



Chicago Healthcare Career Pathways for Veterans

December 2018



About the Project Team



In its 45-year history, CAEL has partnered with economic development, industry, education, training, government, non-profits, philanthropy, community and labor organizations to remove barriers to lifelong learning and enhance personal, regional and national prosperity. In the last five years alone, CAEL has supported workforce and lifelong learning initiatives for more than 150 communities in 43 states to engage a wider range of community members and non-traditional learners in learning that is aligned with current, projected and desired growth in jobs, careers and target industries, simultaneously supporting both personal growth and regional economic success.



Established in 2003, Solutions for Information Design, LLC (SOLID) helps organizations manage one of their most important assets – information. SOLID is founded on the concept that effective collection, analysis, and dissemination of relevant information are key components of organizational success. SOLID provides social science research and analysis to support public policy decision making as well as web design and development support. Their expertise is in the analysis of education, training, and employment opportunities of current and former military personnel. SOLID has done work in this area for multiple federal clients including the U.S. Departments of Defense, Labor, Transportation, Army, Navy, Air Force, and Marine Corps.

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Executive Summary

Background

The Council for Adult and Experiential Learning (CAEL), in collaboration with Solutions for Information Design (SOLID), was engaged by the Michael Reese Health Trust (Michael Reese) to conduct research to identify and map career opportunities and pathways within the healthcare sector for Chicago area veterans. This project was developed in conjunction with the Chicagoland Healthcare Workforce Collaborative (CHWC) and builds on CAEL's prior work focused on veteran employment and on career pathway development.

This project presents a set of annotated career pathway maps and occupational profiles, and a series of "crosswalk" tables that show the linkages between skills, training, and credentials of those in healthcare-focused military occupations and in-demand civilian occupations within the healthcare industry. The documentation of industry career pathways can be utilized by job-seeking veterans, student veterans, and veterans with military healthcare experience who are interested in understanding career opportunities within the healthcare sector, healthcare employers considering employing veterans, and by education and training providers, career counselors and others who influence career and education decision making by veterans.

Career Pathways

Career Pathways are guides that workers can follow in pursuing and advancing in their careers and that businesses can use in their recruiting, advancement, and human resources efforts. Workers do not simply secure a job and remain in that job for their entire career, and businesses, industry, and educational institutions all need clear guides to the steps workers can take to build their experience and credential attainment.

Project Summary and Process

CAEL's team developed a multi-phase project focused on three main components:

Explore

Identify and map career opportunities and pathways for Chicago veterans within the healthcare sector through labor market research, focus groups, and interviews with human resources leaders and supervisors throughout the Chicago area healthcare industry. CAEL began its work by leveraging prior healthcare sector occupational mapping to identify and organize career families and occupations for veterans within the Chicago healthcare industry. CAEL validated these through interviews and focus groups of healthcare industry leadership drawn from members of the CHWC and other institutions.

Through the focus groups and interviews, CAEL:

- Secured feedback on alignment between industry demand and labor supply.
- Validated the preliminary career pathways and occupational descriptions.
- Gained insights on additional or alternative occupations and career pathways that should be targeted for workforce preparation and recruitment efforts.
- Gathered information on current initiatives and potential efforts to recruit, train, and hire veterans into the healthcare industry.

Create

Develop a set of Civilian Healthcare Career Pathways for use by workforce professionals, educators, and returning veterans, built as career maps showcasing six high-demand healthcare occupational areas and Occupational Profiles outlining the connection between military healthcare occupations and select civilian occupations. CAEL built an inventory of healthcare military occupational specialty codes (MOSs) that relate to career movement into and between target healthcare occupations and SOLID prepared crosswalks of the civilian skills to:

- Identify military occupations that are best suited for the designated healthcare occupations.
- Provide data on service members serving in and separating from these military occupations.
- Analyze gaps between military training and experience and related academic, credentialing, and employment requirements for the targeted occupations.

Guide

Provide guidance for using and sharing these Career Pathways and Occupational Profiles as well as present findings and recommendations for the field. CAEL has identified key stakeholders and made initial recommendations for methods of disseminating and using this material to benefit both veterans and healthcare institutions by linking this highly qualified pool of workers to the institutions that need their service. The Considerations section at the end of this report includes a description of key stakeholders and potential future actions.

Key Insights from Focus Groups

In addition to input on the actual Career Pathways that follow, the healthcare industry representatives provided valuable perspectives regarding the skill, credential, and experiential needs in the healthcare industry as well as current gaps, future expectations and insights regarding how veterans can form a critical component of the healthcare workforce. Insights include:

- 1) **Critical Occupational Needs and Shortages in Chicago:** Registered Nurses, Certified Nurse Assistants (CNAs), Medical Assistants, and Radiologic Technicians and other laboratory technologists (especially the specializations noted above) are the most critical occupations that are always in demand and always experiencing shortages in the Chicago area.
- 2) **Long-Term Skill Needs:** Technology skills will be the most dramatic need in the upcoming five years. Workers will need to interface with new technologies, engage across multiple platforms, and manage interoperability across diagnostic, analytical, data and clinical equipment, hardware and software. There will be increased need for technician/technologist occupations and other laboratory skills. Longer lifespans and an aging population will make jobs and functions like Pharmacy Technologist, Occupational and Physical Therapists and Aides, and workers in a range of preventative medicine functions ever more in demand.
- 3) **Skill, Qualification, and Credential Needs and Gaps:** There is continued need for:
 - Workplace skills such as ability to work in teams, collaborate, and maintain “emotional intelligence” and “bedside manner.”
 - Critical thinking, analytical, and problem-solving skills.
 - Customer service skills, time management and project management.
 - Management skills.
 - The ability to work in an intensive environment with a heavy workload.
- 4) **Perception of Value Proposition for Hiring Veterans:** Employers observe that veterans, in general, possess a strong ability to work in teams, follow workplace rules, maintain positive energy, work with technology and are well suited to direct patient care settings and any situation that presents high pressure or a busy workplace. In some cases, this perception of value translates to a priority status for veteran candidates, but more often is subject to the individual hiring manager’s assessment.
- 5) **Observations on Veteran Recruiting Activities:** Most institutions report that they have engaged with the Veterans Administration (VA) in some way to recruit candidates and learn about the pool of candidates coming out of the military, but much more work is needed to fully tap this pool.

Report Products

The remainder of the report includes two products: Healthcare Career Pathways and Veteran Career Crosswalks. Each are produced in easy-to-use, graphic products that can be used in a variety of settings. They can be placed online as well for use by veterans, healthcare institutions, educators, and others engaged in supporting veterans' transitions into civilian employment.

Opportunities in Healthcare: Chicago Career Pathways

- 1) Introduction to the Career Family: A snapshot of the occupations and the skills, activities, and work environments associated with the career family outlined.
- 2) Potential Career Pathways: Select entry points and advancement opportunities within the pathway.
- 3) Occupation Summary: An Overview of the occupation and a description of its duties, education and credential requirements, wages estimates, and skills in demand.

Veteran Career Crosswalks

- 1) Introduction and Occupation Summary: A summary of the civilian occupation.
- 2) Potential Military Trained Job Candidates: The volume and nature of service members with healthcare experience related to that civilian occupation. These are the major military occupational areas that serve as preparation for entry into the occupational area.
- 3) Comparison of Civilian and Military Training/Education Curricula: A comparison of the typical training and education components for the civilian occupation and the military training and experience.
- 4) Comparison of Civilian and Military Job Duties: A comparison of the typical job duties performed by the civilian occupation and the military occupations.
- 5) Ability to Meet Illinois Job Requirements: A review of relevant job requirements in the state of Illinois and if/how military experience meets those requirements.

Considerations

CAEL has identified the following considerations for further supporting the work of connecting veterans and healthcare industry institutions.

Stakeholders

To capitalize on the insights presented here and the broader knowledge available based on this work, the following stakeholders should be engaged in support of veteran transitions into the healthcare industry:

- Healthcare industry employers of all sizes.
- Education and training providers.
- National Certification Entities and State Licensing Agencies.
- Policymakers and government.
- Workforce Development System entities including Workforce Investment Boards, the Veterans Administration, and non-profit and community-based organizations that serve veteran job-seekers.

High-Level Recommendations

- **Stakeholder Engagement:** The information in this study is relevant to all of the stakeholders listed above. Efforts should focus on facilitating collaboration to expand access to this and broader levels of information and build on these career pathways on behalf of veterans and other workers.
- **Credit for Prior Learning:** Work should be done to investigate and promote methods for employers, colleges, and credentialing entities to maximize credit for military training and experience. Better aligning the military and civilian skills and credentials outlined in the pathways and the crosswalk material can speed the process of veterans' successful entry into the civilian workforce, and save time and money for those veterans, their families, and the healthcare industry.
- **Support Veterans:** Veteran serving organizations including the workforce development system and other public and private support agencies must provide career awareness and advising to veterans, including content on how to consider available career opportunities and pathways, understand the connections to their prior experience, and access to training and employment opportunities.

CHICAGO HEALTHCARE CAREER PATHWAYS FOR VETERANS

Introduction

Background

The Council for Adult and Experiential Learning (CAEL), in collaboration with Solutions for Information Design (SOLID), was engaged by the Michael Reese Health Trust (Michael Reese) to conduct research to identify and map career opportunities and pathways within the healthcare sector for Chicago area veterans. This project was developed in conjunction with the Chicagoland Healthcare Workforce Collaborative and builds on CAEL's prior work focused on veteran employment and on career pathway development.

Veterans, specifically, require a unique set of supports in helping transfer their knowledge and experience into the civilian workforce. Too often the experience they gain in the military does not clearly transfer into civilian employment and veterans fail to take full advantage of, and capitalize upon, the training they received while serving.

The goal of this project is to develop a set of annotated career pathway maps and occupational profiles, and a series of "crosswalk" tables that show the linkages between skills, training, and credentials of those in healthcare-focused military occupations and in-demand civilian occupations within the healthcare industry. The documentation of industry career pathways can be utilized by job-seeking veterans, student veterans, healthcare employers considering employing veterans, and veterans with military healthcare experience who are interested in understanding career opportunities within the healthcare sector; and by education and training providers, career counselors and others who influence career and education decision making by veterans.

Project Summary

With the aim of providing a tangible, usable resource for veterans, healthcare businesses, educational institutions and others who provide career development support for veterans and other workers, CAEL's team developed a multi-part project focused on three main components:

Explore: Identify and map career opportunities and pathways for Chicago veterans within the healthcare sector. CAEL and its partners utilized publicly available labor market information, primarily from the USDOL's O*NET system, to craft preliminary Career Pathway maps for analysis and consideration. We convened Focus Groups and conducted interviews with human resources leaders and supervisors from throughout the healthcare industry to validate those pathways and gain more insights on the needs in the industry, gaps in training and preparation and perspectives on how veterans can best access lucrative jobs in healthcare.

Create: CAEL used the information gathered to develop the Civilian Healthcare Career Pathways outlined in this paper and available separately for use by workforce professionals, educators and returning veterans. These are built as career maps showcasing six high-demand healthcare occupational areas the Chicago region and the specific high growth jobs within those areas. They include Occupational Profiles outlining the connection between military healthcare occupations and select civilian occupations.

Guide: Provide guidance for using and sharing Pathways and Profiles, share findings and recommendations for the field. CAEL has prepared the pathway maps and profiles and is in the process of supporting their dissemination across the Chicago healthcare industry community, to key education providers and workforce entities, and through the Veterans Administration and related veteran serving organizations. Broad distribution of these resources, training on their use, and further engagement through discussion groups and workshops for relevant workforce professionals will benefit both veterans and healthcare institutions by linking this highly qualified pool of workers to the institutions that need their service.

Project Process

Career Pathways

“Career Pathways” is a forward-looking concept in workforce development, growing out of a recognition that workers do not simply secure a job and remain in that job for an entire career, and that businesses, industry, educational institutions and workers all need clear guides to the steps workers can take to build their experience. It is critical to provide clear and detailed maps or “pathways” that workers can follow in pursuing and advancing in their careers and that businesses can use in their recruiting, advancement and human resources efforts.

Additionally, career pathways are important for educators and workforce development professionals to utilize in crafting training programs. “Career pathways programs provide post-secondary education and training that is organized as a series of manageable steps leading to successively higher credentials and employment opportunities in growing occupations.”¹

Within the healthcare industry, well-defined career pathways are used by all types of institutions to focus their own workforce planning, as part of their credentialing efforts that define lines of authority and responsibility, and most extensively in recruiting activities, where a clear pathway provides entry-level workers with an understanding of their future options within the institution.

Preliminary Career Pathway Development

CAEL began its work by leveraging prior healthcare sector occupational mapping to identify and organize career families and occupations for veterans within the Chicago healthcare industry. CAEL identified an initial set of four career families. During the early phase of research, an additional career family was identified. The final six career pathway families were:

- Medical Assistant
- Nursing Occupations
- Emergency Medical Technician (EMT)
- Community Health Worker
- Healthcare Information Technology
- Medical Laboratory Careers

Focus Groups and Interviews

Through a series of interviews and a focus group with Chicago healthcare organizations, CAEL validated the pathways and identified additional detail on the most critical industry needs and skill gaps in the healthcare industry. Outreach for potential interviewees or focus group attendees began with the membership of the Chicagoland Healthcare Workforce Collaborative (CHWC). Additional outreach was conducted by CAEL, the staff at the Collaborative at World Business Chicago and the Chicago Community Trust, and by the Michael Reese Health Trust (Michael Reese). The following summarizes the qualitative component of this report:

- One focus group with seven human resources leaders from major Chicago area healthcare institutions
- Seven individual phone interviews with human resources and related staff from Chicago healthcare institutions, with a total of nine staff members interviewed

¹ <http://www.career-pathways.org/about-career-pathways/>

The focus group and interviews included the following key content:

- Secured feedback on the current state of alignment between industry demand and labor supply.
- Reviewed the preliminary career pathways and occupational descriptions and validated that preliminary research, with the result of a modified set of pathways for further exploration and a more detailed set of job requirement descriptions. Content includes:
 - Job description / job environment
 - Average salary range
 - Required education or training for entry into the industry or position (including academic requirements, and/or industry certifications as appropriate to the occupation and the region)
 - Level of the position (i.e. entry, mid, high level)
 - Transferable technical skills (i.e. set of experiences, skills, competencies that complement requirements of the industry and position being researched)
 - Career progression (i.e. how someone working in one position may typically move to other positions through traditional and non-traditional career development. Where these movements might be upward vs. lateral)
- Gained insights on additional or alternative occupations and career pathways that should be targeted for workforce preparation and recruitment efforts.
- Gathered information on current initiatives and potential efforts to recruit, train, and hire veterans into the healthcare industry.

