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# *Virginia's Registered Pharmacy Technician Workforce: 2011*

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Healthcare Workforce Data Center

September 2012

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## Healthcare Workforce Data Center

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### Overview

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The Virginia Department of Health Profession's Healthcare Workforce Data Center (HWDC) collects and disseminates workforce information on Virginia's licensed healthcare practitioners. The 2007 report of the Governor's Health Reform Commission recommended that the HWDC be established within the Department of Health Professions (DHP) due to its existing repository of licensure information for over 80 professions. In the spring of 2008, HWDC was launched with Workforce Investment Act grant funding and continues with support from the Department and shared grant funding from the U.S. Health Resources Services Administration on behalf of the new Virginia Health Workforce Development Authority and other partner organizations.

With significant input and collaborative effort from key stakeholders and experts, HWDC has developed initial supply and demand forecasts for physicians and nurses, published results from existing physician and nursing workforce surveys originally developed by the Board of Medicine and Board of Nursing, updated and launched revised surveys as well as developed new workforce surveys as listed in the "Current Collection" in the HWDC Survey Timetable below. Beginning in 2012, HWDC began development of audiology & speech language pathology surveys and long term care administrator surveys which are poised for rollout later this fiscal year.

### HWDC Survey Timetable

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In Current Collection:	Projected 2012 Rollout:	Proposed:
Medical Doctors	Speech-Language Pathologists	Occupational Therapists
Doctors of Osteopathy	Audiologists	Occupational Therapy Assistants
Registered Nurses and Licensed Practical Nurses	Long-Term Care Administrators	
Certified Nurse Aides	Physical Therapists	
Physician Assistants	Physical Therapy Assistants	
Nurse Practitioners		
Licensed Professional Counselors		
Clinical Psychologists		
Licensed Clinical Social Workers		
Pharmacists		
Pharmacy Technicians		
Dentists		
Dental Hygienists		

## The 2011 Pharmacy Technician Workforce Survey

### Methodology

The Pharmacy Technician Workforce Survey is administered to Registered Pharmacy Technicians through the Department of Health Professions online renewal process. The Board of Pharmacy has an annual renewal cycle, with licenses expiring Dec. 31 of each year. Currently, HWDC surveys are only available to those renewing their licenses online. New Virginia licensees and those returning from a long absence did not have access to the online survey.<sup>1</sup> Additionally, paper renewals were available. The survey was not offered to students or new applicants. This survey was conducted during the 2011 renewal period ending December 31, 2011. The survey text is available in Appendix C.

### Response Rates

Statistic	Registered Pharmacy Technicians
Renewing Practitioners, 2011	11,229
Licensees, 2011 Renewal Cycle	13,007
Completed Surveys	9,297
Proportion of licensees who completed a survey.	71.5%
Response Rate, Renewing Practitioners	82.8%

The survey's population is all registered pharmacy technicians in Virginia during the renewal cycle. From this population, we are particularly interested in those who worked or were available to work in Virginia: Virginia's Pharmacy Technician Workforce. Our sample is a convenience sample of licensed professionals who renewed their licenses and chose to renew online. This method, along with the voluntary efforts of practitioners, results in a very high overall response rate (see above).

The methodology excludes pharmacy technicians first licensed in the Commonwealth in October, November or December of the survey year, as these practitioners are not required to renew until the next renewal cycle. It excludes pharmacy technicians who did not renew their licenses. The methodology also excludes practitioners who choose to renew using paper renewals. These practitioners may be older, less technologically savvy or lack access to high speed internet (e.g., rural practitioners). Using administrative data in our licensee files, we are able to determine response based on age and the metro status of the practitioner's mailing address with the Department.

Statistic	Non Respondents	Respondent	Response Rate (licensees)
<b>By Age</b>			
Under 30	1836	3665	66.6%
30 to 34	451	1202	72.7%
35 to 39	301	874	74.4%
40 to 44	284	914	76.3%
45 to 49	219	807	78.7%
50 to 54	228	780	77.4%
55 to 59	196	555	73.9%
60 to 64	100	356	78.1%
65 to 69	56	105	65.2%
70 to 74	24	32	57.1%
75 to 79	6	4	40.0%
80+	4	2	33.3%
Age Unknown	5	1	16.7%
<b>Total</b>	<b>3710</b>	<b>9297</b>	<b>71.5%</b>
<b>New Licenses, 2011</b>			
License Issued in 2011	1,104	783	41.4%
<b>Metro Status</b>			
Non-Metro	571	1,618	73.9%
Metro	2,891	7,253	71.5%
Not in Virginia	140	243	63.4%

<sup>1</sup> Military personnel may renew within 60 days of returning from an overseas deployment, as long as renewal occurs within five years of license expiration. All others must renew licenses biennially.

