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COMMENTARY

Salary and entry-level requirements for pharmacy technicians compared with other health technologist and technician occupations in Maryland

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ABSTRACT

Objectives: Pharmacy technician programs are experiencing important transitions to new educational standards, an enhanced accreditation framework, and changing requirements by state boards of pharmacy. The requirements are highly variable from state to state and have practical consequences for the pharmacy workforce in terms of technician recruitment, retention, and satisfaction. Using the state of Maryland as a case report, the purpose of this analysis was to compare the requirements necessary to become either a pharmacy technician or another type of health technologist, including board licensure or registration; training, education or certification or both; and 2016 median salary as reported by the Bureau of Labor Statistics.

Data sources: This analysis of salaries and job requirements for health technologists and technicians in the state of Maryland was conducted using the Standard Occupational Classification system and the Bureau of Labor Statistics wage data.

Summary: Nuclear medicine technologists have the highest median salary at $38.50 per hour. No relationship between increasing entry-level qualifications and salary was identified, but pharmacy technicians were found to have the lowest median salary at $15.10 per hour. Although 5 occupations have median salaries greater than $30, 9 have median hourly salaries less than $20, of which 5 have minimum qualifications mandated by statute and regulation.

Conclusion: Pharmacy technicians have the lowest median salary compared with other health technologists and technicians in Maryland. With pharmacy technicians reporting low satisfaction with salary as a reason for intending to leave an employer, implementing mandatory minimum entry-level requirements without a corresponding increase in salary could lead to a reduction in applicants for positions.

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Objective

An individual graduating from high school or completing an equivalent program has an important decision to make regarding his or her future career plans. This may include accepting a position immediately after graduation; attending a technical school, college, or university to obtain an associate's or bachelor's degree before entering the workforce; or pursuing long-term plans to build on a bachelor's degree with a master's, doctorate, or professional degree. Several factors may influence the decision-making process, including, but not limited to, areas of interest, qualifications needed to obtain a position in the desired field, time and cost of obtaining the necessary qualifications, and potential financial benefits on completion.

If an individual decides to pursue a career as a pharmacy technician in the state of Maryland, he or she must either (1) obtain national certification by passing either the Pharmacy Technician Certification Examination or the Examination for Certification of Pharmacy Technicians or (2) complete a Board of Pharmacy (Board)–approved technician training program and pass an examination approved by the Board. After completing 1 of these pathways, the candidate is then able to register with the Board as a pharmacy technician.[1]

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Key Points

Background:

- According to the Bureau of Labor Statistics, there are 22 detailed occupations included in the Health Technologists and Technicians minor group, which includes pharmacy technicians.
- Pharmacy technicians have previously reported an interest in a career in health care and a desire to help people as motivating factors for pursuing a position as a pharmacy technician.

Findings:

- Pharmacy technicians have the lowest median salaries in Maryland compared with those of other health technologist and technician positions.
- When determining minimum entry-level requirements for pharmacy technicians, an evaluation of alternative career pathways should be conducted.

The 2015 National Pharmacy Technician Workforce Study surveyed 5000 certified pharmacy technicians to evaluate various workplace factors. When asked why they became a pharmacy technician, 64.5% of respondents reported they became a pharmacy technician because of an interest in pharmacy or a career in health care (or both), and 38% identified a desire to help people. However, respondents ranked salary as one of the lowest areas of satisfaction.[2]

Developed by the Office of Management and Budget, the Standard Occupational Classification (SOC) system groups workers into occupational categories on the basis of similar job responsibilities. The occupations in the SOC are divided into the following 4 levels of detail: major groups, minor groups, broad occupations, and detailed occupations.[3] This system can be used to identify alternative career options.