Career Pathway and Veteran Career Crosswalk Development

After developing the civilian occupation mapping, CAEL integrated an inventory of healthcare military occupational specialty codes (MOSs) that relate to career movement into and between target healthcare occupations. SOLID prepared crosswalks of the civilian skills to identify relevant military occupational categories. SOLID is widely recognized as the leading expert in analyzing military job duties, training, and experiences and translating them to civilian career pathways. SOLID has worked extensively with the Department of Defense and military branches, and IDVA data to overlay Illinois veteran MOS and other information onto the four target occupations.

Veterans and service members who wish to transition to the civilian workplace often have extensive training and experience in an occupational specialty. How prepared are these individuals to successfully move into a civilian healthcare job in Illinois? Do they have the experience, certification and/or license, and education that is required for civilian healthcare jobs in Illinois?

To answer these questions, select Air Force, Army and Navy healthcare occupations were analyzed against the following six civilian healthcare occupations in Illinois:

- Medical Assistant
- Licensed Practical Nurse (LPN)
- Emergency Medical Technician (EMT)
- Medical Records and Health Information Technician
- Laboratory Technician
- Radiologic Technologist

Military experience, training, and academic credit were analyzed against related civilian experience, credentialing, education and/or training, and employment requirements. Descriptions of the Air Force, Army, and Navy occupations and associated training used in the analysis are in Appendix A2. Coast Guard and Marine Corps occupations were not included in the analysis because Coast Guard data was not readily available, and the Marine Corps does not have healthcare occupations.

To analyze the relationship between the military occupations and the civilian occupations the following process was used (see Figure 1):

- Step 1: Military to Civilian Job Duties Analysis
- Step 2: Military to Civilian Training/Education Curricula Analysis
- Step 3: Military to Civilian Certification or Licensure Analysis
- Step 4: Military Credit to Academic Requirements Analysis

Step 1: Military to Civilian Job Duties Analysis

A comparison of the military occupations' duties and the civilian occupations' duties was completed using civilian occupation O*NET Detailed Work Activities (DWAs). O*NET, the U.S. Department of Labor's Occupational Information Network, describes DWAs as simple work activity statements that help provide information on the types of tasks typically required in an occupation.

Step 2: Military to Civilian Training/Education Curricula Analysis

The topics covered in the military occupations' training were compared against civilian occupation education or training program subject areas using military occupation course curricula/training materials and education or training program curricula for the given civilian occupation.

Step 3: Military to Civilian Certification or Licensure Analysis

The topics covered in the military occupations' training were compared to relevant civilian certification or license exam domains. When a military occupation's training was found to cover 80 percent or more of a certification or license's exam domains the level of preparation an individual who completed the training would need to pass the exam was designated "low." When a military occupation's training was found to cover between 50 and 79 percent of a certification or license's exam domains the level of preparation required to pass the exam was designated "moderate." The level of exam preparation was designated "high" when less than 50 percent of a certification or license's exam domains were covered by a military occupation's training.

Step 4: Military Credit to Academic Requirements Analysis

Community College of the Air Force (CCAF) credit and American Council on Education (ACE) credit recommendations for Army and Navy experience were analyzed against typical academic requirements for the civilian occupations. Enlisted service members in the Air Force are awarded college credit for their military training because it is offered as part of the regionally accredited CCAF. ACE collaborates with the U.S. Department of Defense (DoD) to review military training and experience and recommend appropriate college credit for service members in the Army, Marine Corps, Navy, and Coast Guard.

Figure 1. Data Analysis for Military to Civilian Crosswalks

Steps	Type of Data Analyzed		Description
	Military Occupation	Civilian Occupation	
1	Military Occupation Job Duties	Civilian Occupation O*NET Detailed Work Activities (DWAs)	Military to Civilian Job Duties Analysis - Comparison of military occupation job duties against civilian occupation O*NET DWAs
2	Military Occupation Course Curricula/Training Materials	Civilian Occupation Education/Training Curricula	Military to Civilian Education/Training Curricula Analysis - Comparison of military occupation training topics against civilian occupation education/training subject areas
3	Military Occupation Course Curricula/Training Materials	Civilian Occupation Certification or Licensure Exam Domains	Military to Civilian Certification or Licensure Analysis - Comparison of military occupation training topics against civilian occupation certification or licensure exam domains
4	American Council on Education (ACE) credit recommendations and Community College of the Air Force (CCAF) awarded credit	Civilian Occupation Academic Program Requirements	Military Credit to Academic Requirements Analysis - Comparison of ACE credit recommendations for military experience (Army and Navy) and CCAF awarded credit (Air Force) against typical academic requirements (certificate or degree) for a given civilian occupation

Analysis Notes

When determining how prepared individuals are to successfully move into a civilian healthcare job in Illinois it is important to note that rarely will there be an exact match between the military occupation and the civilian occupation. This is not unlike what an employer might find when hiring someone whose experience is in the civilian sector. Rarely will there be an exact match between the previous job the person held and the one for which he/she is applying. In addition, many military trained job applicants have had years of hands-on experience and can be readily trained in job duties they haven’t performed.

Military training was analyzed against certification and/or license exam domains to determine how well the training prepares an individual to pass the exam, however, it is important to recognize that formal training is just one method of gaining the knowledge required to pass a credential exam. Other factors that might impact an individual’s success in passing an exam can include prior service education, training, and experience; military voluntary education (e.g., coursework, degrees); and on-the-job training and experience. Academic or employer-developed bridge training programs can also help military trained applicants fill training gaps.

Many military occupations yield ACE recommended credit or earn CCAF credit that is potentially applicable to an education program. It is important to keep in mind that each academic institution determines its own policies regarding the transfer and award of credit and as a result, an individual’s transfer credit award will vary by academic institution.

Civilian Career Pathways

Insights from Focus Groups and Interviews²

The focus group and interviews that CAEL conducted with Chicago area healthcare institution management and human resources leadership provided significant insights, and the sixteen (16) people engaged provided excellent feedback and engaged in a vibrant discussion on a number of key topics. Below are the results of the focus group and interview discussions regarding the skill, credential, and experiential needs in the healthcare industry, current gaps, future expectations, and insights regarding how veterans can form a critical component of the healthcare workforce.

Healthcare Career Pathways

Direct Patient Care: Medical Assistant Pathway

These positions are very in-demand and are generally a step from some patient care representative positions and other occupations. Employers observe a small but significant amount of transition from Medical Assistant (MA) position to other occupations such as radiologic technician/technologist as the pathway proposed. Most employers saw this position as also fitting relatively neatly along a pathway from Certified Nursing Assistant (CNA) and on toward higher-level nursing careers. Many Medical Assistants come initially from a clinical background and seek this position when they are looking to increase their wages. Another position in outpatient settings which is not clearly delineated in our pathways and is not yet appearing on Department of Labor job titles is a “clinical coordinator” or “practice manager” role. This is more of a front-desk position but not a purely administrative function and works to help coordinate the various activities of the clinical staff, patient needs, and resource allocation. Several of the employers observed that this is a growing role but is just recently coming into prevalence.

Direct Patient Care: Nursing Pathway

This is the most in-demand occupational pathway and one of the most critical to the success of healthcare institutions. While none of the hospitals report productivity reductions, all point out that there is always a constant need and shortages and that there are hundreds of open positions for nurses across the region. The main path from lower-level patient care positions such as medical assistants or CNA to Licensed Practical Nurses (LPN) to Registered Nurses (RNs) and upward to more advanced Bachelors’ level or higher direct patient care occupations.

Of most note, the large teaching hospitals and major hospital networks report a “hollowing out” of the middle level positions with a phasing out of the LPN role (and to some degree the CNA role) for the lower-level positions of Medical Assistant and, on the other end, more functions requiring Bachelors-level nurses. CNAs or MAs can “do most of the LPN work” and generally receive lower wages than LPNs, and nurses are being expected to “work down” a bit as well. Several of the major hospitals report that acuity is higher (individuals come to institutions with more severe chronic issues) so there is more need for more of the highly skilled nurses.

Some employers report that the CNA credential may also become less marketable. The newer position of Patient Care Technician (PCT) includes training programs that blend the CNA credential with EKG and Phlebotomy training. Malcolm X College, Chicago’s healthcare-focused community college, has, for instance, only been offering this training and credential for about three years. This training results in a worker who can fill more roles within the patient care situation (in both in-patient and out-patient settings), and this “stackable” set of credentials is becoming much more in-demand. Smaller institutions report that they will continue to utilize CNAs and LPNs because they do not always have the intensity of patient health problems to require RNs for all functions.

Finally, it is important to note that RNs remain in the most significant demand across the entire industry. RNs make up as much as one-third of the workforce in some institutions, and within that position there are multiple levels, usually identified by individual hospital networks or accrediting bodies. These levels, and specialization into

² “Employer” will be used throughout to refer both to participants in the focus group and those interviewed separately.

particular fields of medicine (nurses specializing in inpatient, oncology, cardiology, or gynecology for instance) create a more extensive internal pathway than we have represented.

Emergency Medical Service Pathway

Many employers, particularly the municipal fire/rescue HR representatives interviewed report that this is an excellent pathway for returning veterans as it is straightforward and easy to access with a relatively brief training and certification test on which veterans can often gain bonus points for veteran status. EMTs are employed by major and smaller healthcare institutions to a small degree, but many report outsourcing this work. Employment is primarily within a separate portion of the industry—municipal fire departments and private ambulance companies. Because of this, there appears to be less transition from some of the other healthcare industry occupations to and from the EMT and Paramedic pathway. In fact, more often Paramedics will move upward within the fire department to become a full firefighter, rather than shifting into a nursing or other pathway. When it does happen, those workers generally must still secure additional training or credentials. The EMT Intermediate position is also being phased out in most larger systems, with workers being either an EMT or Paramedic, similar to the nursing pathway gap noted above.

Community Health Pathway

Almost all of the discussions touched only briefly on the Community Health Worker occupational area. The Affordable Care Act (ACA) put in place the demand for this more unique position that exists at the nexus between public health, clinical support, and social services, however institutions are only beginning to fully utilize it. One institution reported that the CHW works as part of the “triad,” of patient care alongside nurses and social workers, particularly for out-patient situations and when patients are being released from the hospital. The CHW works on things like healthy eating and behaviors, maintaining access to healthcare and understanding their care. The major institutions are recognizing a more holistic situation at all levels. For instance, no longer is it just a physician coming to the room to visit their patient, but often a psychologist rounds with the doctors to address mental health situations upfront. Those skillsets are underlining the same growing need for CHW positions and those programs are going to increase significantly within the next five years.

Health Information Technology Pathway

All institutions report a continued growing need and specialization within the Health IT area. Particularly because of the growth in electronic medical records and continued interoperability between machines and data systems, there are more levels of work, more workers needed generally, and more specialization required. Medical billers and coders, along with entry-level data entry and data analysts serve as the base of the pathway, with advancement resulting primarily from learning new technologies and/or new software. Pathways often remain relatively static within billing or coding or other areas, with smaller specializations related to support of the many monitors, scanners and equipment within the healthcare setting. Information Technology that is not health information related, but critical to the healthcare industry, include IT occupations such as network engineers, information technology support, and cybersecurity. This adjacent, but separate, technology pathway is reported to be growing as well, but determined to be outside the scope of this analysis.

Medical and Laboratory Technology Pathway

All employers report a significant need for a range of technicians such as X-Ray technician and other imaging technicians. The employers noted that the entry-level laboratory technology positions in the career pathway are resulting in a newly identified position in many hospitals or clinics, the “Diagnostic Service Technician.” Somewhat the equivalent, in lab setting, to the CNA in the clinical situation, this is the group of workers who perform the lower-level operation of these specialized machines. They may often move up to become phlebotomists or radiologic technicians and then technologists. There is significant internal pathway development where the worker begins to work within a given type of technology (histotechnologists focusing on tissues, cytotechnologists working with cellular analysis, and a long list discussed in our focus group of distinct radiologic technician specialties mirroring medical specialties generally) and advances within that specialty. The need for some of these specialties can be severe, as there are few workers trained to operate MRI machines, so when one worker retires or moves on, there can be an acute need at a given institution. These specialists, even at lower- or middle-skill levels, are “always employed” and in demand.

Critical Occupational Needs and Shortages in Chicago

Registered Nurses, Certified Nurse Assistants (CNAs), Medical Assistants and Radiologic Technicians and other laboratory technologists (especially the specializations noted above) are the most critical occupations that are always in demand and always experiencing shortages in the Chicago area.

All employers reported significant shortages for all these positions, constant competition with one another and extensive recruiting and training efforts underway and planned to work to improve the labor pool in all these areas.

Long-Term Skill Needs

All employers reported that technology skills will be the most dramatic need in five years, including high levels of demand for all workers to interface with new technologies, engage across multiple platforms, and manage interoperability across diagnostic, analytical, data and clinical equipment, hardware and software. They report a need to identify candidates that are able to “evolve with technology” and learn new skills readily.

Intensive functions that used to be found only in in-patient hospital settings will continue to grow in prevalence in outpatient clinics and sites, resulting in increased need for some of the technician/technologist occupations and other laboratory fields in particular. Reports one employer, “A lot of our hospital systems are taking our work into the community, and I could foresee growth in offshoots and new functions that are focused in outpatient care settings.” With longer lifespans and an aging population, jobs and functions like Pharmacy Technologist, Respiratory Therapist, Occupational and Physical Therapists and Aides, and workers in a range of preventative medicine functions will be ever more in demand. As noted above, the Community Health Worker pathway will expand as these programs scale-up in the region and nationally.

Skill, Qualification, and Credential Needs and Gaps

Across the board, employers identified significant need (and parallel gaps in candidates and their current workforce) for workers with “soft” skills such as ability to work in teams, collaborate with one another, and maintain “emotional intelligence” and a strong “bedside manner,” understanding, patience and empathy not only for their patients but with team members and colleagues.

Critical thinking and analytical skills are another major need, with the ability to solve problems effectively in a group setting and collaborate toward novel solutions a high priority. This has to do with the tangible work of assessing a patient’s situation or need, but also within more systemic and structural situations and decision-making moments. Related, several reported a need for workers who know when to ask for help, and fully understand their own limits and need for assistance in various situations.

Customer service skills remain important, with several of the hospital systems reporting that they have sought out expertise from the hotel and hospitality industry for how to improve the patient experience beyond the clinical aspect. Time management skills, project management and related skills are also important. Several employers reported a great need for workers with multiple language capabilities, particularly Spanish.

Management skills in general are a priority. All institutions have management training and on-boarding processes focused on the skillsets above. Many employers reported high turnover and rapid advancement of some workers into management positions, who were not always trained sufficiently or may not be ready for the expectations of leading teams.

