Maryland and nationally, and the majority of nursing Apprentices are CNAs. Nationally, only a handful of small programs have Registered Apprenticeship standards for Registered Nursing and even fewer are training RNs on any significant scale.

The perception that professional nursing is beyond the scope of apprenticeship or that apprenticeship diminishes the rigor of nursing education is based on the historical inadequacies of nurse training in the nineteenth and early twentieth century. In contrast, modern Registered Apprenticeships is a highly structured system that evolved and professionalized in parallel to nursing over the last century. Modern Registered Apprenticeship requires Related Instruction that readily integrates with existing associate, baccalaureate, and master level academic programs, and many nurses today engage in various forms of earn-and-learn education as they progress in their career.

Disentangling the history of nurse training programs from the modern Registered Apprenticeship Program and clarifying terminology is foundational for examining the models of nursing Registered Apprenticeships profiled in the following cases. Additionally, international models for nursing apprenticeship demonstrate the utility of apprenticeship training in public sector healthcare.

[12] The Historical Development of Modern Nursing Education. 1981. Norma E. Anderson. Journal of Nursing Education

CASE STUDY B: THE ALABAMA STUDENT NURSE APPRENTICE PERMIT

While CNA and LPN Registered Apprenticeships are fairly common across the country, RN occupations have traditionally been considered outside of the scope of Registered Apprenticeship. The COVID-19 pandemic presented serious challenges to the nation's healthcare system, leading to numerous emergency provisions that created greater flexibility for healthcare providers. In the State of Alabama, COVID emergency flexibilities and calls for expanded nursing pathways from the State's hospital and nursing home associations led to the creation of a first of its kind RN Registered Apprenticeship.

In March of 2022, The Nurse Apprentice Act[13] went into effect in Alabama. The Act allows healthcare employers to enter into Registered Apprenticeships with Alabama community colleges and universities and directs the Alabama Board of Nursing to issue special permits to Student Nurse Apprentices participating in the approved programs. Apprentice Nurses holding a Permit are allowed to perform nursing functions consistent with their competencies of their clinical education while they participate in on the job learning associated with their Apprenticeship.[14] All approved functions allowed under the permit must still be performed under the supervision of the Apprentice's mentor and validated by the program's associated nursing program. The entire arrangement is regulated by the Alabama Board of Nursing and overseen by the Alabama Office of Apprenticeship.

In Alabama's program, Student Nurse Apprentices work approximately 24 hours a week; either as paid work hours, paid clinical hours, or a combination of both. During the rest of the week, they attend nursing school coursework that also counts as their Related Instruction. Costs associated with nursing school tuition are covered under a last-dollar arrangement which covers any cost to the student incurred after Title IV Federal Financial Aid programs, State of Alabama Aid programs, Workforce Innovation and Opportunity Act (WIOA) funding, and contributions from the employer have been applied. As Student Nurse Apprentices progress through their program, the Permit allows them to perform a wider range of skills consistent with the progression of their clinical education. Student Nurse Apprentices also receive comparatively progressive wage increases as the program and their level of competency progress.

Since rolling out the program in March 2022, the Alabama Office of Apprenticeship has registered seven Apprenticeship sponsors for Registered Nursing, all of which are higher education institutions serving multiple healthcare employers across the State. As of October 2022, the Alabama Board of Nursing reports 74 Student Nurse Apprentices with active Permits associated with the program.[15] That number is expected to increase as new Nurse Apprentices progress into clinicals and begin applying for Permitting. Fall 2022 will be the program's first academic term since the Permit went into effect and forthcoming data will help better demonstrate the impact that the Apprenticeship may have on retention, facility staffing, and NCLEX performance.

Even as a new program without longitudinal data, Alabama's Student Nurse Apprenticeship represents

[13] SB 179 / Act #2021-275. (2021). Alabama Secretary of State.
[14] Student Nurse Apprentice. (2022). Alabama Board of Nursing.
[15] License Lookup. (2022). Alabama Board of Nursing.

a significant achievement in broadening the utility of Registered Apprenticeship to the most in-demand healthcare occupations. The establishment of the Apprentice Permit by the Board of Nursing effectively institutionalized pandemic-period flexibilities that allowed nursing students to train in a clinical setting at the top of their scope of practice, while also receiving compensation and assistance with the costs of education. Currently in Maryland, earn-and-learn models of nursing education exist, particularly for associate's degree holding RNs who work as RNs while pursuing a BSN, or for RNs in training who work as LPNs or CNAs, but Alabama's model expands that structure by guaranteeing Apprentice Nurses paid clinical experience, a larger number of work hours in the facility, and OJL that more closely matches the clinical skills being instructed in nursing school.