According to the 2010 SOC Manual, pharmacy technicians are included in a detailed occupation that falls under the Healthcare Practitioners and Technical Occupations major group, which includes 2 minor groups: Healthcare Diagnosing or Treating Practitioners and Health Technologists and Technicians. Examples of Healthcare Diagnosing or Treating Practitioners are careers such as physicians, veterinarians, pharmacists, surgeons, and nurse practitioners, whereas Health Technologists and Technicians include pharmacy technicians, laboratory technicians, and those in licensed practical nursing careers. In the career pathways that fall under the Health Technologists and Technicians minor group, there are 8 broad occupation groups and 22 detailed occupations.[4]

The purpose of this analysis was to describe the entry-level requirements, including board licensure or registration, training, education, certification or a combination of all 4 in the state of Maryland, and 2016 median salary, as reported by the Bureau of Labor Statistics (BLS), for pharmacy technicians compared with other health technologists and technicians. This evaluation will help to identify key factors that might affect the decision-making process of an individual interested in pursuing a career as a pharmacy technician.

Data sources

This analysis describes the salaries and job requirements for health technologist and technician positions in the state of Maryland. Of the 22 detailed occupations included in the 2010 SOC Manual, 21 are included in this study. The 2010 SOC Manual included medical records specialists in the same major group; however, the revision published in 2018 removed medical records specialists from this category. As a result, medical records specialists were excluded.

Initially, a search of The Code of Maryland Regulations was completed to identify the various agencies and state boards granted statutory authority to regulate practice. After identification of these agencies and state boards, each website was reviewed to identify the occupations that were regulated by them.[4-6] Next, using the General Assembly of Maryland website and the Division of State Documents website, the relevant statutes and regulations were searched for each occupation using the following key words: license, registration, certificate, training, education, and certification. A standard data extraction form was created in Excel (Microsoft, Redmond, WA) to collect information on the board responsible for oversight and type (license, registration, or certificate), the need for completion of a formal educational program and the type (e.g., bachelor's degree, associate's degree, or certificate), any additional training needed (e.g., on the job), and whether national certification is required and, if so, the applicable certifying body. Wage data for Maryland in 2016 for each occupation were retrieved from the BLS website.[7] The search and data extraction was completed by 1 author. All searches were conducted in May 2018.

Summary

Of the 21 detailed occupations included, 10 (10/21, 48%) had some form of board oversight, whereas 11 (11/21, 52%) did not have board oversight. Of the 10 with board oversight, 7 (7/10, 70%) required a license to practice, 1 (1/10, 10%) required a certificate, and 2 (2/10, 20%) required a registration. Of the 11 occupations that did not have board oversight, 2 (2/11, 18%) did have statutory or regulatory requirements (or both) regarding education, training, and certification needed to practice (Table 1).

Regarding entry-level requirements, 11 (11/21, 52%) required a formal educational program, with 6 (6/11, 55%) requiring an associate's degree, 4 (4/11, 36%) requiring completion of a certificate program, and 1 (1/11, 9%) requiring a bachelor's degree. Four occupations (4/21, 19%) required completion of a training program, and 7 (7/21, 33%) required national certification. Two (2/21, 10%) required education, training, and national certification; 5 (5/21, 24%) required education and national certification; 2 (2/21, 10%) required education and training; 1 (1/21, 5%) required education only; and 2 (2/21, 10%) required either completion of a training program or national certification (Table 2).

Median hourly salaries of the health technologists and technicians ranged from $15.10 to $38.50. Five (5/21, 24%) had median hourly salaries greater than $30, of which only 2 had minimum qualifications mandated by statute or regulation. Seven (7/21, 33%) had median hourly salaries of $20 to $30, 5 of