Finally, the ability to work in an intensive environment with a heavy workload is paramount. All report that the hospital environment is an intense one with long hours, minimal breaks, and little downtime during shifts. Workers have to be ready to be “on the ball” their entire shift and ready for any eventuality.

Training Institutions and Recruiting Through Intermediaries

The institutions are generally pleased with the level of training that prepares candidates for positions in the targeted career pathways. Since most are City institutions, they focused their comments on City Colleges of Chicago rather than other institutions preparing workers for middle-skill positions. Reports one employer, “Malcolm X are really attuned to what’s going on and they talk to the hospital systems to align to the needs, curriculum-wise. They are at the table and work closely to tailor their programs” to industry need. Several employers reported their teams conduct line by line analysis of curriculum for key positions and serve actively on Malcolm X’s advisory council to inform the design of curriculum, externships and all aspects of worker preparation.

The institutions are positive about some of the strong intermediary partners such as Skills for Chicagoland’s Future and the Healthcare Sector Center, a center providing workforce services through Chicago’s public workforce system, the Chicago Cook Workforce Partnership. They depend on these entities to pre-screen candidates, help with facilitating training, and provide pre-employment “soft skills” preparation for candidates to improve the capability of the candidate pool in general.

Perception of Veteran Qualifications and Unique Value Proposition for Hiring Veterans

The employers report varying degrees of engagement with efforts targeting veterans, with some public institutions noting that they can give preference in hiring to veterans. While most institutions do not ask about veteran status in interviews, candidates will often volunteer information on their military background. All report that veterans, in general, possess stronger ability to work in teams, follow workplace rules, maintain a positive energy throughout the workday/week, and work with technology to greater degrees than the general applicant/worker population. Veterans have stronger social skills and “social awareness” and better ability to talk to people and understand others. Veterans are well suited to direct patient care settings and any situation that presents high pressure or a busy workplace. Their ability to maintain calm amidst these situations, make quick decisions and take ownership of a situation when needed is impressive in general, as is their ability to get along with a range of co-workers, supervisors and patients. On the other hand, some report that veterans may not do as well in routine technical or laboratory settings due to the nature of the environment. All of the institutions reported that veterans have a higher retention rate than the general employee and present fewer disciplinary or other problems. In some cases, this perception of value translates to a priority status for veteran candidates, but more often is subject to the individual hiring manager’s assessment

Observations on Veteran Recruiting Activities

Most institutions report that they have engaged with the Veterans Administration (VA) in some way to recruit candidates and learn about the pool of candidates coming out of the military. Several have had presentations from VA representatives about the very subject matter of this report - the transition from military to civilian workforce and the Military Occupational Specialty (MOS) descriptions that transition into targeted civilian occupations. One institution has engaged with SOLID on this work. Several institutions have hosted job fairs for returning veterans and most appear to have a “guaranteed first look” or other ability to consider veterans with some priority. As noted above, municipalities often award extra consideration for veterans during the hiring process

Additional Observations

The focus group attendees engaged in a vibrant discussion and had a number of additional observations:

- They admit engaging in “wage wars” across the institutions, trying to offer even as little as a quarter or dime higher salary in key positions to lure workers away from other institutions.
- All reflect on an ongoing and intensive process of recruiting and screening and hiring, which is constant with ongoing growth and high turnover in many positions. They continue to need help and support from education institutions and other workforce intermediaries.
- Several employers note that these pathways are relevant for larger teaching hospitals or major healthcare systems in a city setting but may not be as accurate for a smaller town or rural setting. In particular as noted above, several felt that the reduction in LPN and CNA positions or drop in “middle-level” positions, and the expanding need for highly-specialized technologists within the medical and laboratory technology fields is happening in their environments but not in more rural or smaller hospitals where the mid-level gradations are still common and there are simply fewer unique diagnostic machines in place.

Opportunities in Healthcare: Chicago Career Pathways

As described above, CAEL conducted extensive research using publicly available data sources such as the US Department of Labor’s O*NET occupational database and labor market data from federal and State sources and combined that with the insights from the Focus Groups and interviews. CAEL presented its preliminary “Pathway Maps” to the employers interviewed and engaged in the focus group, revised and improved upon them, and have developed the resulting list of six core “career families” or Healthcare Career Pathways.



Direct Patient Care: Nursing



Medical and Laboratory Technology



Direct Patient Care: Medical Assistant



Community Health



Emergency Medical Service



Health Information Technology

These pathways serve as commonly understood career ladders in which workers can traverse in their careers, beginning with entry-level or lower-skilled positions and leading toward higher-skilled, and higher-wage occupations. At each level, additional training and/or experience are required, and workers have additional responsibilities and demands upon them.

These pathways are not intended to be viewed as static or merely linear. Instead, workers move as through a “lattice” instead of a “ladder,” and there is often movement not only within one pathway but across pathways, when workers identify new options or consider branching in a new direction.

Each of the Career Pathways outlined in the attached Civilian Pathways includes the following key components:

- Introduction to the Career Family: A snapshot of the occupations and the skills, activities, and work environments associated with the career family outlined.
- Potential Career Pathways: A presentation of select entry points and advancement opportunities within the pathway.
- Occupation Summary: An overview of the occupation and a description of its duties, education and credential requirements, wages estimates, and skills in demand.

Veteran Career Crosswalks

Healthcare Occupational Areas

The following Air Force, Army and Navy healthcare occupations were identified for analysis against the following six civilian healthcare occupations in Illinois:



Licensed Practical Nurse (LPN)



Medical Assistant



Emergency Medical Technician (EMT)



Laboratory Technician



Radiologic Technologist



Medical Records and Health Information Technician

Occupational Profiles

Structure of the Occupational Profiles

The Veteran Crosswalk Occupational Profiles can be used separately or in conjunction with the Civilian Pathway materials presented earlier in this Report. The Occupational Profiles include five main elements.

- **Introduction and Occupation Summary:** The summary is presented again in light of the fact that these documents may be used for different purposes and different audiences, separate from the Civilian Pathways. It provides a summary of the civilian occupation including a job description and quick statistics.
- **Potential Military Trained Job Candidates:** A summary of the volume and nature of service members with healthcare experience related to that civilian occupation. These are the major military occupational areas that serve as preparation for entry into the entry-level of the occupational area. These stepping-off or access points provide veterans and those serving them with a basic guide. Unique situations of course exist, and higher-level military occupations are not generally presented here: Someone serving already as a higher-level technologist, nurse or even physician, for instance, will enter a pathway at a point beyond the entry-level.
- **Comparison of Civilian and Military Training/Education Curricula:** A comparison of the typical training and education components for the civilian occupation and the military training and experience. These provide veterans and workforce professionals a guide to how a veteran's training may be sufficient to meet industry standards without pursuing additional education or the extent to which a veteran may have training in topics typically covered by civilian education and training programs.
- **Comparison of Civilian and Military Job Duties:** A comparison of the typical job duties performed by the civilian occupation and the military occupations. Identifies the proportion overlap between duties performed by those with military healthcare experience and those required for success in the civilian occupations. These provide veterans and workforce professionals a guide to how a typical candidate can transition from military to civilian work and provide information on the additional training or preparation that may be required for a given occupation.
- **Ability to Meet Illinois Job Requirements:** A review of relevant job requirements in the state of Illinois and if/how military experience meets those requirements. These are likely similar in many other states but were customized for the particular Illinois audience for this project.

Occupation-Specific Findings and Profiles

Medical Assistant

Medical Assistants in Illinois are not required to be licensed or certified. However, many employers prefer certification and completion of an education or training (usually non-credit training) program at a minimum for hire (See Figure 2).

The following three military occupations were identified as being related to the Medical Assistant occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Medical Assistant positions in Illinois:

- **Air Force:** 4N0X1 Aerospace Medical Service
- **Army:** 68W Combat Medic Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

An analysis of the Air Force's Aerospace Medical Service (4N0X1) job duties and the Navy's Hospital Corpsman Basic (HM/0000) job duties against the Medical Assistant's O*NET Detailed Work Activities (DWAs) found that both military jobs perform 86 percent of the civilian job's O*NET DWAs. The Combat Medic Specialist (68W) was found to perform 62 percent of the Medical Assistant's job duties (See Appendix A2). Some of these gaps in job duties can be attributed to the Combat Medic Specialist's (68W) duties emphasizing trauma and emergency medical care in a combat environment with less focus on primary care or administrative duties.

Training for each of the three related military occupations was compared against a typical Medical Assistant education program curriculum (See Appendix A2). There are only a few gaps between the typical civilian Medical Assistant education curriculum and the military training curricula for the related military occupations. These gaps are bridged by many service members through on-the-job training and experience. Moreover, academic or employer-developed bridge training programs can help military trained applicants fill these potential training gaps.

Employers in Illinois are increasingly looking to hire certified Medical Assistants. The following five Medical Assistant certifications are accredited by the National Commission for Certifying Agencies (NCCA), an independent nongovernmental agency that accredits professional certifications in a variety of professions:

- Certified Medical Assistant (CMA) from the American Association of Medical Assistants (AAMA)
- Registered Medical Assistant (RMA) from the American Medical Technologists (AMT)
- National Certified Medical Assistant (NCMA) from the National Center for Competency Testing (NCCT)
- Certified Clinical Medical Assistant (CCMA) from the National Healthcareer Association (NHA)
- Certified Medical Administrative Assistant (CMAA) from the National Healthcareer Association (NHA)

Individuals who have completed the Air Force's Aerospace Medical Services Apprentice (AMSA) training or the Navy's Hospital Corpsman Basic (HCB) program will require significant preparation to pass NHA's CMAA certification exam and moderate preparation to pass the other four Medical Assistant certification exams. CMAA exam domains not covered in the Air Force and Navy training include topics such as scheduling, performing financial procedures, verifying Insurance Information, patients' insurance responsibilities, and general office policies and procedures.

Individuals who have completed the Army's Combat Medic Specialist training will require significant preparation to pass the five Medical Assistant certification exams. The Army's military training, which focuses primarily on trauma and emergency care, has gaps in both clinical and administrative knowledge areas that appear on the certification exams. Individuals who held any of the three related military occupations can request that academic institutions offering Medical Assistant education programs review their ACE recommended credit or CCAF credit for transfer (See Appendix A2).

Since Medical Assistants are not required to be licensed or certified in Illinois the three related military occupations meet the requirements to work as a Medical Assistant in Illinois. However, individuals who have

completed a Medical Assistant certification and/or education program or training program will be more competitive when applying for Medical Assistant positions in Illinois.

Figure 2. Ability of Military Trained Applicants to Meet Medical Assistant Illinois Job Requirements

Medical Assistant Illinois Requirement		Air Force	Army	Navy
		4N0X1 Aerospace Medical Service	68W Combat Medic Specialist	HM/0000 Hospital Corpsman Basic
Education/Training	Education or training (usually non-credit training) program preferred	544 Hours	640 Hours	560 Hours
Licensure	Not Required	Not Required	Not Required	Not Required
Certification	Preferred	Not Required	Not Required	Not Required

Licensed Practical Nurse (LPN)

In Illinois, the LPN occupation is regulated by the Illinois Department of Financial and Professional Regulation (IDFPR), which mandates LPNs be licensed. To obtain an Illinois LPN license, candidates must have graduated from an approved LPN education program and passed the National Council Licensure Examination-Practical Nursing (NCLEX-PN) (See Figure 3).

The following three military occupations were identified as being related to the LPN occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill LPN positions in Illinois:

- **Air Force:** 4NOX1 Aerospace Medical Service
- **Army:** 68C Practical Nursing Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

All three related military occupations were found to perform 88 percent of the O*NET DWAs that an LPN performs in the civilian workforce (See Appendix A2). Prior to taking the NCLEX-PN, individuals must have completed an LPN education program that is approved by the IDFPR. Training for each of the three related military occupations was compared against a standard LPN education program curriculum (See Appendix A2). There are only a few gaps between the typical civilian LPN education program curriculum and the military training curricula for the related military occupations.

Individuals who served as Practical Nursing Specialists (68C) in the Army have already passed the NCLEX-PN and may still hold a current state (or U.S. Territory) license as an LPN or Vocational Nurse (VN). An individual who holds an LPN license in a state other than Illinois will need to apply for licensure by endorsement, which includes submitting proof of graduation from an approved LPN education program. IDFPR will review the Practical Nursing Specialist’s (68C) military training to determine if the training meets the state’s standards for the approved LPN education program requirement.

Individuals who held the Aerospace Medical Service (4NOX1) occupation or the Hospital Corpsman Basic (HM/0000) occupation do not meet the Illinois requirements to work as an LPN, unless they have an Illinois LPN license. Individuals without an LPN license will need to complete an LPN education program that is approved by the IDFPR and pass the NCLEX-PN. These individuals may be able to use ACE recommended credit or CCAF credit to satisfy certain LPN education program curriculum requirements (See Appendix A2). Moderate preparation will be needed to pass the NCLEX-PN. NCLEX-PN Knowledge areas that were found to be neither fully nor partially covered by the Air Force or Navy training include topics such as referral process, community resources, and information technology.

Some Air Force and Navy veterans or transitioning service members have the option of meeting the Illinois approved LPN education program requirement by completing a military transition/bridge to LPN education program offered at select colleges in Illinois.

Figure 3. Ability of Military Trained Applicants to Meet LPN Illinois Job Requirements

LPN Illinois Requirement		Air Force	Army	Navy
		4NOX1 Aerospace Medical Service	68C Practical Nursing Specialist	HM/0000 Hospital Corpsman Basic
Education/Training	Approved LPN education program required	544 Hours	52-week Army course and state course in practical or vocational nursing required	560 Hours
Licensure	National Council Licensure Examination - Practical Nursing (NCLEX-PN) required	Not Required	Required to pass NCLEX-PN and possess a current State (or U.S. Territory) license as a practical or vocational nurse	Not Required
Certification	Not Required	Not Required	Not Required	Not Required

Emergency Medical Technician (EMT)

In Illinois, the EMT occupation is regulated by the Illinois Department of Public Health (IDPH), which requires EMTs to hold a license. To obtain an EMT-Basic license in Illinois, candidates must hold a high school diploma or high school equivalency certificate, be 18 years of age or older, have completed an approved training program, and have passed the National Registry of Emergency Medical Technicians (NREMT) exam or the Illinois State Licensing Exam (See Figure 4).

The following three military occupations were identified as being related to the EMT occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill EMT positions in Illinois:

- **Air Force:** 4N0X1 Aerospace Medical Service
- **Army:** 68W Combat Medic Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

The Aerospace Medical Service (4N0X1) occupation and the Hospital Corpsman Basic (HM/0000) occupation were found to perform 100 percent of the civilian EMT’s O*NET DWAs. The Combat Medic Specialist (68W) occupation’s job duties directly parallel 94 percent of the civilian EMT’s O*NET DWAs (See Appendix A2).