## Virginia's Registered Pharmacy Technicians

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Not all of Virginia's licensed practitioners live or work in the state. Out-of-state practitioners maintain licenses in-state for a variety of reasons. Those serving in the military or working for the federal government may choose to maintain a license, but they may do so in any state. Retired practitioners may maintain their licenses for prestige or occasional practice. Practitioners may occasionally travel to Virginia to work, particularly those practicing in Virginia's border jurisdictions.

About 95.5 percent of Virginia's registered pharmacy technicians have mailing addresses in Virginia, and 2.9 percent have mailing addresses in a state bordering Virginia or the District of Columbia. Of those who reported a primary work location on our surveys, only 162, or 2.3 percent, listed a primary work location outside of Virginia. Of these, 60 were in a state bordering Virginia or the District of Columbia.

## Virginia's Pharmacy Technician Workforce

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Virginia's workforce consists of respondents who reported having at least one practice location and who identified at least one practice location in Virginia. If a respondent indicated practicing but did not list a location, mailing address was used as a proxy to determine participation in Virginia's workforce. Virginia's workforce also includes those who reside in Virginia and are not working, but who intend to return to practice at some point. Those familiar with federal data should note that this is a broader measure than the Bureau of Labor Statistics' civilian labor force which includes only those who are employed or those who are actively seeking work and excludes those in the military. Using these criteria, 8,181 respondents are in Virginia's workforce.

Status	Respondents
Working in Virginia	7,027
Not working, but plans to return to work in Virginia	1,154
<b>Total</b>	<b>8,181</b>

## Weighted Estimates

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To account for differences in response rates by key characteristics, this report uses weighted estimates. The HWDC assigns a weight to each response based on the overall response rate of pharmacy technicians based on the age of the respondent in five year categories and the rural status of the respondent's mailing address.

Status	Weighted Estimate
Working in Virginia	9,820
Not working, but plans to return to work in Virginia	1,619
<b>Total</b>	<b>11,439</b>

For the latter, the HWDC uses a measure of rurality developed by the US Department of Agriculture known as the Rural-Urban Continuum Code. More information on these codes is available on the USDA website here:

<http://www.ers.usda.gov/Briefing/Rurality/RuralUrbCon/>. Response rates may vary on other important characteristics such as race/ethnicity, gender, specialty or worksite characteristics. However, the HWDC does not have population-wide data on these characteristics to generate response rates and weights. For information on weights, see Appendix A. Due to the rounding of weighted data in HWDC's statistical software, weighting may result in some minor anomalies in tables and other presented data (e.g., data may not add to totals in tables).

Using this methodology, we estimate there were 11,439 pharmacy technicians in Virginia's Pharmacy Technician Workforce, including 9,820 registered technicians who worked as pharmacy technicians in Virginia in 2011 and 1,619 registered technicians who did not indicate working in Virginia in 2011, but who indicated plans to return to work in Virginia in the future.