It is important to note that Alabama's program, and Registered Apprenticeship degree programs overall, do not lower the admissions standards for nursing or other educational programs and do not circumvent licensure and examination. Work Process Schedules and the competency or time-based components of Registered Apprenticeship are instead a tool to structure OJL into a scheme that complements the Apprentice's instruction. Testimony provided to the Maryland Apprenticeships in Healthcare Workgroup by staff from the Alabama Office of Apprenticeship underlined how early employer feedback has praised the model for providing student nurses with more practical experience, beyond what is typically offered in clinical education alone.

While the program has many promising qualities and strengths that will be closely examined as more data become available, Registered Apprenticeship does not wholly resolve all of the issues associated with the nurse training pipeline. Specifically, subject matter experts from Maryland and representatives from Alabama's program agreed that the critical shortage of nurse preceptors and program capacity remains an issue. Registered Apprenticeship and the Alabama Student Nurse Permit are both predicated on the direct mentorship relationship as a means of training and validating competency. In a healthcare system with a deficit of qualified preceptors and faculty, Apprenticeship is not a solution to scale the number of nurses being trained without first scaling the capacity of nursing programs.

CASE STUDY C: NURSE DEGREE-APPRENTICESHIPS IN THE UNITED KINGDOM

In the United States, apprenticeship accounts for around 0.2 percent of the nation's workforce, while in the United Kingdom the share of apprentices is around 2.7 percent.[16] Apprenticeship in the United Kingdom is more widely adopted by various types of industries and occupations compared to the US and the public sector, in particular, has Government-issued mandates to employ apprentices. The UK Government has issued a goal that public sector bodies with more than 250 employees will employ a staff of at least 2.3 percent apprentices. As of the 2021-2022 academic year, the UK's public sector apprenticeship average was around 1.7 percent with the largest sector being the armed forces.[17]

Additionally, many apprenticeships in the UK, particularly in England, have been structured as degree apprenticeships which offer apprentices the opportunity to earn a bachelor's or master's degree as a result of Related Instruction. Of all UK apprentices starting during the 2021-2022 academic year, 13.1

[16] Apprenticeships and Labor Market Information: What Works. Monica Herk. Committee for Economic Development

[17] Apprenticeships and Traineeships. September 2022. United Kingdom Statistics Authority.

percent were enrolled in a degree apprenticeship. Degree apprenticeships arrange for all or the majority of the cost of an apprentice's tuition and fees to be covered by the employer, allowing the apprentice to develop vocational skills and earn a nearly free degree simultaneously.

During the 2021-2022 academic year 79,500 apprentices across the UK started apprenticeships in the health, public services, and care fields, representing 27.5 percent of all new apprentices for the period. More than 24,500 of these apprentices were employed by the National Health Service (NHS), the country's public healthcare provider. The NHS directly recruits apprentices into numerous apprenticeship programs which lead to careers in more than 350 occupations across the Service.[18] NHS apprentices can start as early as 16 years of age and typically spend 4 days on the job and 1 day attending an associated training center, school, college, or university. Examples of NHS apprenticeships include:

- Senior therapy support worker (level 3);
- Associate ambulance practitioner (level 4);
- Dental nursing (level 3);
- Informatics (levels 2 to 7);
- HR consultant (level 5);
- Healthcare science assistant, associate and practitioner (levels 2, 4 and 6 respectively);
- Maternity support worker (levels 2 and 3);
- Nursing associate apprenticeship (level 5);
- Registered nursing degree apprenticeship (level 6);
- Operating department practice degree apprenticeship (level 6);
- Pharmacy services assistant (level 2); and,
- Podiatry degree apprenticeship (level 6).

Nursing associate apprenticeships and Registered Nursing degree apprenticeships in the UK are roughly equivalent to Registered Apprenticeship programs examined elsewhere in this report. As of July 2021, 13,711 nursing associate apprentices and 4,503 nursing degree apprentices began training in the UK.[19] This gain is attributed to recent UK Government efforts to quickly expand the number of nurses trained via apprenticeship. Beginning in 2020, the Government authorized £172 million for the expense of training up to 2,000 new nurse degree apprentices per year - effectively doubling the NHS capacity to train nurse degree apprentices.[20]

Nursing degree apprenticeships in the UK prepare apprentices to become Registered Nurses, earning all of the certifications required by the Nursing and Midwifery Council (NMC). Programs typically last four years and are offered in association with a nursing school, college, or university approved by the NMC. Completed apprentices earn a *level 6* credential, equivalent to a US bachelor's degree. Funding provided through the UK's Apprenticeship Levy or other trusts and funds established by the Government helps employers support the cost of training apprentices, but the program and associated education are provided at no cost to the apprentice.