EMT-Basic licensure candidates must complete a training program that is authorized by the IDPH. Training for each of the three related military occupations was compared against the EMT-Basic national standard curriculum (See Appendix A2). There are very few gaps between the typical civilian EMT training curriculum and military training curricula for the three related military occupations.

Individuals who held either the Aerospace Medical Service (4N0X1) occupation or the Combat Medic Specialist (68W) occupation have already passed the NREMT certification exam, as it is a requirement for both military occupations. Individuals who held the Hospital Corpsman Basic (HM/0000) occupation will need to pass the NREMT certification exam or the Illinois State Licensing Exam. The Navy’s Hospital Basic Corpsman (HCB) training program fully prepares Sailors to pass the NREMT cognitive exam. NREMT certification also requires a psychomotor exam, which is administered by either the State Emergency Medical Services (EMS) Office or at a training institution (with approval and oversight provided by the State EMS Office).

Individuals who held any of the three related military occupations will need to complete an Illinois approved EMT training program. EMT licensure candidates who have been honorably discharged from the military within one year of submitting a licensing exam application can submit their military emergency medical training to the IDPH for evaluation against the approved EMT training requirement. Individuals who have ACE recommended credit or CCAF credit can submit their credit for review to an academic institution that offers an EMT training program (See Appendix A2). The academic institution will determine whether the credit is applicable to the training program.

Figure 4. Ability of Military Trained Applicants to Meet EMT Illinois Job Requirements

EMT Illinois Requirement		Air Force	Army	Navy
		4N0X1 Aerospace Medical Service	68W Combat Medic Specialist	HM/0000 Hospital Corpsman Basic
Education	High school diploma or equivalent required	Required	Required	Required
Training	Approved training program required	544 Hours	640 Hours	560 Hours
Licensure	Required	Not Required	Not Required	Not Required
Certification	National Registry of Emergency Medical Technicians (NREMT) certification exam or Illinois state licensing exam required for licensure	NREMT-EMT Basic certification required	NREMT-EMT Basic certification required	Not Required

Medical Records and Health Information Technician

Illinois' specific requirements for the Medical Records and Health Information Technician occupation were not available. Per the Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, on the national level a high school diploma or equivalent and previous experience in a healthcare setting will qualify individuals for some Medical Records and Health Information Technician positions, however, most positions require postsecondary education. This is typically in the form of a postsecondary certificate, although some positions may require an Associate's degree. In addition, Medical Records and Health Information Technicians are often required to have a certification or to obtain a certification shortly after being hired (See Figure 5).

The following three military occupations were identified as being related to the Medical Records and Health Information Technician occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Medical Records and Health Information Technician positions:

- **Air Force:** 4A0X1 Health Services Management
- **Army:** 68G Patient Administration Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

The Health Services Management (4A0X1) occupation and the Patient Administration Specialist (68G) occupation were found to perform 86 percent of the civilian Medical Records and Health Information Technician's O*NET DWAs. The Hospital Corpsman Basic (HM/0000) occupation performs 79 percent of the civilian job's O*NET DWAs. The gap in job duties can be attributed to the Hospital Corpsman Basic (HM/0000) occupation focusing more heavily on medical care than administrative duties (See Appendix A2).

Training for each of the three related military occupations was compared against the typical curriculum for a postsecondary certificate or Associate's degree program in Health Information Technology (See Appendix A2). There are gaps between the typical civilian Medical Records and Health Information Technician education curriculum and the military training curricula for the related military occupations. These gaps can be bridged by many Service members through on-the-job training and experience. Moreover, academic or employer-developed bridge training programs can help military trained applicants fill the potential training gaps.

Medical Records and Health Information Technicians can earn certifications from several organizations. The Air Force and Army Healthcare Administration Specialist training program helps students prepare for and administer the National Healthcare Association (NHA) Certified Electronic Health Record Specialist (CEHRS) and the American Academy of Professional Coders (AAPC) Certified Professional Coder (CPC) certification exams and yields college credits that apply toward an Associate's degree. Individuals who completed the Hospital Corpsman Basic (HM/0000) training will need significant additional preparation or study prior to taking these two civilian certification exams. The Hospital Corpsman Basic (HCB) training covers administration and utilization of medical records, but focuses more on emergency, nursing, and primary care.

All three of the related military occupations have ACE recommended credit or CCAF credit that is potentially applicable to a Health Information Technology postsecondary certificate or Associate's degree (Appendix A2). It is at the discretion of each academic institution to determine the applicability of military credit to a certificate or degree program.

Individuals who held any of the three related military occupations meet the minimum national requirements to work as a Medical Records and Health Information Technician in the civilian workforce. However, to be a competitive Medical Records and Health Information Technician job candidate, individuals will need to hold a certification and a postsecondary certificate or Associate's degree in Health Information Technology or Health Information Management.

Figure 5. Ability of Military Trained Applicants to Meet Medical Records and Health Information National Job Requirements

Medical Records and Health Information Technician National Requirement		Air Force	Army	Navy
		4A0X1 Health Services Management	68G Patient Administration Specialist	HM/0000 Hospital Corpsman Basic
Education/Training	Postsecondary certificate or Associate's degree preferred	289 Hours	264 Hours	560 Hours
Licensure	Not Required	Not Required	Not Required	Not Required
Certification	Preferred	Not Required	Not Required	Not Required

Laboratory Technician

To work as a Laboratory Technician in a moderate complexity lab in Illinois, individuals must have a high school diploma or equivalent and have training appropriate for the testing performed prior to analyzing patient specimens (See Figure 6).

The following three military occupations were identified as being related to the Laboratory Technician occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Laboratory Technician positions in Illinois:

- **Air Force:** 4TOX1 Medical Laboratory
- **Army:** 68K Medical Laboratory Specialist
- **Navy:** HM/8506 Medical Laboratory Technician, Advanced

All three related military occupations were found to perform 94 percent of the O*NET DWAs that a Laboratory Technician performs in the civilian workforce (See Appendix A2).

A curriculum for the training required to work as a Lab Technician in a moderate complexity lab in Illinois was not available. Therefore, a comparison of the related occupations’ military training and the civilian occupation’s training was not completed.

Although not required to be certified to work as a Laboratory Technician in a moderate complexity lab in Illinois, individuals who have successfully completed the Air Force Medical Laboratory Apprentice (MLA) training program or the Army and Navy Medical Laboratory Technician (MLT) training program within the last ten years have satisfied one part of the eligibility requirements for the American Society of Clinical Pathology (ASCP) Board of Certification Medical Laboratory Technician certification.

An analysis of the related military occupations’ ACE credit recommendations (Army and Navy) and CCAF credit against typical academic requirements was not completed because a certificate or degree is not required to work as a Laboratory Technician in a moderate complexity lab in Illinois.

Individuals who have held any of the three related military occupations have received extensive training in the major disciplines of the clinical laboratory. The training that is required to work as a Laboratory Technician in a moderate complexity lab in Illinois can be obtained on the job. Military trained individuals who go on to work in such a laboratory will need to keep documentation of their military laboratory technician training on file to show proof of training when the lab is surveyed.

Figure 6. Ability of Military Trained Applicants to Meet Illinois Moderate Complexity Lab Job Requirements

Illinois Moderate Complexity Lab Requirement		Air Force	Army	Navy
		4TOX1 Medical Laboratory	68K Medical Laboratory Specialist	HM/8506 Medical Laboratory Technician, Advanced
Education	High school diploma or equivalent required	Required	Required	Required
Training	Training appropriate for the testing performed prior to analyzing patient specimens	2,144 Hours	1,040 Hours	1,040 Hours
Licensure	Not Required	Not Required	Not Required	Not Required
Certification	Not Required	Not Required	Not Required	Not Required

Radiologic Technologist

In Illinois, the Radiologic Technologist occupation is regulated by the Illinois Emergency Management Agency (IEMA), which requires Radiologic Technologists to be licensed. Medical Radiography licensure requires passing the American Registry of Radiologic Technologists (ARRT) Radiography certification exam (See Figure 7). The following three military occupations were identified as being related to the Radiologic Technologist occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Radiologic Technologist positions in Illinois:

- **Air Force:** 4R0X1 Diagnostic Imaging
- **Army:** 68P Radiology Specialist
- **Navy:** HM/8452 Advanced X-Ray Technician

All three related military occupations perform 92 percent of the O*NET DWAs that a Radiologic Technologist performs in the civilian workforce. Individuals who have held any of the three related military occupations do not meet the Illinois Radiologic Technologist occupation requirements, unless they are licensed in Medical Radiography.

The Air Force, Army, and Navy provide consolidated radiologic technologist training which is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Graduating from the Radiologic Technologist program and earning the respective military occupation code (Air Force=4R0X1, Army=68P, and Navy=HM/8452) satisfies the ARRT-approved educational program requirement. As such, an analysis comparing the related military occupations’ training against the civilian ARRT educational program was not completed.

ARRT Radiography certification candidates must also hold an Associate’s degree or higher from an institution accredited by an agency that ARRT recognizes. The degree can be completed before or after graduating from the Radiologic Technologist program. An analysis of the related military occupations’ ACE credit (Army and Navy) and CCAF credit against an Associate’s degree curriculum was not completed because the required Associate’s degree can be earned in any discipline.

The Radiologic Technologist program includes a self-paced study for the ARRT exam and fully prepares individuals to pass the ARRT Radiography certification exam. At the end of the Radiologic Technologist program, AART Radiography certification candidates have three years to establish eligibility and apply for ARRT certification and registration.

Figure 7. Ability of Military Trained Applicants to Meet Radiologic Technologist Illinois Job Requirements

Radiologic Technologist Illinois Requirement		Air Force	Army	Navy
		4R0X1 Diagnostic Imaging	68P Radiology Specialist	HM/8452 Advanced X-Ray Technician
Education	American Registry of Radiologic Technologists (ARRT)-approved Associate’s degree or higher required for certification/licensure	Not Required	Not Required	Not Required
Training	ARRT-approved educational program required for certification/licensure	760 Hours	840 Hours	840 Hours
Licensure	Required	Not Required	Not Required	Not Required
Certification	AART Radiography certification required for licensure	Not Required	Not Required	Not Required

Considerations

As a result of the research and Career Pathway development undertaken through this report, CAEL has identified the following considerations for further supporting the work of connecting veterans and healthcare industry institutions.

Stakeholders

A large number of institutions were stakeholders in this process. As with any high-quality workforce development and education initiative, the more partners and types of institutions engaged in the effort, the better the outcome for workers and industry. In order to capitalize on the insights presented here and the broader knowledge available based on this work, the following entities should be engaged:

- *Healthcare industry employers of all sizes.* Major healthcare networks can be leaders as they offer opportunities in quantity and can leverage existing training and recruiting relationships, but smaller hospitals, long-term care establishments, home health providers and others also employ significant numbers and can provide a variety of opportunities.
- *Education and training providers.* While our evidence suggests that some veterans' prior training will be sufficient to enter certain healthcare careers, further education and training will often be needed for workers to move along the career pathways. Working closely with educators to promote credit for prior learning and military training, customize curriculum and facilitate smooth transition into school and payment supports are critical to helping veterans succeed.
- *National Certification Entities and State Licensing Agencies.* As much as possible, these entities must be encouraged to recognize the training, credentials, skills and experience that all workers possess, and in particular the unique experience and background of our veterans. Specific actions, noted below, will support this process.
- *Policymakers.* There are a range of policies, including some laws and regulations, that impact how veterans make the transition to the civilian workforce, and how all workers' experience and training translates into jobs. Work around facilitating credit transfers, credit for prior learning and experience, establishing national credential standards for certain occupations, and other efforts will all support expanding access to the healthcare industry for veterans and other workers. For example, facilitating state licensure has been a policy focus for Department of Defense (DoD) for more than five years and DoD has had intensive coordination with states to promote:
 - Legislation and policy to recognize substantially equivalent military training and experience for licensure eligibility requirements
 - State participation in licensing compacts to enable service members and spouses licensed in one state to practice in other states
 - Recognition of national certification for state licensure purposes to make it easier for Service members holding a certification to get licensed
- *Workforce Development System. (Workforce Investment Boards, Veterans Administration, non-profit and community-based organizations that serve job-seekers and veterans in particular).* Getting the best information into the hands of the thousands of intermediaries that work directly with job seekers and businesses is critical. Informing and educating frontline career counselors about the available pathways, most lucrative careers, and the unique preparation veterans bring to their workplace is among the most important actions that can support veteran access to the healthcare industry.

High Level Recommendations

Stakeholder Engagement: The CHWC and others receiving this report should disseminate the information gathered in this study to relevant stakeholders listed above. Efforts should focus on facilitating collaboration to expand access to this and broader levels of information and build on these career pathways on behalf of veterans and other workers. Certainly, efforts and initiatives to support veteran’s transition and advance in the civilian workforce exist. For example

- The Commercial Club of Chicago, a membership organization of local leaders in business, education, and philanthropy, hosts a Veterans Working Group (VWG) aimed at “helping Commercial Club member companies be veteran-friendly employers who implement best practices in veteran recruitment, hiring and retention”
- McCormick Foundation’s Veteran’s Higher Education Affinity Group (VHEAG), a working facilitated by CAEL and made up of representatives from higher education that supports building the capacity of colleges and universities to promote student veteran success.

The above initiatives include provide a space for leaders in industry or education to work together to support veterans’ success in education and civilian employment. Efforts such as these should continue to grow and consider expanding their work to include sector partnerships that bring together a range of stakeholders from industry, education, the workforce system, community-based organizations, and funders collaborate, share best practices, and make greater impact together.

Credit for Prior Learning: Work should be done to investigate and promote methods for employers, colleges, and credentialing entities to maximize credit for military training and experience. Better aligning the military and civilian skills and credentials outlined in the pathways and the Crosswalk material can speed the process of veterans’ successful entry into the civilian workforce, and save time and money for those veterans, their families, and the healthcare industry. Prior Learning Assessment has been seen to improve the enrollment, persistency, and completion rates of postsecondary education and training programs. CAEL has conducted several research studies aimed at supporting veteran’s success in civilian education and training environment, such as

- [Valuing Military Learning, A guide to Military Prior Learning Assessment and More](#), a comprehensive guide to obtaining healthcare education developed by CAEL and the Multi-State Collaborative on Military Credit (MCMC), that includes instructional guides, stories from servicemembers pursuing healthcare careers, information on accelerated educational programs for veterans, and a comprehensive index of resources for veterans in each of the 13 MCMC member states.
- [Developing Military to Civilian Accelerated/Bridge Programs in Healthcare Report](#), an examination of veterans accelerated/bridge programs around the country, relevant trends across a number of these programs, the implications of those trends for institutions wanting to develop similar VABP models, and recommendations for the field.