Table 1
Board oversight of BLS-detailed occupations

BLS-detailed occupation	Maryland Board oversight	Board	Type of oversight
Cardiovascular technologists and technicians	N	N/A[a]	N/A
Diagnostic medical sonographers	N	N/A[a]	N/A
Dietetic technician	N	N/A	N/A
EMT	Y	Emergency medical services	Certificate
Health technologists and technicians, all other	Y	Physicians	License
Hearing aid specialist	Y	Audiologists, hearing aid dispensers, and speech language	License
Lab technicians	N	N/A	N/A[c]
Lab technologists	N	N/A	N/A[c]
LPN	Y	Nursing	License
Magnetic resonance imaging technologists	N	N/A[a]	N/A
Medical dosimetrists	Y	Physicians	License
Nuclear medicine technologists	Y	Physicians	License
Ophthalmic medical technician	N	N/A[a]	N/A
Optician, dispensing	N	N/A	N/A
Orthotist and prosthetist	N	N/A[b]	N/A
Paramedic	Y	Emergency medical services	License
Pharmacy technician	Y	Pharmacy	Registration
Psychiatric technician	N	N/A[a]	N/A
Radiologic technologists and technicians	Y	Physicians	License
Surgical technician	N	N/A[a]	N/A
Veterinary technologist and technician	Y	Veterinary medical examiners	Registration

Abbreviations used: BLS, Bureau of Labor Statistics; N, no; N/A, not applicable; EMT, emergency medical technician; Y, yes; LPN, licensed practical nurse.
[a] As per the Maryland Board of Physicians, the board does not license or register these occupations.
[b] Not mentioned in the statutes or regulations.
[c] Education and training mandated by regulation; however. no board licensure or registration is required.

which had statutory or regulatory requirements (or both) for minimum qualifications. Nine (9/21, 43%) had median hourly salaries less than $20, of which 5 had minimum qualifications mandated by statute or regulation. Nuclear medicine technologists had the highest median hourly salary, whereas pharmacy technicians had the lowest median salary (Table 2).

When comparing the qualifications necessary to become a pharmacy technician with those of other health technologist and technician positions identified by the BLS, there is a wide range of requirements in the state of Maryland. The requirements range from no regulation to various combinations of completion of an accredited educational program,

Table 2
Median salary and entry-level requirements

Job title	Median salary	Education	Type of education	Training	Type of training	National certification	Training or certification
Nuclear medicine technologist	$38.50	Y	Associate's	N	N/A	Y	N
MRI technologist	$35.92	N	N/A	N	N/A	N	N
Diagnostic medical sonographer	$34.70	N	N/A	N	N/A	N	N
Orthotist/prosthetist	$33.67	N	N/A	N	N/A	N	N
Radiologic technologists and technicians	$31.15	Y	Associate's	N	N/A	Y	N
Lab technologist	$29.69	Y	Bachelor's	Y	1-y experience	N	N
Medical dosimetrist	$28.74	Y	Associate's	N	N/A	Y	N
Cardiovascular technician	$27.99	N	N/A	N	N/A	N	N
Hearing aid dispenser	$25.86	Y	Associate's	N	N/A	N	N
LPN	$24.83	Y	Certificate	N	N/A	Y	N
Surgical technologist	$24.66	N	N/A	N	N/A	N	N
Health technologists and technicians, all other	$20.60	Y	Certificate	N	N/A	N	Y
Lab technician	$18.68	Y	Associate's	Y	1-y experience	N	N
EMT	$18.60	Y	Certificate	Y	Board-approved internship	Y	N
Paramedic	$18.60	Y	Certificate	Y	12 mo as an EMT or 150 documented ambulance responses	Y	N
Ophthalmic technician	$18.24	N	N/A	N	N/A	N	N
Optician	$17.26	N	N/A	N	N/A	N	N
Psychiatric technician	$16.94	N	N/A	N	N/A	N	N
Veterinary technician	$16.47	Y	Associate's	N	N/A	Y	N
Dietary technician	$15.56	N	N/A	N	N/A	N	N
Pharmacy technician	$15.10	N	N/A	N	Board-approved	N	Y

Abbreviations used: Y, yes; N, no; N/A, not applicable; MRI, magnetic resonance imaging; LPN, licensed practical nurse; EMT, emergency medical technician.

completion of a training program, and national certification. The very complexity of the requirements could present barriers for a prospective technologist or technician to formulate a plan of study and finances to pursue a career or to transition to a new career.