[18] NHS Apprenticeships. (2022). National Health Service.
[19] How many nursing apprenticeships are being undertaken?. (2022). Nuffield Trust.
[20] New funding to double nursing apprentices and help deliver 50,000 more nurses. (2020). Department of Health and Social Care.

While the UK's nurse degree apprentices significantly outnumber American Registered Nurse Apprentices, particularly at the RN level, the advent of nurse degree apprenticeship and the growth of the NHS' apprenticeships in particular are relatively recent. As the House of Commons Education Committee noted in 2018, the UK Government first announced the creation of nurse degree apprenticeships in 2016, with the first apprentices beginning in 2017.[21] The creation of nurse degree apprenticeships came during a period of declining nursing school applications that followed the UK's move from a *bursary* (scholarship/grant) based system to a loan based system.[22] The ending of the bursary meant higher education costs for nursing students, a factor which appeared to be a significant deterrent for many who were interested in pursuing nursing. The barrier effect was most pronounced among *mature* (nontraditional) nursing students, as the UK saw the greatest decline in applications from this population, thus slowing their entry into the field of nursing.

By February 2021, the UK's Universities and Colleges Admissions Service (UCAS) reported that nursing program applications were up by 32 percent from 2020 – including record breaking increases in some populations including mature students.[23] This rise, while bolstered by COVID-19 impacts, came as a reversal of the decline in applications reported just four years earlier by the UCAS. The rise in applications also coincided with the increased funding for nurse degree apprenticeships that began in 2020, rising NHS apprenticeship starts, and the 2,000 additional degree nurse apprentices that entered programs in the 2020-2021 academic year.[24]

Nursing degree apprenticeships, while relatively new and initially slow to roll out across the NHS, are shaping up to be a significant tool for broadening access to the nursing profession without compromising the standards of training that are needed to ensure patient and provider safety. Initial evidence seems to support that degree apprenticeships may be contributing to improvement in some of the UK's nurse training challenges and a significant part of their growth seems to be driven by the Government's public sector apprenticeship mandates, the utility of apprenticeship within the NHS, and expanding funding for degree apprentices.

SECTION VI: POTENTIAL MODELS FOR HEALTHCARE APPRENTICESHIP IN MARYLAND

MODEL A: UTILIZE INDUSTRY BEST PRACTICES AND EXISTING PROGRAMS TO GROW HEALTHCARE APPRENTICESHIP

Figure 7 presents active Registered Apprentices in Maryland across healthcare, direct care, and

[21] Nursing Degree Apprenticeships: in Poor Health?. (2018). House of Commons Education Committee

[22] Nursing Deadline Applicant Statistics. (2017). Universities and Colleges Admissions Service.
[23] 2021 Cycle Applicant Figures – January Equal Consideration Deadline. (2021). Universities and Colleges Admissions Service.
[24] The Latest NHS Apprenticeship Statistics. (2022). NHS Employers.

other occupations associated with healthcare and public health service delivery. As of October 2022, the 117 active Registered Apprentices in these occupations made up just 0.96 percent of all active Apprentices in the state. If Registered Apprenticeship is to be pursued as a model for training workers in healthcare, one of the most direct implementations is to scale existing programs using best practices from the industries which dominate Registered Apprenticeship.

Figure 7 - Healthcare, Direct Care, Support, and Public Health Occupation Apprentices in Maryland (Active Registered Apprentices as of October, 2022)

Healthcare/Direct Care/Support Occupations	Number of Active Registered Apprentices
Alcohol And Drug Trainee	16
Biological Technician	3
Central Sterile Processing	4
Community Health Worker	16
Medical Assistant	20
Patient Care Technician	38
Pharmacy Technician	5
Practical Nurse	8
Surgical Technologist	7
Total	117
All Occupations	12,155

Source: Maryland Apprenticeship and Training Program

Healthcare is often considered 'non-traditional' for Registered Apprenticeship because Apprenticeship is so concentrated in the building trades; electricians alone account for about a third of active Registrations in Maryland. Electricians and many of the other prolific building trades have developed strong, effective, and long running institutions which sponsor Registered Apprenticeship programs capable of enrolling thousands of Apprentices. Many of these programs are structured as Joint Apprenticeship and Training Committees (JATC), organizations which include unions, employee associations, employers, and training providers.