Numerous efforts are also underway to promote acceptance of military training and experience for college credit, including accepting the American Council on Education (ACE) credit recommendations. Colleges and universities in Illinois could be encouraged to accept credit for military training and experience. Ongoing participation by Illinois in the Multi-state Collaborative on Military Credit is also advantageous.

See more reports around career and education advising and serving student veterans at:

<https://www.cael.org/vets-publication>

Support Veterans: Veteran serving organizations including the workforce development system and other public and private support agencies must provide career awareness and advising to veterans, including content on how to consider available career opportunities and pathways, understand the connections to their prior experience, and access training and employment opportunities. There are a range of national and local initiatives providing direct support to transitioning service members and veterans. For example,

- [Veterans.gov](#), an online resource for veterans that provides information around career and education opportunities run by the U.S. Department of Labor
- [The Veteran and Military Transition Center](#), a one-stop website for employment, training, and financial help after military service run through the Career One Stop and American Job Center Network, a national network providing free help to job seekers for a variety of career and employment-related needs. Local AJCs can be found [here](#).
- Community-based organizations providing direct support to veterans, such as [Chicago Veterans](#), a “community of military veterans, family members and supporters providing camaraderie, employment and education support.

Generally, there was no widely available data on the paths that service members take going into the civilian workforce that could inform this study. Throughout the military life cycle, service members have access to both career and education counselors to help guide them in pursuing their professional goals. In addition, the Department of Defense has a well-developed program to help service members transition out of the military and into the civilian world that is mandatory for all transitioning service members. The Transition GPS (Goals, Plans, Success) is the Transition Assistance Program's outcome-based, modular curriculum with standardized learning objectives. The Transition GPS core curriculum helps service members meet the Career Readiness Standards (CRS) and is mandatory. The core curriculum also includes three two-day additional tracks focusing on accessing higher education, career exploration planning, and entrepreneurship.

Veterans seeking employment advice can go to their state employment offices, which have veterans employment representatives who are trained to provide career counseling and help match veterans to jobs available in the state and localities. Veterans Employment Representatives address the employment and training needs of unemployed and underemployed veterans by providing job search, placement, and related assistance that lead to quality employment. These employment specialists are funded through Veterans' Employment and Training State Grants. This grant provides funds to exclusively serve veterans, other eligible persons, transitioning service members, their spouses and, indirectly, employers. The grant also gives the State the flexibility to determine the most effective and efficient distribution of their staff resources based upon the distinct roles and responsibilities of the veterans employment representatives.

Appendices

A1: Civilian Career Pathways: Focus Group, Interview Attendees

Name	Title	Institution
Clayton Pryor	Director, Workforce Development	Advocate Healthcare
Rhonda Hardamon	Director, Workforce Partnerships College 2 Careers (C2C)	Malcolm X College
Bernadette Szczepanski	Senior VP, Human Resources	Northwestern Medicine
Ana Zanic	Director, Talent Acquisition	Northwestern Medicine
Dayna Zelniker	HR Business Partner	Norwegian American Hospital
Reggie Allen	Board Recruitment Co-Chair?	Presence Health
Brooke Ludford	System Manager, Talent Acquisition Strategy	Presence Health
Michael Jones	Manager-Talent Acquisition, Community Programs	Rush University Medical Center
Nicole Gilson	Talent Development Manager	Rush University Medical Center
Katrina Suitton	Health Educator / Program Coordinator	Sinai Health System
Katrina Sutton	talent Acquisition Specialist	Sinai Health System
Leslie Rogers	Assistant Administrator	South Shore Hospital
Nicholas Haubach	Chief Human Resources Officer	UI Health: University of Illinois Hospital & Health Sciences System
Betsy Rahill	Senior Consultant, Internal and Community Workforce Strategy	University of Chicago Medicine
Max Campo	EMS Coordinator	Village of Berwyn, Berwyn Fire Department
Heather Nelson	Talent & Compensation Manager, Human Resources Department	Village of Schaumburg

A2: Veteran Career Crosswalks, Detailed Results

Military Occupation Descriptions

4N0X1 Aerospace Medical Service

Airmen in the Aerospace Medical Service (4N0X1) occupation plan, provide and evaluate routine patient care and treatment of beneficiaries to include flying and special operational duty personnel. They organize the medical environment and perform and direct support activities for patient care situations, including contingency operations and disasters. They also perform duties as Independent Duty Medical Technician (IDMT), Aeromedical Evacuation Technician (AET), Hyperbaric Medical Technician (HBMT), Allergy and/or Immunization Technician (AIT), Special Operations Command (SOC) Medic, Dialysis Medical Technician (DMT), Critical Care Technician (CCT), Neurodiagnostic Technologist (NT), or Flight and Operational Medicine Technician (FOMT).

68W Combat Medic Specialist

The Army's Combat Medic Specialist (68W) provides emergency medical treatment, limited primary care, force health protection, and evacuation in a variety of operational and clinical settings from point of injury or illness through the continuum of military health care. As a field combat medic, they provide emergency medical care/treatment at point of wounding on the battlefield or to battle and non-battle casualties during wartime. Additionally, they instruct Soldiers on the Combat Lifesaver/First Responder training course and manage medical supplies and equipment and Soldiers' medical readiness. They are skilled in patient-care techniques, emergency medical techniques, and advanced medical care.

HM/0000 Hospital Corpsman Basic

Sailors in the Hospital Corpsman Basic (HM/0000) occupation perform duties as assistants in the prevention and treatment of disease and injury and assist health care professionals in providing medical care to Navy and Marine Corps personnel of the operational forces, shore activities and other authorized beneficiaries. They function as clinical or specialty technicians, administrative personnel and health care providers at treatment facilities and serve as battlefield corpsmen with the Marine Corps and Naval Construction Forces, rendering emergency medical treatment to include initial treatment in a combat environment. Qualified hospital corpsmen may be trained for assignment to Fleet Marine Forces, Naval Construction Forces, Special Forces, Fleet Hospitals, and at isolated duty stations where no medical officer is available.

68C Practical Nursing Specialist

The Army's Practical Nursing Specialist (68C) supervises or performs preventive, therapeutic, and emergency nursing care procedures under supervision of a physician, nurse or non-commissioned officer (NCO). They are skilled in working on a medical team, patient care, and emergency care.

4A0X1 Health Services Management

Airmen in the Health Services Management (4A0X1) occupation plan, develop, manage, and perform health services activities. They perform front desk clerk and medical office manager clinic duties, analyze, evaluate, advise, and ensure the validity, completeness and accuracy of healthcare data collected by automated systems used by the military health system, and perform and manage medical information technology functions and activities. They also perform resource management office duties, manage or perform personnel and administration duties, and enplane and deplane patients.

68G Patient Administration Specialist

The Army's Patient Administration Specialist (68G) supervises or performs administrative duties in the patient administration division of a hospital or other medical activity, compiles data and prepares required statistical reports, initiates correspondence pertaining to medical records, medical board proceedings, and line of duty investigations, and maintains a medical record tracking system within the medical treatment facility. They are skilled in English grammar, spelling and punctuation, typing and clerical skills, setting up and maintaining filing and publication systems, and preparing forms and correspondence in military style.

4TOX1 Medical Laboratory

Medical Laboratory (4TOX1) Airmen test and analyze specimens of human origin and other substances by established scientific laboratory techniques to aid in diagnosing, treating, and preventing diseases or to support medical research and supervise medical laboratory activities. They perform hematological tests and urinalysis, chemical analysis, blood bank duties, and microbiological and serological tests.

68K Medical Laboratory Specialist

The Army's Medical Laboratory Specialist (68K) performs blood banking procedures and elementary and advanced examinations of biological and environmental specimens to aid in the diagnosis, treatment, and prevention of disease and other medical disorders. They are skilled in medical laboratory procedures, the study of human parasites and diseases, and laboratory administration and record keeping.

HM/8506 Medical Laboratory Technician, Advanced

Sailors who hold the Medical Laboratory Technician, Advanced (HM/8506) occupation perform and/or supervise the application of basic and advanced laboratory procedures. They collect, process and analyze biological specimens and other substances, conduct clinical diagnostic laboratory tests in one or more areas of the laboratory following prescribed procedures, monitor results, and make corrections within predetermined guidelines. They also assist in obtaining and processing specimens used in clinical laboratory analysis, perform preventive and corrective maintenance of equipment and instruments, utilize computer systems to perform and verify laboratory results, perform and monitor quality control within predetermined limits, and assist healthcare providers in providing diagnosis to patients in various military treatment facilities (MTFs) and Marine Units around the world and aboard ships.

4ROX1 Diagnostic Imaging

Airmen in the Diagnostic Imaging (4ROX1) occupational specialty operate equipment to produce diagnostic images and assist radiologists or physicians with special procedures, prepare equipment and patients for diagnostic studies and therapeutic procedures, and perform technical and administrative imaging activities. They ensure health protective measures such as standard and transmission-based precautions and radiation protections are established and employed, assist the radiation oncologist, and manage diagnostic imaging functions and activities. They are skilled in the techniques of operating x-ray and specialized diagnostic imaging equipment, radiographic positioning, patient care and monitoring techniques, image recording media and processing techniques, quality control procedures, and patient and equipment safety.

68P Radiology Specialist

The Army's Radiology Specialist (68P) operates fixed and portable radiology equipment or supervises radiology activities. They perform body section radiography, foreign body localization, prenatal, pediatric, urogenital and radiographic examinations of the digestive, respiratory, vascular and nervous systems and inspect and perform operator maintenance on radiology equipment. They are skilled in radiology patient care, medical ethics and law, human structure and function, principles of radiation protection, and field radiography.

HM/8452 Advanced X-Ray Technician

The Navy's Advanced X-Ray Technicians (HM/8452) operate medical X-ray equipment in performance of all diagnostic radiographic examinations and operate ultrasound equipment, applying the concept of acoustical physics, basic equipment knowledge and clinical procedures. They assist the radiologist in performing fluoroscopic examinations and computerized axial tomographic examinations (CAT scans), perform special radiographic procedures and vascular procedures (Angiography), and process digital and plain X-ray film. They have knowledge of all administrative procedures relative to the Radiology Service and perform photodosimetric duties, as well as radiographic equipment quality control and quality assurance.

Military Training Descriptions

4N0X1 Aerospace Medical Service

Aerospace Medical Service (4N0X1) training includes the Aerospace Medical Services Apprentice (AMSA) program, which consists of 544 training hours. The AMSA program is an introduction to the delivery of medical care and the associated duties of providing quality emergency, nursing, and primary care procedures. Resident training is conducted at the Medical Education & Training Campus (METC) where students are instructed in medical terminology, anatomy and physiology, Basic Life Support (BLS), Emergency Medical Technician-Basic curricula, as well as various aspects of nursing and primary patient care. Methods of instruction include, but are not limited to lecture, demonstration, online materials, simulations, laboratory practice, and practical exercises.

Students later transition to clinical training that is conducted at military treatment facilities (MTFs). Studies include, but are not limited to basic anatomy and physiology, history and physical assessment, cardiac life support, sanitation and associated field aid procedures, infection control, universal precautions, vital signs, intravenous care, wound care management, basic psychology, customer service, recognition of basic processes and techniques utilized during patient interviews, and utilization and screening of medical records (to maintain medical standards).

AMSA graduates are trained to the standards of the National Registry Emergency Medical Technicians (NREMT) and must pass the NREMT EMT-Basic certification exam. All graduates are also certified in Healthcare Provider Basic Life Support.

68W Combat Medic Specialist

The Combat Medic Specialist program consists of 640 training hours and provides enlisted Army personnel with a foundational knowledge of Basic Life Support, Basic Emergency Medical Technician (EMT) skills, battlefield medicine principles, airway management, patient assessment, limited primary care, medical emergencies, trauma, ambulance operations, and Tactical Combat Casualty Care (TCCC). Methods of instruction include, but are not limited to lecture, demonstration, simulations, and practical exercises.

Combat Medic Specialist program graduates are certified to the national standards of EMT and are proficient in Tactical Combat Casualty Care principles. Combat Medic Specialists (68W) must maintain a current, valid, unrestricted NREMT-Basic Certification to retain MOS 68W (Sergeant First Class(P) and Master Sergeant ranks are exempt from this requirement).

HM/0000 Hospital Corpsman Basic

Sailors in the Hospital Corpsman Basic (HM/0000) occupational specialty are required to complete the 560-hour Hospital Corpsman Basic (HCB) program, which is an introduction to the delivery of medical care and the associated duties of providing quality emergency, nursing and primary care procedures. Resident training is first conducted at Medical Education & Training Campus (METC) where students are instructed in medical terminology, anatomy and physiology, nursing concepts and skills, Basic Life Support (BLS), airway management, patient assessment, primary care, medical emergencies, trauma, operational medicine principles, and Tactical Combat Casualty Care (TCCC). Methods of instruction include, but are not limited to lecture, demonstration, online materials, simulations, laboratory practice, and practical exercises.

Students later transition to clinical training that is conducted at military treatment facilities (MTFs), the Veterans Administration (VA), and/or civilian hospitals. Studies include, but are not limited to basic anatomy and physiology, history and physical assessment, cardiac life support, sanitation and associated first aid procedures, infection control, universal precautions, vital signs, intravenous care, wound care management, basic psychology, customer service, recognition of basic processes and techniques utilized during patient interviews, and administration and utilization of medical records (to maintain medical standards). HCB graduates are trained to proficiency in Tactical Combat Care Course (TCCC) principles and all graduates are certified as a Basic Life Support Healthcare Provider.

68C Practical Nursing Specialist

Practical Nursing Specialists (68C) must complete a 52-week Practical Nursing Specialist Course, which is conducted under the Army Medical Department Center and School (AMEDC&S) and Medical Education & Training Campus (METC) and complete a state approved course in practical or vocational nursing.

4A0X1 Health Services Management

68G Patient Administration Specialist

Health Services Management (4A0X1) Airmen and the Army's Patient Administration Specialists (68G) participate in the Healthcare Administration Specialist program. The Service specific names and program length for the consolidated training program are the following:

- Health Services Management Apprentice / 289 hours
- Patient Administration Specialist / 264 hours

The program prepares students with the knowledge and skills necessary to perform allied healthcare patient administration duties at fixed and deployable military treatment facilities (MTFs). Training focuses on healthcare entitlements and benefits, admission and disposition procedures, medical records, automated healthcare information systems, medical terminology, anatomy and physiology, Line of Duty determinations, and the Physical Disability Evaluation System (PDES). Additional training is provided to safeguard patient privacy, ensure security of personal medical information in accordance with the Health Insurance Portability & Accountability Act (HIPAA), and the management and monitoring of global patient movement utilizing the U.S. Transportation Command (TRANSCOM) Regulating and Command & Control Evacuation System (TRAC2ES).