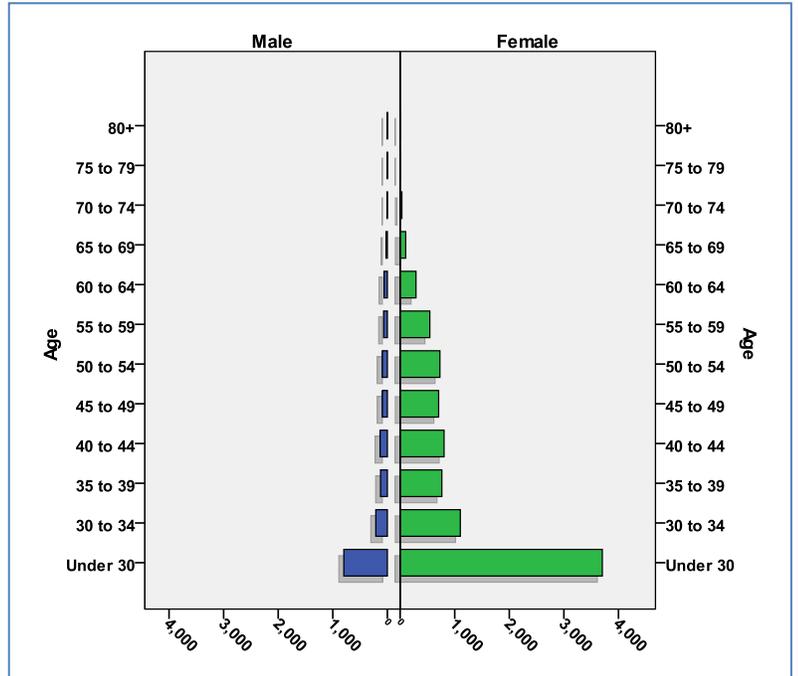
# Virginia's Pharmacy Technician Workforce

## Demographics

### Age & Gender

The median age of Virginia's pharmacy technicians, as of December 31, 2011, was 32. For both the nation as a whole and the Commonwealth of Virginia, the median age of the civilian labor force was 42 years of age in 2010.<sup>2</sup> Over 55 percent were under age 35, and 65 percent were under age 40. Fewer than 11 percent are over age 50.

Almost 85 percent of Virginia's pharmacy technicians were female, compared to about 51 percent of Virginia's population. However, men appear to be making up a growing share of the pharmacy technician workforce. Among pharmacy technicians under age 30 almost 18 percent were male.



### Diversity<sup>3</sup>

Virginia's pharmacy technician workforce largely matches Virginia's population in terms of racial and ethnic diversity. Nevertheless, compared to Virginia's population, Asians are somewhat overrepresented and Hispanics are somewhat underrepresented.

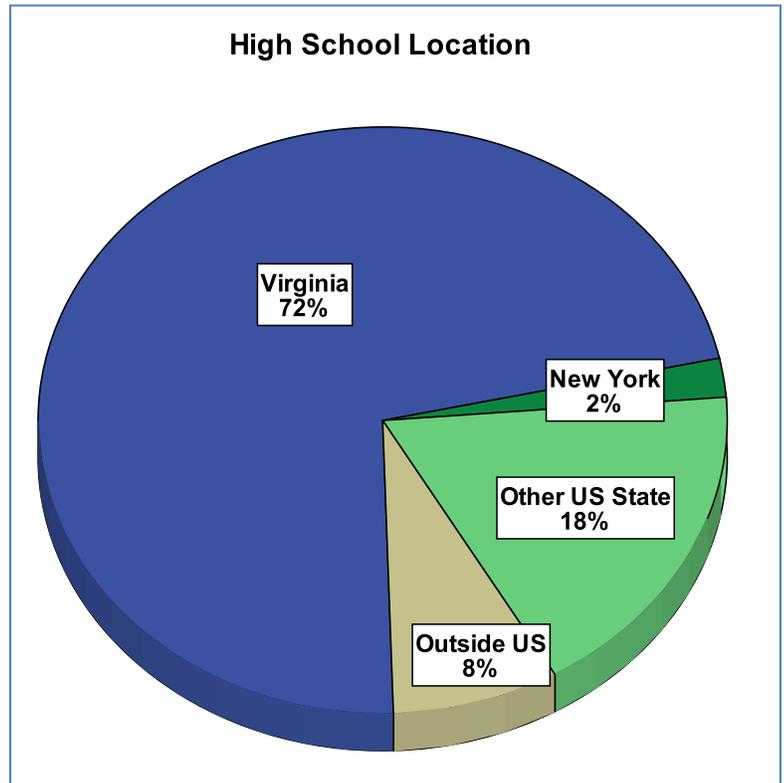
Race/ Ethnicity	2010 Virginia Population		Virginia Pharmacy Technicians	
	Weighted Estimate	%	Weighted Estimate	%
Hispanic of any race	631,825	8%	385	5%
White, non-Hispanic	5,186,450	65%	5,273	65%
Black, non-Hispanic	1,523,704	19%	1,449	18%
American Indian or Alaskan Native	20,679	0%	15	0%
Asian	436,298	6%	745	9%
Native Hawaiian or Pacific Islander	5,061	0%	31	0%
Other Race	15,338	0%	67	1%
Two or more races	181,669	2%	214	3%

<sup>2</sup> National workforce information is provided by the Current Population Survey, administered by the US Bureau of Labor Statistics and the US Census Bureau. Age information appears in "Table 15: Employed persons by detailed occupation, sex and age, Annual Average 2010" for the 2010 Survey. Due to issues with sample size, median age information at the state level is not generally available, but was estimated at the request of the HWDC. Special thanks to Steve Hipple and Thomas Krolak of the Bureau of Labor Statistics for their assistance.