JATCs create pools of shared resources which support the costs of Registered Apprenticeship, even enabling many sponsors to develop their own specialized in-house training centers solely for Apprenticeship. Additionally, by integrating organized labor, employers, training providers, and technical assistance from MD Labor into one organization, JATC sponsors create partnerships that share both the accountability and benefits associated with Apprenticeship.

All of the currently apprenticed healthcare occupations identified in Figure 7 are occupations which also do not require a degree for licensure or certification. All but practical nursing have currently approved training providers in Maryland who are employers, organizations, and stand alone programs outside of higher education. These certification and regulatory conditions closely align with those in the building trades and should inform healthcare employers, labor unions, and

training providers to pursue a committee model for Apprentice training for vocational healthcare occupations.

Some healthcare entities, such as BACH and the 1199 SEIU are already leveraging Apprenticeship, a labor-management committee structure, or some combination of the two to facilitate healthcare training in Maryland. These models could be readily adapted and copied to establish sponsor organizations that include a greater number of community colleges, private training providers, and employer-based in house trainings across the state. Robust community college involvement with Apprenticeship committees will be an imperative to expand Apprenticeship, specifically if practical nursing and RN occupations are expected to leverage Apprenticeship.

Another area where the building trades have excelled is in engagement of high school apprentices. AMP, Maryland's Youth Apprenticeship program, is similarly dominated by the building trades with many sponsors quickly integrating with high school based CTE programs. Several local school districts across Maryland have or previously had MDH approval to train CNAs and high school based LPN training programs also existed. Organizations and employers who are considering or already sponsor Registered Apprenticeships for healthcare professions could leverage CTE-based programs in local high schools to quickly scale their programs.Additionally sponsors interested in LPN Apprenticeships could support the revitalization of LPN education through school based CTE.

MODEL B: DEVELOP DEGREE REGISTERED APPRENTICESHIP PROGRAMS IN HEALTHCARE

While scaling the existing apprenticeable occupations is the most direct path to implementing Registered Apprenticeship in healthcare and direct care, higher education will have to become a larger system partner if Registered Apprenticeship is to be seen as a tool for healthcare workforce preparation. As demonstrated elsewhere in this report, professional nurses and clinicians with advanced and highly specialized skills are the largest part of the healthcare system, and at least in the public sector, account for some of the most persistently vacant positions. Apprenticeship may widen the professional pipeline, but doing so will mean organizing degree apprenticeship programs that are currently beyond the scope of programs offered in Maryland.

Clinical education and earn-and-learn models are the two connection points between Apprenticeship and higher education based nursing programs. Clinical education, whether associated with a CNA, LPN, or RN program, bears similarity to the OJL component of Apprenticeship. In Alabama's model, Student Nurse Apprentices are engaging in both clinicals and OJL and being paid for both. Creating parity between clinicals and OJL in terms of wages creates an opportunity for Nurse Apprentices to gain financial stability and assistance with education costs, while adding additional practical experience in the clinical setting. The groundwork for nursing degree Apprenticeships in Maryland likely lies in the question of scope of practice for student nurses and what functions they will be permitted to perform as an employee learning on the job.

Where the path forward is more clear is in consideration of the population of student nurses who have earned an RN through an associate's degree program and are now pursuing a BSN while working as an RN. This situation is part of the pre-existing laddering of nursing careers and it introduces an earn-and-learn opportunity for student nurses, while also resolving the question of scope of practice. A natural implementation point for degree Apprenticeship might be among this population, which includes the more than 1,200 associate's degree nurses who pass the NCLEX-RN in Maryland in a given year and the incumbent RNs looking to advance in the field.

Creating Registered Apprenticeships at the RN-BSN bridge is not intended to supplant higher education based RN-BSN program, of which there are several across the state. Instead, implementing Apprenticeship at this stage would leverage sponsorship to formalize relationships between education institutions, employers, and labor unions, creating more resources for the training of BSN nurses. As seen in the UK case study, degree apprenticeships lower education costs for the apprentice and Maryland could readily follow Alabama's last-dollar model to create funding schemes that help employers ensure that their Apprentice Nurses' expenses are met. By using Apprenticeship to lower the cost barrier for working nurses, the model could potentially broaden and diversify the pool of candidates pursuing the advanced degrees required by the most in-demand nursing functions.

Deciding how and if Apprenticeship should be integrated into the training of first time RNs will necessitate further conversation about how to fairly and safely reconcile the nursing student scope of practice with the demands of OJL. However, some real world insight into that process can be found in the healthcare occupational credentialing flexibilities that were granted under Governor Hogan's emergency orders during the COVID-19 pandemic.[25] If Maryland were to follow Alabama's model and codify different standards for student nurse apprentices, the structure could presumably be extended to other professionalized behavioral and allied health roles in the future.