This program helps students prepare for and administers two certification exams: National Healthcare Association (NHA) Certified Electronic Health Record Specialist (CEHRS) and the American Academy of Professional Coders (AAPC) Certified Professional Coder (CPC). The program culminates in college credits that apply toward an Associate's degree.

4T0X1 Medical Laboratory

68K Medical Laboratory Specialist

HM/8506 Medical Laboratory Technician, Advanced

Medical Laboratory (4T0X1) Airmen participate in the Air Force's Medical Laboratory Apprentice (MLA) program (2,144 hours). The Army and Navy provide a consolidated Medical Laboratory Technician (MLT) program for Medical Laboratory Specialists (68K) and Medical Laboratory Technicians, Advanced (HM/8506). The Service specific names and program length for the Army and Navy MLT training program are the following:

- 68K Medical Laboratory Specialist: Medical Laboratory Specialist / 1,040 hours
- HM/8506 Medical Laboratory Technician, Advanced: Medical Laboratory Technician / 1,040 hours

Both the Air Force MLA program and the Army and Navy MLT program are accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and provide education and training in the major disciplines of the clinical laboratory. The programs prepare the laboratory technician to perform laboratory procedures at a military treatment facilities (MTFs) under the supervision of a qualified laboratory technician/technologist. Resident training is first conducted at Medical Education & Training Campus (METC). This training includes the study of clinical chemistry, hematology, immunohematology, immunology, microbiology, parasitology, urinalysis, blood donor center operations, specimen collection and processing, and laboratory operations/management. Methods of instruction include, but are not limited to lecture, demonstration, online materials, simulations, laboratory practice, and practical exercises.

4R0X1 Diagnostic Imaging
68P Radiology Specialist
HM/8452 Advanced X-Ray Technician

The Air Force, Army, and Navy provide consolidated radiologic technologist training at Medical Education & Training Campus (METC), which is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The consolidated training program prepares students to function as entry-level radiographers in fixed and deployable medical facilities. The Service specific names and program length for the first phase of the training are as follows:

- 4R0X1 Diagnostic Imaging: Diagnostic Imaging Apprentice (Phase I) / 760 hours
- 68P Radiology Specialist: Radiology Specialist (Phase I) / 840 hours
- HM/8452 Advanced X-Ray Technician: Advanced Radiographer (Phase I) / 840 hours

Phase I training, which is resident training at Medical Education & Training Campus (METC), includes the study of radiation physics, anatomy and physiology, theory and practice of fixed and mobile radiologic equipment, chemical and digital processing, and routine and special radiographic positioning. Concepts and principles of computed tomography, mammography, nuclear medicine, radiation therapy, magnetic resonance imaging, and sonography are introduced. Students also gain instruction and practice in medical ethics, patient care, and a comprehensive pre-clinical review. Methods of instruction include, but are not limited to lecture, demonstration, online materials, simulations, laboratory practice, and practical exercises.

The student later transitions for Phase II to clinical training that is conducted at military treatment facilities (MTFs). Diagnostic imaging areas covered in training include but are not limited to the theory of basic electricity, atomic theory, production of X-rays, radiographic technique, radiographic film and chemical processing, radiographically oriented anatomy and physiology, routine and special radiographic positioning, theory and practice of special radiographic techniques, and introduction to special radiographic procedures. Additionally, students train in patient reception, film management, and quality control. Clinical rotations include operating room, routine and special radiographic procedures, mobile equipment exams, fluoroscopy, and other modalities as available.

The student later transitions to clinical training that is conducted at MTFs. The training may include but is not limited to the application of specimen collection, clinical chemistry, microbiology, hematology and coagulation, immunohematology, urinalysis, and immunology/serology in a medical laboratory setting, using the areas of practice of medical laboratory department technicians at MTFs.

Medical Assistant

Medical Assistants in Illinois are not required to be licensed or certified. However, many employers are requiring certification and completion of an education or training (usually non-credit training) program at a minimum for hire. The following three military occupations were identified as being related to the Medical Assistant occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Medical Assistant positions in Illinois:

- **Air Force:** 4N0X1 Aerospace Medical Service
- **Army:** 68W Combat Medic Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

Military to Civilian Job Duties Analysis

A comparison of the three related military occupations' duties against the Medical Assistant's O*NET DWAs was completed.

Civilian Medical Assistant Job Duties	Air Force	Army	Navy
	4N0X1 Aerospace Medical Service	68W Combat Medic Specialist	HM/0000 Hospital Corpsman Basic
Record vital statistics or other health information	●	●	●
Assess physical conditions of patients to aid in diagnosis or treatment	●	●	●
Clean patient rooms or patient treatment rooms	●	●	●
Interview patients to gather medical information	●	●	●
Prepare patient treatment areas for use	●	●	●
Give medications or immunizations	●	●	●
Collect biological specimens from patients	●	●	●
Control prescription refills or authorizations			
Explain technical medical information to patients	●		●
Clean medical equipment	●		●
Dispose of biomedical waste in accordance with standards	●	●	●
Process medical billing information			
Conduct diagnostic tests to determine patient health	●		●
Perform clerical work in medical settings	●	●	●
Schedule patient procedures or appointments			
Administer basic health care or medical treatments	●	●	●
Assist practitioners to perform medical procedures	●	●	●
Inventory medical supplies or equipment	●	●	●
Operate medical equipment	●	●	●
Prepare medical instruments or equipment for use	●	●	●
Apply bandages, dressings, or splints	●	●	●

Military to Civilian Training/Education Curricula Analysis

Completing a Medical Assistant education or training program makes an individual a more desirable candidate for Medical Assistant positions in Illinois. Training for each of the three related military occupations was compared against a typical Medical Assistant education program curriculum.

Medical Assistant Postsecondary Education Program Curriculum (From Commission on Accreditation of Allied Health Education Programs (CAAHEP))	Military Training Curricula		
	4N0X1 Aerospace Medical Service	68W Combat Medic Specialist	HM/0000 Hospital Corpsman Basic
Anatomy and Physiology	◐	●	◐
Medical Terminology	●		●
Medical Law and Ethics	◐	◐	◐
Psychology	●		●
Communications (oral and written)	●	●	●
Medical Assisting Administrative Procedures	◐	◐	◐
Medical Assisting Clinical Procedures	●	◐	●
Medical Assistant Externship	●	◐	●

- = subject is fully covered in the military occupation's training
- ◐ = subject is partially covered in the military occupation's training
- Blank = subject is not covered in the military occupation's training

Military to Civilian Certification or Licensure Analysis

Employers in Illinois are increasingly looking to hire certified Medical Assistants. The following five Medical Assistant certifications are accredited by the National Commission for Certifying Agencies (NCCA), an independent nongovernmental agency that accredits professional certifications in a variety of professions:

1. Certified Medical Assistant (CMA) from the American Association of Medical Assistants (AAMA)
 2. Registered Medical Assistant (RMA) from the American Medical Technologists (AMT)
 3. National Certified Medical Assistant (NCMA) from the National Center for Competency Testing (NCCT)
 4. Certified Clinical Medical Assistant (CCMA) from the National Healthcareer Association (NHA)
 5. Certified Medical Administrative Assistant (CMAA) from the National Healthcareer Association (NHA)
- **4N0X1 Aerospace Medical Service:** When comparing the topics covered in the Aerospace Medical Services Apprentice (AMSA) training against the Medical Assistant certification exam domains it was determined that moderate preparation is necessary to pass the CMA, RMA, NCMA, and CCMA exams. The level of preparation needed to pass the CMAA exam is high, as less than 50 percent of the CMAA exam domains are covered by the AMSA training. CMAA exam domains not covered in the military training include topics such as scheduling, performing financial procedures, verifying Insurance Information, patients' insurance responsibilities, and general office policies and procedures.
 - **68W Combat Medic Specialist:** A comparison of the topics covered in the Combat Medic Specialist training against the five Medical Assistant certifications' exam domains found the military training, which focuses primarily on trauma and emergency care, has significant gaps in both clinical and administrative knowledge areas that appear on the certification exams. Therefore, based on training alone, a high level of preparation is needed to pass the five Medical Assistant certification exams.
 - **HM/0000 Hospital Corpsman Basic:** Comparing the topics covered in the Hospital Corpsman Basic Training (HCB) training against the exam domains on the Medical Assistant certifications exams found that moderate preparation is needed to pass the CMA, RMA, NCMA, and CCMA certification exams; the level of preparation needed to pass the CMAA certification exam is high. Like the Air Force's AMSA training, the HCB training does not cover the following exam domains: scheduling, performing financial procedures, verifying Insurance Information, patients' insurance responsibilities, and general office policies and procedures.

Military Credit to Academic Requirements Analysis

A typical Medical Assistant education program curriculum from the Commission on Accreditation of Allied Health Education Programs (CAAHEP) is outlined above in the Medical Assistant Military to Civilian Training/Education Curricula Analysis section. The three related military occupations' ACE credit recommendations and CCAF credit were compared against this curriculum to determine if the military credit could potentially be applied toward the curriculum.

- **4N0X1 Aerospace Medical Service:** CCAF provides Aerospace Medical Service (4N0X1) Airmen the opportunity to pursue an Associate of Practical Nursing Technology degree. Per the 2017-2019 CCAF General Catalog, Airmen pursuing the degree have the option of completing coursework in the following subject areas which may be equivalent to courses listed in the CAAHEP Medical Assistant education program curriculum: human anatomy and physiology, medical terminology, general psychology, medical assisting, oral communication, and written communication. Completing a CCAF Specialty Internship is also a degree requirement option for Airmen in the occupation.
- **68W Combat Medic Specialist:** ACE recommends academic credit for the Combat Medic Specialist (68W) occupation in subject areas that are part of the CAAHEP Medical Assistant curriculum. The credit, recommended for skill levels 30, 40, and 50 is the following: three lower-division baccalaureate/ ~~Associate's associate~~-degree semester hours in introduction to anatomy and physiology, three lower-division baccalaureate/ ~~Associate's associate~~-degree semester hours in records and information management, three lower-division baccalaureate/ ~~Associate's associate~~-degree semester hours in nursing fundamentals, and ten lower-division baccalaureate/ ~~Associate's associate~~-degree semester hours in clinical experience (ACE Exhibit Date: 10/06-12/14).
- **HM/0000 Hospital Corpsman Basic:** The Hospital Corpsman Basic (HM/0000) occupation yields ACE recommended credits, which based on the CAAHEP Medical Assistant curriculum may be applicable to a Medical Assistant education program. Three lower-division baccalaureate/ ~~Associate's associate~~-degree semester hours in communications and three lower-division baccalaureate/associate degree semester hours in health assessment are recommended for HM 3: Hospital Corpsman, Third Class (E-4), HM2: Hospital Corpsman, Second Class (E-5), HM1: Hospital Corpsman, First Class (E-6), HMC: Chief Hospital Corpsman (E-7), HMCS: Senior Chief Hospital Corpsman (E-8), and HMCM: Master Chief Hospital Corpsman (E-9). Three lower-division baccalaureate/ ~~Associate's associate~~-degree semester hours in nursing fundamentals are also recommended for HM2, HM1, HMC, HMCS, and HMCM (ACE Exhibit Date: 8/15-present).

Summary

- The Aerospace Medical Service (4N0X1) and Hospital Corpsman Basic (HM/0000) occupations perform 86 percent of the Medical Assistant's O*NET DWAs. Combat Medic Specialist's (68W) perform 62 percent of the Medical Assistant's O*NET DWAs.
- Individuals who have completed the Air Force's Aerospace Medical Services Apprentice (AMSA) program or the Navy's Hospital Corpsman Basic (HBC) training will require significant preparation to pass NHA's CMAA certification exam and moderate preparation to pass the other four NCCA accredited Medical Assistant certification exams. Individuals who have completed the Army's Combat Medic Specialist training will require significant preparation to pass the five NCCA accredited Medical Assistant certification exams.
- Individuals who held any of the three related military occupations can request that academic institutions offering Medical Assistant education programs review their ACE recommended credit or CCAF credit for transfer.
- Since Medical Assistants are not required to be licensed or certified in Illinois the three related military occupations meet the requirements to work as a Medical Assistant in Illinois. Individuals who have completed a Medical Assistant certification and/or education program or training program will be more competitive when applying for Medical Assistant positions in Illinois.

Licensed Practice Nurse (LPN)

In Illinois the LPN occupation is regulated by the Illinois Department of Financial and Professional Regulation (IDFPR), which mandates LPNs be licensed. To obtain an Illinois LPN license, candidates must have graduated from an approved LPN education program and passed the National Council Licensure Examination-Practical Nursing (NCLEX-PN). The following three military occupations were identified as being related to the LPN occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill LPN positions in Illinois:

- **Air Force:** 4NOX1 Aerospace Medical Service
- **Army:** 68C Practical Nursing Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

Military to Civilian Job Duties Analysis

A comparison of the related military occupations' job duties against the LPN's O*NET DWAs was completed.

Civilian LPN Job Duties	Air Force	Army	Navy
	4NOX1 Aerospace Medical Service	68C Practical Nursing Specialist	HM/0000 Hospital Corpsman Basic
Record patient medical histories	•	•	•
Administer intravenous medications	•	•	•
Monitor patient conditions during treatments, procedures, or activities	•	•	•
Administer basic health care or medical treatments	•	•	•
Apply bandages, dressings, or splints	•	•	•
Measure the physical or physiological attributes of patients	•	•	•
Collaborate with healthcare professionals to plan or provide treatment	•	•	•
Supervise patient care personnel	•	•	•
Analyze quantitative data to determine effectiveness of treatments or therapies			
Sterilize medical equipment or instruments	•	•	•
Assist patients with hygiene or daily living activities	•	•	•
Maintain medical facility records	•	•	•
Perform clerical work in medical settings	•	•	•
Schedule patient procedures or appointments			
Train patients, family members, or caregivers in techniques for managing disabilities or illnesses	•	•	•
Prepare medical supplies or equipment for use	•	•	•
Operate diagnostic or therapeutic medical instruments or equipment	•	•	•
Collect biological specimens from patients	•	•	•
Explain medical procedures or test results to patients or family members	•	•	•
Prepare patients physically for medical procedures	•	•	•
Test biological specimens to gather information about patient conditions	•	•	•
Maintain inventory of medical supplies or equipment	•	•	•
Manage preparation of special meals or diets	•	•	•
Order medical supplies or equipment	•	•	•
Clean medical equipment or facilities	•	•	•

Civilian LPN Job Duties	Air Force	Army	Navy
	4N0X1 Aerospace Medical Service	68C Practical Nursing Specialist	HM/0000 Hospital Corpsman Basic
Assist healthcare practitioners during examinations or treatments	●	●	●
Treat patients using physical therapy techniques			

Military to Civilian Training/Education Curricula Analysis

Prior to taking the NCLEX-PN, individuals must complete an LPN education program that is approved by the IDFPR. Training for each of the three related military occupations was compared against a standard LPN education program curriculum.