<sup>3</sup> All Healthcare Workforce Data Surveys follow Federal OMB standards for data collection on race and ethnicity. This allows valid comparisons with data collected by the US Census Bureau and other sources. For more information on these standards see: [http://www.whitehouse.gov/omb/inforeg\\_statpolicy](http://www.whitehouse.gov/omb/inforeg_statpolicy).

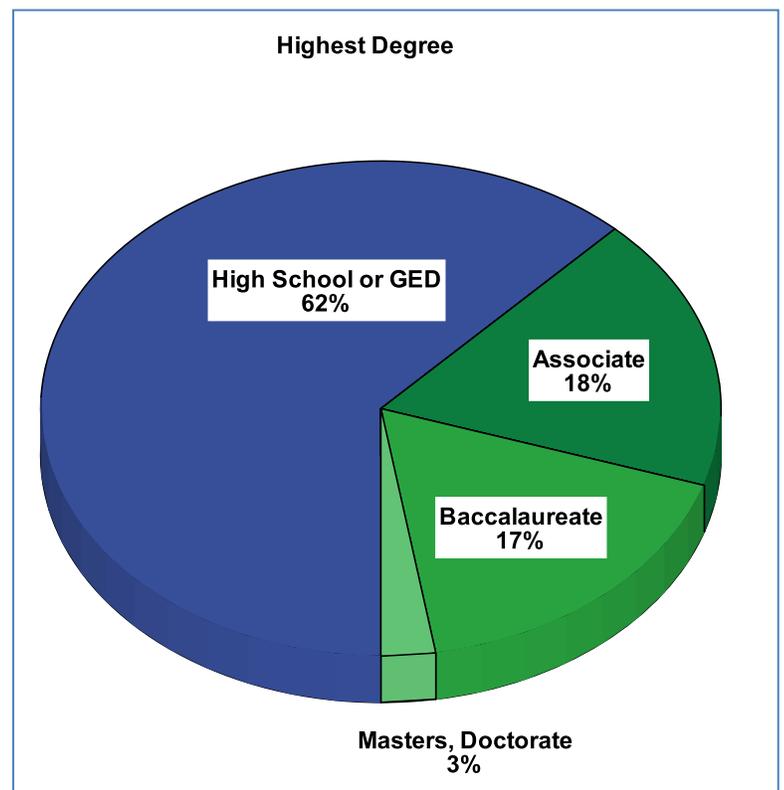
## High School Location

High school location provides an indication of where Virginia's pharmacy technicians were raised as children. Seventy-two percent of Virginia's pharmacy technicians are native Virginians according to this indicator. Another 20 percent completed high school in the United States or Canada. Outside of Virginia, New York provided the most pharmacy technicians, but only two percent. The remaining eight percent completed secondary school outside of the United States.