There does not seem to be any relationship between entry-level qualifications and median salary among health technician careers in Maryland. For example, paramedics have the most requirements, including licensure with the Emergency Medical Services Board, completion of a board-approved paramedic course, 12 months of experience as an emergency medical technician or completion of 150 documented ambulance responses, and national certification through the National Registry of Emergency Medical Technicians. However, their median hourly salary is $18.60. In contrast, a magnetic resonance imaging technologist who has no statutory or regulatory requirements has the second highest median hourly salary of all the health technologists and technicians in Maryland at $35.92.

To the authors' knowledge, this is the first analysis to describe entry-level requirements and salaries of alternative health technician careers. Compared with other health technologist and technician occupations, pharmacy technicians have the lowest median salary in Maryland. There is little research focused on pharmacy technicians' salaries. A previous study evaluated the change in pharmacy technicians' salaries over time compared with the Consumer Price Index (CPI). This study found that the increase in salary over time was consistent with what would be expected based on changes to the CPI.[8] A recent study evaluated the association between state-mandated entry-level registration and licensure requirements of pharmacy technicians and median hourly salaries. States were divided into high-regulation and low-regulation states depending on the presence of entry-level requirements. After adjusting for the cost of living in a particular state, there was no significant difference in salary for low-regulation compared with high-regulation states.[9] Another recent study, which evaluated the correlation between implementation of an entry-level requirement in a state and change in salary over time, found that although technician wages did increase over time, there was no relationship to the adoption of an entry-level requirement.[10]

Several national pharmacy organizations have advocated for mandatory education, training, and certification requirements with enhanced standards for pharmacy technicians,[11-14] and many states have implemented regulations requiring mandatory minimum education or training requirements.[15] In addition, new requirements are being planned to be implemented requiring mandatory education or training requirements to be eligible for a national certification examination.[16] Although there is no literature evaluating the benefits of registration or licensure for pharmacy technicians, there is a vast amount of research regarding occupational licensing and government-mandated entry-level requirements. Occupational licensing has been shown to decrease labor supply, and licensing of low-to-moderate-level occupations, which includes pharmacy technicians, has been found to be overly burdensome and often arbitrary because of inconsistencies in requirements across the country.[17-19] Studies have reported an increase in salary as a result of licensing; however, the resultant wage increase only compensated for approximately 70% of the opportunity costs associated with investment in obtaining the license.[20] With a high proportion of surveyed pharmacy technicians reporting low satisfaction with salary and salary being a reason for intending to leave an employer, implementing mandatory minimum entry-level requirements without a corresponding increase in salary could lead to a reduction in applicants for positions.[2,21]

Limitations

One limitation of this study is that even though a regulatory body may not require minimum qualifications, employers may require additional certification or training as a condition of employment. Without accounting for the level of employer-required qualifications, the impact of entry-level requirements on salary may not have been identified. In addition, the cost to obtain the credentials mandated by regulation or employer-specific requirements was not evaluated. Potential candidates for careers that require additional education, training, or certification must consider both the monetary and opportunity costs associated with completing these requirements. As a result, the salary for these positions could be higher to overcome these costs. The use of population-level data to obtain salaries of the various health occupations does not account for individual characteristics that may also affect salary, including years of experience, tenure with an employer, and variations in geographic location. There is also the potential for misclassification bias, as only 1 person participated in the search and data extraction.

Conclusion

This analysis explored alternative career options and salary levels for an individual considering a career as a pharmacy technician in Maryland. Of all the health technician careers identified in the SOC, pharmacy technicians have the lowest median salary as reported by the BLS. This may play a role when individuals determine an initial or alternative career path and might deter potential candidates from a career as a pharmacy technician. As several national pharmacy organizations advocate for standardization of education, training, and certification requirements, states should evaluate the impact this could have on the technician workforce.

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