Standard LPN/VN Curriculum <i>(From National Council of State Boards of Nursing (NCSBN) Analysis: A Comparison of Selected Military Health Care Occupation Curricula with a Standard Licensed Practical/Vocational Nurse Curriculum)</i>	Military Training Curricula		
	4N0X1 Aerospace Medical Service	68C Practical Nursing Specialist	HM/0000 Hospital Corpsman Basic
Anatomy and Physiology	◐	●	◐
Pharmacology	◐	●	◐
Nursing Fundamentals	◐	●	◐
Medical Surgical	◐	●	◐
Maternal and Child Health Nursing		●	
Issues in Nursing	◐	●	◐

- = subject is fully covered in the military occupation's training
- ◐ = subject is partially covered in the military occupation's training
- Blank = subject is not covered in the military occupation's training

Military to Civilian Certification or Licensure Analysis

Passing the NCLEX-PN is a requirement for LPN licensure in Illinois.

- **4N0X1 Aerospace Medical Service:** A comparison of the topics covered in the Aerospace Medical Services Apprentice (AMSA) training against the NCLEX-PN domains found that the military training at least partially covers most of the NCLEX-PN content and moderate preparation is needed to pass the exam. NCLEX-PN knowledge areas that were found to be neither fully nor partially covered by the training include topics such as the referral process, community resources, and information technology.
- **68C Practical Nursing Specialist:** A comparison of the Practical Nursing Specialist's (68W) training against the NCLEX-PN domains was not conducted because the Army requires that Practical Nursing Specialists (68C) pass the NCLEX-PN and possess a current state (or U.S. Territory) license as an LPN or Vocational Nurse (VN).
- **HM/0000 Hospital Corpsman Basic:** Like the Air Force's Aerospace Medical Service (4N0X1) training, individuals who completed the Navy's Hospital Corpsman Basic (HCB) training will need moderate preparation to pass the NCLEX-PN. NCLEX-PN knowledge areas that are neither fully nor partially covered by the military training include topics such as the referral process, community resources, and information technology.

Military Credit to Academic Requirements Analysis

A typical LPN education program curriculum is outlined above in the LPN Military to Civilian Training/Education Curricula Analysis section. The three related military occupations' ACE credit recommendations and CCAF credit were compared against this curriculum to determine if the military credit could potentially be applied toward the curriculum.

- **4N0X1 Aerospace Medical Service:** Individuals who held the Aerospace Medical Service (4N0X1) occupation may be able to use CCAF credit to satisfy some of the LPN education program requirements if determined applicable by an academic institution. Per the 2017-2019 CCAF General Catalog, CCAF provides Aerospace Medical Service (4N0X1) Airmen the opportunity to pursue an Associate of Practical Nursing Technology degree, which includes the option of completing courses in Human Anatomy and Physiology, Pharmacology, and Nursing.

- **68C Practical Nursing Specialist:** As mentioned previously, the Army requires Practical Nursing Specialists (68W) to possess a current state (or U.S. Territory) license as an LPN or VN. Illinois does not participate in the Nurse Licensure Compact (NLC), which allows nurses to practice in other NLC states without having to obtain other licenses. Individuals who hold an LPN license in a state other than Illinois will need to apply for licensure by endorsement and submit proof of graduation from an approved LPN education program. These individuals can submit their military training to determine if their training meets the state's standards for the approved LPN education program requirement. Therefore, ACE credit recommendations for the Practical Nursing Specialist (68C) were not analyzed against LPN education program requirements.
- **HM/0000 Hospital Corpsman Basic:** ACE recommends three lower-division associate/baccalaureate degree semester hours in nursing fundamentals for HM2, HM1, HMC, HMCS, and HMCM, which could potentially be applicable to an approved LPN education program, if determined so by an academic institution (ACE Exhibit Date: 8/15-present).

Summary

- All three related military occupations perform 89 percent of the O*NET DWAs that an LPN performs in the civilian workforce.
- Individuals who served as Practical Nursing Specialists (68C) in the Army have already passed the NCLEX-PN and may still hold a current state (or U.S. Territory) license as an LPN or Vocational Nurse (VN).
- -An individual who holds an LPN license in a state other than Illinois will need to apply for licensure by endorsement, which includes submitting proof of graduation from an approved LPN education program. IDFPF will review the Practical Nursing Specialist's (68C) military training to determine if the training meets the state's standards for the approved LPN education program requirement.
- Individuals who held the Aerospace Medical Service (4N0X1) occupation or the Hospital Corpsman Basic (HM/0000) occupation do not meet the Illinois requirements to work as an LPN, unless they have an Illinois LPN license.
- Individuals without an LPN license will need to complete an LPN education program that is approved by the IDFPF and pass the NCLEX-PN. These individuals may be able to use ACE recommended credit or CCAF credit to satisfy certain LPN education program curriculum requirements. Moderate preparation will be needed to pass the NCLEX-PN.
- Some Air Force and Navy veterans or transitioning service members have the option of meeting the Illinois approved LPN education program requirement by completing a military transition/bridge to LPN education program offered at select colleges in Illinois.

Emergency Medical Technician (EMT)

In Illinois the EMT occupation is regulated by the Illinois Department of Public Health (IDPH), which requires EMTs to hold a license. To obtain an EMT-Basic license in Illinois, candidates must hold a high school diploma or high school equivalency certificate, be 18 years of age or older, have completed an approved training program, and have passed the National Registry of Emergency Medical Technicians (NREMT) exam or the Illinois State Licensing Exam. The following three military occupations were identified as being related to the EMT occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill EMT positions in Illinois:

- **Air Force:** 4N0X1 Aerospace Medical Service
- **Army:** 68W Combat Medic Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

Military to Civilian Job Duties Analysis

A comparison of the related military occupations' job duties against the EMT's O*NET DWAs was completed.

Civilian EMT Job Duties	Air Force	Army	Navy
	4N0X1 Aerospace Medical Service	68W Combat Medic Specialist	HM/0000 Hospital Corpsman Basic
Treat medical emergencies	•	•	•
Implement advanced life support techniques	•	•	•
Operate diagnostic or therapeutic medical instruments or equipment	•	•	•
Inform medical professionals regarding patient conditions and care	•	•	•
Monitor patient progress or responses to treatments	•	•	•
Record patient medical histories	•	•	•
Analyze patient data to determine patient needs or treatment goals	•	•	•
Administer intravenous medications	•	•	•
Administer non-intravenous medications	•	•	•
Sterilize medical equipment or instruments	•	•	•
Collaborate with healthcare professionals to plan or provide treatment	•	•	•
Maintain inventory of medical supplies or equipment	•	•	•
Maintain medical equipment or instruments	•		•
Position patients for treatment or examination	•	•	•
Interact with patients to build rapport or provide emotional support	•	•	•
Maintain medical or professional knowledge	•	•	•

Military to Civilian Training/Education Curricula Analysis

Prior to taking the NREMT exam, EMT-Basic licensure candidates must complete a training program that is authorized by the IDPH. Training for each of the three related military occupations was compared against the EMT-Basic national standard curriculum.

EMT-Basic National Standard Curriculum Modules (From U.S. Department of Transportation National Highway Traffic Safety Administration)	Military Training Curricula		
	4NOX1 Aerospace Medical Service	68W Combat Medic Specialist	HM/0000 Hospital Corpsman Basic
Preparatory	●	●	●
Airway	●	●	●
Patient Assessment	●	●	●
Medical/Behavioral Emergencies and Obstetrics/Gynecology	●	●	●
Trauma	●	●	●
Infants and Children	●		●
Operations	●	●	●

- = subject is fully covered in the military occupation's training
- ◐ = subject is partially covered in the military occupation's training
- Blank = subject is not covered in the military occupation's training

Military to Civilian Certification or Licensure Analysis

Passing the NREMT EMT-Basic certification exam or the Illinois State Licensing Exam is required for EMT-Basic licensure in Illinois.

- **4NOX1 Aerospace Medical Service:** Air Force Aerospace Medical Services Apprentice (AMSA) program graduates are trained to the standards of the NREMT EMT-Basic exam and are required to pass the NREMT EMT-Basic certification exam. As such, a military training to civilian certification analysis was not completed.
- **68W Combat Medic Specialist:** Combat Medic Specialist program graduates are certified to the national standards of EMT-Basic. Combat Medic Specialists must maintain a current, valid, unrestricted NREMT certification to retain the occupational specialty (Sergeant First Class(P) and Master Sergeant ranks are exempt from this requirement). As such, a military training to civilian certification analysis was not completed.
- **HM/0000 Hospital Corpsman Basic:** An analysis of the topics covered in the Hospital Corpsman Basic (HCB) training against the NREMT EMT-Basic cognitive exam domains found the level of preparation needed to pass the NREMT cognitive exam is low as the HCB training fully prepares the Hospital Corpsman Basic (HM/0000) to pass the NREMT EMT-Basic cognitive exam.

Military Credit to Academic Requirements Analysis

The typical EMT training program curriculum is outlined above in the EMT Military to Civilian Training/Education Curricula Analysis section. The three related military occupations' ACE credit recommendations and CCAF credit were compared against this curriculum to determine if the military credit could potentially be applied toward the curriculum.

- **4NOX1 Aerospace Medical Service:** Per the *2017-2019 CCAF General Catalog*, Aerospace Medical Service (4NOX1) Airmen who pursue a CCAF Associate of Practical Nursing Technology degree have the option of completing a CCAF Specialty Internship and the following courses, which may be determined applicable to an Illinois approved EMT-Basic training program by an academic institution: emergency medicine, human anatomy and physiology, communications, and pharmacology.
- **68W Combat Medic Specialist:** ACE recommends the following academic credit for Combat Medic Specialist (68W) skill levels 30, 40 or 50 which may be determined applicable to an Illinois approved EMT training program by an academic institution: three lower-division baccalaureate/ ~~Associate's~~ ~~associate~~-degree semester hours in basic emergency medical procedures and three lower-division baccalaureate/ ~~Associate's~~ ~~associate~~-degree semester hours in introduction to human anatomy and physiology (ACE Exhibit Date: 10/06-12/14).
- **HM/0000 Hospital Corpsman Basic:** The Hospital Corpsman Basic (HM/0000) occupation yields the following ACE recommended credit for HM3, HM2, HM1, HMC, and HMCM, which may be determined applicable to an

Illinois approved EMT training program by an academic institution: three lower-division baccalaureate/~~Associate's associate~~ degree semester hours in emergency medical technician basic, three lower-division baccalaureate/~~Associate's associate~~ degree semester hours in health assessment, and three lower-division baccalaureate/~~Associate's associate~~ degree semester hours in communications (ACE Exhibit Date: 8/15-present).

Summary

- The Aerospace Medical Service (4N0X1) occupation and the Hospital Corpsman Basic (HM/0000) occupation perform 100 percent of the civilian EMT's O*NET DWAs. The Combat Medic Specialist (68W) occupation performs 94 percent of the civilian EMT's O*NET DWAs.
- Individuals who held either the Aerospace Medical Service (4N0X1) occupation or the Combat Medic Specialist (68W) occupation have already passed the NREMT certification exam, as it is a requirement for both military occupations.
- Individuals who held the Hospital Corpsman Basic (HM/0000) occupation will need to pass the NREMT certification exam or the Illinois State Licensing Exam. The Navy's Hospital Corpsman Basic (HCB) training program fully prepares Sailors to pass the NREMT cognitive exam.
- Individuals who held any of the three related military occupations will need to complete an Illinois approved EMT training program. EMT licensing candidates who have been honorably discharged from the military within one year of submitting a licensing exam application can submit their military emergency medical training to the IDPH for evaluation against the approved EMT training requirement.
- Individuals who have earned ACE recommended credit or CCAF credit can submit their credit for review to an academic institution that offers an EMT training program. The academic institution will determine whether the credit is applicable to the training program.

Medical Records and Health Information Technician

Illinois specific requirements for the Medical Records and Health Information Technician occupation were not available. Per the Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, on the national level a high school diploma or equivalent and previous experience in a healthcare setting will qualify individuals for some Medical Records and Health Information Technician positions, however, most positions require postsecondary education. This is typically in the form of a postsecondary certificate, although some positions may require an associate degree. In addition, Medical Records and Health Information Technicians are often required to have a certification or to obtain a certification shortly after being hired.

The following three military occupations were identified as being related to the Medical Records and Health Information Technician occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Medical Records and Health Information Technician positions:

- **Air Force:** 4A0X1 Health Services Management
- **Army:** 68G Patient Administration Specialist
- **Navy:** HM/0000 Hospital Corpsman Basic

Military to Civilian Job Duties Analysis

A comparison of the related military occupations’ job duties against the Medical Records and Health Information Technician’s O*NET DWAs was completed.

Civilian Medical Records and Health Information Technician Job Duties	Air Force	Army	Navy
	4A0X1 Health Services Management	68G Patient Administration Specialist	HM/0000 Hospital Corpsman Basic
Monitor medical facility activities to ensure adherence to standards or regulations	●	●	●
Process healthcare paperwork	●	●	●
Perform clerical work in medical settings	●	●	●
Enter patient or treatment data into computers	●	●	●
Maintain medical facility records	●	●	●
Present medical research reports	.		●
Process medical billing information	●	●	
Record patient medical histories	●	●	●
Manage healthcare operations	●	●	●
Supervise medical support personnel	●	●	●
Prepare official health documents or records	●	●	●
Train caregivers or other non-medical personnel	●	●	●
Maintain medical or professional knowledge	●	●	●
Prepare healthcare training materials			

Military to Civilian Training/Education Curricula Analysis

Training for each of the three related military occupations was compared against a typical curriculum for a postsecondary certificate or associate degree program in Health Information Technology.