MODEL C: CULTIVATE APPRENTICESHIP WITHIN THE MARYLAND DEPARTMENT OF HEALTH

While there are significant differences between how healthcare operates in the United States compared to the United Kingdom, the involvement of the NHS in apprenticeship does offer some potential insights into how Maryland might foster Registered Apprenticeship in public sector healthcare. Much like the NHS, MDH is a large employer with hundreds of unique and highly specialized occupations. The NHS, with significant support from the UK Government, serves as an apprenticeship sponsor and actively promotes apprenticeship as a career entry point for the more then 350 career paths across the Service. The NHS is able to engage apprentices as young as 16 years old and uses apprenticeship as a means to train and upgrade incumbent staff through degree programs.

The MDH has an extensive reach across the state with facilities and Local Health Departments

[25] Order by the Governor of the State of Maryland, Relating to Various Health Care Matters. (March 16, 2020). State of Maryland Executive Department.

operating in all 24 of Maryland's jurisdictions. Were MDH to serve as a Registered Apprenticeship sponsor and employer, the Department could play a crucial role in rolling out some of the models put forth elsewhere in this section. For example, a community college, a local school district, local chapters of healthcare employee unions, and a Local Health Department, overeen by MDH, could join together to jointly sponsor an Apprenticeship program that covers several occupations for a specific Local Health Department. As a center point for this kind of JATC-style system, MDH would serve as the employer and be able to offer technical assistance, regulatory oversight, and guidance specific to the local community's health and employment needs.

Within MDH's OHPI there is already an Office of Workforce Development that is responsible for overseeing several training and incentive initiatives for healthcare providers across the state. Further, OHPI has experience administering Local Health Department formula funding, rural health programs, and school based health initiatives. OHPI and their Office of Workforce Development might be natural connection points where the State can direct resources to grow an Apprenticeship advisory body within MDH. Should Maryland see significant growth in healthcare Apprenticeships in the coming years, the increasing number and complexity of sponsor arrangements would further inform the development of an MDH-based body for mediating, promoting, and overseeing healthcare industry Apprenticeships.

If MDH were as well supported as the NHS is in the UK, and Apprenticeship was similarly understood by health professionals to be an effective tool for meeting organizational staffing goals in the public sector, then centering the coordination of Maryland's healthcare Apprenticeships on MDH, with MD Labor's assistance, could prove to be a powerful long-term model for ensuring quality, continuity, and a diversity of occupations in Registered Apprenticeship. A full understanding of this alternative and the potential implementation work required will likely be based on outcomes for this Workgroup and others that are examining the state of Maryland's public sector healthcare workforce.

SECTION VII: WORKGROUP OUTLOOK

Since convening in August 2022, the Maryland Apprenticeships in Healthcare Workgroup has covered significant ground in examining the State's public sector workforce challenges. Healthcare, direct care, behavioral health, and the many support positions that make the entire system possible remain some of the most vital and high demand occupations in the state. While Registered Apprenticeship is a promising model that offers the sector new opportunities to reach and train a greater number of professionals, determining how it can best be implemented will remain a question of continued collaboration and innovation.

The Maryland Department of Labor offers findings and recommendations in this report while acknowledging that there are many unanswered questions and points of decision that will be priorities for future Workgroup sessions. The following are some priorities and next steps identified by the Workgroup and the Department:

- DWDAL will work to roll out funding programs that support recommendations put forth in this report;
- The Workgroup will pursue broader participation from a greater number of labor unions and employee groups representing healthcare workers in Maryland;
- The Workgroup will devote future sessions and additional consideration to the behavioral health professions and their unique training needs;
- The Workgroup will devote future sessions and additional consideration to other occupations including physician assistant, medical assistant, and other allied health professions;
- The Workgroup will devote future sessions and additional consideration to the shortage of healthcare professional training preceptors; and
- The Workgroup will devote future sessions to examining how social, economic, and environmental barriers limit the training, hiring, and retention of healthcare professionals and support staff.

The Maryland Apprenticeship in Healthcare Workgroup convened for its last 2022 session on November 14, 2022 to finalize edits and comments to this report. Following a recess for the remainder of 2022, the Workgroup will reconvene in 2023. A 2023 meeting schedule has not yet been finalized and members are discussing potential agenda items for future sessions. If MD Labor begins to work directly with healthcare agencies to plan and establish new Registered Apprenticeship programs or funding initiatives to support new programs, it is likely that this Workgroup will split into small subgroups focused on more specific priorities. An update on all 2023 Workgroup progress will be submitted to the Chairmen in a final report by June 30, 2023.