Medical Records and Health Information Technician Certificate or Associate Degree Curriculum (From Bureau of Labor Statistics, U.S. Department of Labor, <i>Occupational Outlook Handbook</i>)	Military Training Curricula		
	4A0X1 Health Services Management	68G Patient Administration Specialist	HM/0000 Hospital Corpsman Basic
Medical Terminology	●	●	●
Anatomy and Physiology	◐	◐	◐
Communication	●	●	●
Health Data Requirements and Standards	●	●	◐
Classification and Coding Systems	●	●	◐
Healthcare Reimbursement Methods			
Healthcare Statistics			
Computer Systems	●	●	◐
● = subject is fully covered in the military occupation's training ◐ = subject is partially covered in the military occupation's training Blank = subject is not covered in the military occupation's training			

Military to Civilian Certification or Licensure Analysis

Medical Records and Health Information Technicians can earn certifications from several organizations.

- **4A0X1 Health Services Management and 68G Patient Administration Specialist:** The consolidated Air Force and Army training program helps students prepare for and administers both the National Healthcare Association (NHA) Certified Electronic Health Record Specialist (CEHRS) and the American Academy of Professional Coder (AAPC) Certified Professional Coder (CPC) certification exams. The program also culminates in college credits that apply toward an ~~associate~~ Associate's degree.
- **HM/0000 Hospital Corpsman Basic:** Individuals who completed the Hospital Basic Corpsman (HCB) training will require a high level of preparation prior to taking the National Healthcare Association (NHA) Certified Electronic Health Record Specialist (CEHRS) and the American Academy of Professional Coder (AAPC) Certified Professional Coder (CPC) certification exams. The HCB training covers administration and utilization of medical records, but focuses more on emergency, nursing, and primary care.

Military Credit to Academic Requirements Analysis

A typical Health Information Technology education program curriculum is outlined above in the Medical Records and Health Information Technician Military to Civilian Training/Education Curricula Analysis section. The three related military occupations' ACE credit recommendations and CCAF credit were compared against this curriculum to determine if the military credit could potentially be applied toward the curriculum.

- **4A0X1 Health Services Management:** Individuals who held the Health Services Management (4A0X1) occupation may be able to use CCAF credit to satisfy some of the Health Information Technology education program requirements. Health Services Management (4A0X1) Airmen are afforded the opportunity to obtain an Associate of Applied Science (AAS) degree in Health Care Management. The following CCAF course options may be transferable to a Health Information Technology certificate or associate degree program: medical terminology, human anatomy and physiology, communications, medical coding, health care statistics, and computer science.
- **68G Patient Administration Specialist:** ACE recommends the following academic credit for Patient Administration Specialist (68G) skill levels 30, 40 or 50 that may be applicable to a Health Information Technology certificate or associate degree program: three lower-division baccalaureate/associate degree semester hours in medical records terminology, three lower-division baccalaureate/associate degree semester hours in medical records coding, and three lower-division baccalaureate/associate degree semester hours in introduction to computers (ACE Exhibit Date: 10/6-11/11).
- **HM/0000 Hospital Corpsman Basic:** The Hospital Corpsman Basic (HM/0000) occupation yields the following ACE recommended credit for HM3, HM2, HM1, HMC, and HMCM, which may be determined to be applicable

to a Health Information Technology certificate or associate degree program: three lower-division baccalaureate/associate degree semester hours in communications (ACE Exhibit Date: 8/15-present).

Summary

- The Health Services Management (4A0X1) occupation and the Patient Administration Specialist (68G) occupation perform 86 percent of the civilian Medical Records and Health Information Technician's O*NET DWAs. The Hospital Corpsman Basic (HM/0000) occupation performs 79 percent of the civilian Medical Records and Health Information Technician's O*NET DWAs.
- The Air Force and Army Healthcare Administration Specialist training program helps students prepare for and administers the National Healthcare Association (NHA) Certified Electronic Health Record Specialist (CEHRS) and the American Academy of Professional Coder (AAPC) Certified Professional Coder (CPC) certification exams and yields college credits that apply toward an associate degree. Individuals who have completed the Hospital Corpsman Basic (HM/0000) training will need significant additional preparation or study prior to taking these two civilian certification exams.
- All three of the related military occupations have ACE recommended credit or CCAF credit that is potentially applicable to a Health Information Technology postsecondary certificate or ~~Associate's~~ Associate degree.
- Individuals who held any of the three related military occupations meet the minimum national requirements to work as a Medical Records and Health Information Technician in the civilian workforce. To be a competitive Medical Records and Health Information Technician job candidate, individuals will need to hold a certification and a postsecondary certificate or associate degree in Health Information Technology or Health Information Management.

Laboratory Technician

To work as a Laboratory Technician in a moderate complexity lab in Illinois individuals must have completed a high school diploma or equivalent and have training appropriate for the testing performed prior to analyzing patient specimens. The following three military occupations were identified as being related to the Laboratory Technician occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Laboratory Technician positions in Illinois:

- **Air Force:** 4TOX1 Medical Laboratory
- **Army:** 68K Medical Laboratory Specialist
- **Navy:** HM/8506 Medical Laboratory Technician, Advanced

Military to Civilian Job Duties Analysis

A comparison of the related military occupations' job duties against the Laboratory Technician's O*NET DWAs was completed.

Civilian Laboratory Technician Job Duties	Air Force	Army	Navy
	4TOX1 Medical Laboratory	68K Medical Laboratory Specialist	HM/8506 Medical Laboratory Technician, Advanced
Test biological specimens to gather information about patient conditions	•	•	•
Analyze laboratory specimens to detect abnormalities or other problems	•	•	•
Analyze laboratory findings	•	•	•
Enter patient or treatment data into computers	•	•	•
Operate laboratory equipment to analyze medical samples	•	•	•
Prepare biological specimens for laboratory analysis	•	•	•
Collect biological specimens from patients	•	•	•
Clean medical equipment or facilities	•	•	•
Maintain medical laboratory equipment	•	•	•
Prepare medical supplies or equipment for use	•	•	•
Cultivate micro-organisms for study, testing, or medical preparations	•	•	•
Inform medical professionals regarding patient conditions and care	•	•	•
Conduct research to increase knowledge about medical issues			
Analyze test data or images to inform diagnosis or treatment	•	•	•
Supervise technical medical personnel	•	•	•
Train medical providers	•	•	•

Military to Civilian Training/Education Curricula Analysis

A curriculum for the training required to work as a Lab Technician in a moderate complexity lab in Illinois was not available. Therefore, a comparison of the related occupations' military training and the civilian occupation's training was not completed.

Military to Civilian Certification or Licensure Analysis

Although not required to be certified to work as a Laboratory Technician in a moderate complexity lab in Illinois, individuals who have successfully completed the Air Force Medical Laboratory Apprentice (MLA) training program or the Army and Navy Medical Laboratory Technician (MLT) training program within the last ten years have satisfied one part of the eligibility requirements for the American Society of Clinical Pathology (ASCP) Board of Certification Medical Laboratory Technician certification.

Military Credit to Academic Requirements Analysis

An analysis of the related military occupations' ACE credit recommendations for Army and Navy experience and CCAF credit against typical academic requirements was not completed because a certificate or degree is not required to work as a Laboratory Technician in a moderate complexity lab in Illinois.

Summary

- All three related military occupations perform 94 percent of the O*NET DWAs that a Laboratory Technician performs in the civilian workforce
- Although not required to be certified to work as a Laboratory Technician in a moderate complexity lab in Illinois, individuals who have successfully completed the Air Force Medical Laboratory Apprentice (MLA) training program or the Army and Navy Medical Laboratory Technician (MLT) training program within the last ten years have satisfied one part of the eligibility requirements for the American Society of Clinical Pathology (ASCP) Board of Certification Medical Laboratory Technician certification.
- The training that is required to work as a Laboratory Technician in a moderate complexity lab in Illinois can be obtained on the job. Military trained individuals who go on to work in such a laboratory will need to keep documentation of their military laboratory technician training on file to show proof of training when the lab is surveyed.

Radiologic Technologist

In Illinois the Radiologic Technologist occupation is regulated by the Illinois Emergency Management Agency (IEMA), which requires Radiologic Technologists to be licensed. Medical Radiography licensure requires passing the American Registry of Radiologic Technologists (ARRT) Radiography certification exam. The following three military occupations were identified as being related to the Radiologic Technologist occupation and an analysis was completed to determine how prepared individuals who held these occupational specialties are to fill Radiologic Technologist positions in Illinois:

- **Air Force:** 4R0X1 Diagnostic Imaging
- **Army:** 68P Radiology Specialist
- **Navy:** HM/8452 Advanced X-Ray Technician

Military to Civilian Job Duties Analysis

A comparison of the related military occupations' job duties against the Radiologic Technologist's O*NET DWAs was completed.

Civilian Radiologic Technologist Job Duties	Air Force	Army	Navy
	4R0X1 Diagnostic Imaging	68P Radiology Specialist	HM/8452 Advanced X-Ray Technician
Check quality of diagnostic images	•	•	•
Operate diagnostic imaging equipment	•	•	•
Verify that medical activities or operations meet standards	•	•	•
Monitor patient conditions during treatments, procedures, or activities	•	•	•
Adjust settings or positions of medical equipment	•	•	•
Explain medical procedures or test results to patients or family members	•	•	•
Collect medical information from patients, family members, or other medical professionals			•
Enter patient or treatment data into computers	•	•	•
Position patients for treatment or examination	•	•	•
Prepare medical supplies or equipment for use	•	•	•
Inform medical professionals regarding patient conditions and care	•	•	•
Administer medical substances for imaging or other procedures	•	•	•
Prepare medications or medical solutions	•	•	•
Monitor video displays of medical equipment to ensure proper functioning	•	•	•
Prepare reports summarizing patient diagnostic or care activities	•	•	•
Record patient medical histories	•	•	•
Collaborate with healthcare professionals to plan or provide treatment	•	•	•
Assist patients with hygiene or daily living activities	•	•	•
Process x-rays or other medical images	•	•	•
Measure the physical or physiological attributes of patients	•	•	•
Supervise patient care personnel	•	•	
Maintain medical equipment or instruments	•	•	•
Repair medical facility equipment			
Train medical providers	•	•	•
Manage healthcare operations	•	•	•

Military to Civilian Training/Education Curricula Analysis

To qualify to take the ARRT Radiography certification exam candidates must have completed an ARRT-approved educational program in Radiography within the past three years. The Air Force, Army, and Navy provide consolidated radiologic technologist training which is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Graduating from the Radiologic Technologist program and earning the respective military occupation code (Air Force=4R0X1, Army=68P, and Navy=HM/8452) satisfies the ARRT-approved educational program requirement. As such, an analysis comparing the related military occupations' training against a civilian ARRT approved educational program curriculum was not completed.

Military to Civilian Certification or Licensure Analysis

The Radiologic Technologist program includes a self-paced study for the ARRT exam and fully prepares individuals to pass the ARRT Radiography certification exam. At the end of the Radiologic Technologist program, AART Radiography certification candidates have three years to establish eligibility and apply for ARRT certification and registration.

Military Credit to Academic Requirements Analysis

To qualify to take the ARRT Radiography certification exam candidates must hold an ~~associate~~ Associate's degree or higher from an institution accredited by an agency that ARRT recognizes. An analysis of the related military occupations' ACE credit (Army and Navy) and CCAF credit against an Associate's ~~associate~~ degree curriculum was not completed because the required Associate's ~~associate~~ degree can be earned in any discipline.

Summary

- All three related military occupations perform 92 percent of the O*NET DWAs that a Radiologic Technologist performs in the civilian workforce.
- Individuals who have held any of the three related military occupations do not meet the Illinois Radiologic Technologist occupation requirements, unless they are licensed in Radiography, which requires passing the ARRT Radiography certification exam.
- The Air Force, Army, and Navy provide consolidated radiologic technologist training which is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Graduating from the Radiologic Technologist program and earning the respective military occupation code (Air Force=4R0X1, Army=68P, and Navy=HM/8452) satisfies the ARRT-approved educational program certification requirement. At the end of the Radiologic Technologist program, AART Radiography certification candidates have three years to establish eligibility and apply for ARRT certification and registration.
- ARRT Radiography certification candidates must also hold an ~~associate~~ Associate's degree or higher from an institution accredited by an agency that ARRT recognizes.
- The Radiologic Technologist program includes a self-paced study for the ARRT exam and fully prepares individuals to pass the ARRT Radiography certification exam.

A3: Best Practices for Stakeholders

Action		Stakeholders				
		Employers / Healthcare Industry	Academic Institutions	Workforce System (WIOA, VA, Non-Profits)	National Certification Agencies	State Licensing Agencies
Partner and Stakeholder Engagement	Disseminate report, crosswalks and user-friendly informational materials	✓	✓	✓	✓	✓
	Forums: Facilitate dialogue among all Stakeholders around supporting veterans into civilian healthcare careers and through these Career Pathways.	✓	✓	✓	✓	✓
	Provide TA on Crosswalks and Pathways to Veteran-facing trainers, nonprofits and public agencies.		✓	✓		
	Develop and/or recognize bridge training programs for military-trained applicants.		✓		✓	✓
Maximize Credit for Military Training and Experience	Use formal documentation of Service Member's training and experience to provide maximum credit		✓		✓	✓
	Explicitly recognize military training and/or experience in eligibility and hiring requirements		✓		✓	✓
	Provide multiple pathways for candidates to meet credential eligibility requirements, particularly when a credential requires degree attainment				✓	✓
	Allow use of military training for continuing education credits to maintain credentials				✓	✓
	Review military training materials to assess equivalency and explicitly recognize military training		✓		✓	✓
Assess Equivalency of Military Training	Use available Service documentation to assess individual Service members' and Veterans' unique qualifications		✓		✓	✓
	Recognize national certification or other national exams for state licensure					✓
Accommodate Military's Unique Needs	Consider waiving residency requirements					✓
	Make accommodations for deployments				✓	✓
	Ensure exams are widely available				✓	
	Make credential exam domains readily available				✓	✓
Provide Aids to Assess Gaps	Offer pre-credentialing assessment tools for Service members to assess gaps prior to taking credential exam		✓		✓	✓
	Offer post-credentialing diagnostic tools to show areas of strength and weaknesses		✓		✓	✓

Action		Stakeholders				
		Employers / Healthcare Industry	Academic Institutions	Workforce System (WIOA, VA, Non-Profits)	National Certification Agencies	State Licensing Agencies
Ensure Quality/ Value	Provide evidence of value of credentials		✓		✓	
	Obtain GI approval for payment of credential exam fees or courses		✓		✓	✓
Facilitate Payment	Accept pre-paid vouchers from military				✓	
	Make clear linkages between credential and specific civilian jobs		✓		✓	✓
Provide Clear Information	Have military-specific sections of website		✓		✓	✓
	Make exam preparation resources readily available		✓		✓	✓
	Promote to membership/ industry/ employers the quality and transferability of military education, training, and experience		✓		✓	✓