## Education

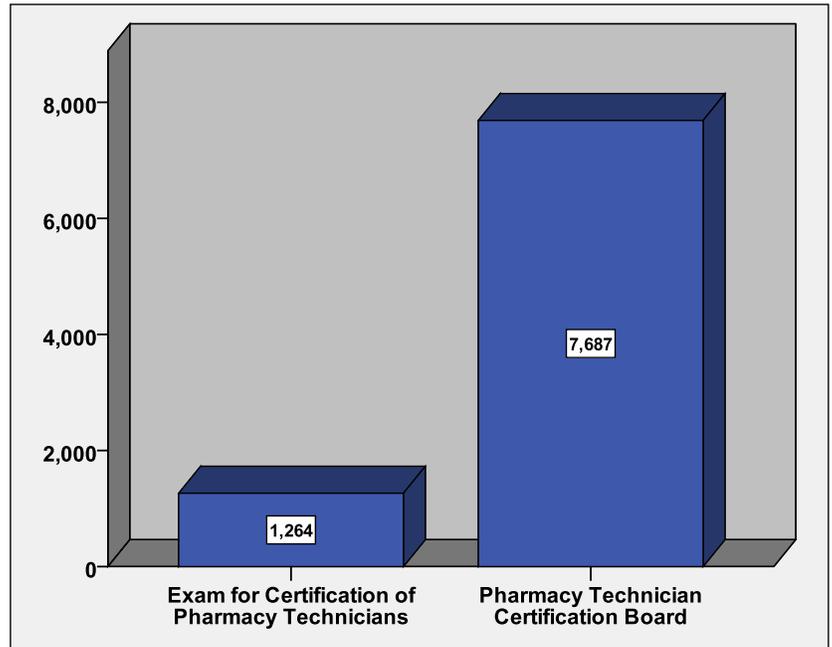
Over 35 percent of pharmacy technicians had earned a post-secondary degree, including 20 percent who had earned a baccalaureate degree or higher. The remaining 62 percent listed a high school diploma or GED as their highest level of education.



## Certifications

Almost three-quarters of Virginia’s pharmacy technicians, or 8,372 techs, indicated being certified, including 578 pharmacy technicians who indicated having two certifications. The greater majority of these (7,687) held a certification from the Pharmacy Technician Certification Board, while 1,264 held a certification through the Exam for Certification of Pharmacy Technicians.

Almost 42 percent of working technicians, or 4,117 pharmacy technicians, reported being required to hold a certification by their employer. Over a third of certified technicians reported receiving a raise upon attaining their certification.



## Employment characteristics

### Number of Work Locations

Locations	Weighted Estimate	%
0	1,619	15%
1	8,113	70%
2	951	8%
3 +	756	7%
Average*	1.25	

\*Those with at least one location. 3+ locations is counted as 3.

Survey respondents provided detailed information on up to two work locations where the respondent worked during the 12 months prior to the survey, and estimates of weekly hours worked at any additional work locations. Compared to pharmacists, relatively large proportions of pharmacy technicians either did not have a work location or had more than one work location. Nevertheless, over two-thirds of pharmacy technicians had only one work location.

## Distribution of Work Locations

The HWDC uses the eight regions defined by the Council of Virginia’s Future to give a general idea of how Virginia’s pharmacy technician workforce is distributed across the state (for information on COVF regions see the *Virginia Performs* website: <http://vaperforms.virginia.gov/extras/regions.php>). To get a better sense of the geographic distribution of pharmacy technicians, see the Map section on page 24.

Almost all pharmacy technicians (99.7%) with a work location had their primary work location in Virginia. The rest had a secondary location in Virginia. Most work locations were in Virginia’s major metropolitan regions: Northern Virginia, Hampton Roads and Central Virginia (which includes both the Richmond and Charlottesville metro areas). A total of 67 pharmacy technicians in Virginia’s Workforce had either a primary or secondary location outside of Virginia. Of these, 27 locations were in a state bordering Virginia or the District of Columbia.

COVF Region	Primary Work Location		Secondary Work Location	
	Weighted Estimate	Percent	Weighted Estimate	Percent
Central	2,160	22.7%	388	24.5%
Eastern	216	2.3%	44	2.8%
Hampton Roads	2,006	21.1%	326	20.7%
Northern	2,180	22.9%	412	26.1%
Southside	409	4.3%	67	4.3%
South-west	674	7.1%	70	4.4%
Valley	688	7.2%	59	3.7%
West Central	1,141	12.0%	167	10.6%
Several Localities	8	0.0%	5	0.3%
<b>Virginia</b>	<b>9,482</b>	<b>99.7%</b>	<b>1,538</b>	<b>97.3%</b>
Border State/DC	13	0.1%	14	0.9%
Other US State	10	0.1%	25	1.6%
Outside of the US	0	0.0%	2	0.1%
<b>Total</b>	<b>9,505</b>	<b>100.0%</b>	<b>1,580</b>	<b>100.0%</b>

Percentages may not add to 100% due to rounding

## Establishment Type

Over 40 percent of pharmacy technicians worked primarily in large chain community pharmacies, while almost 13 percent worked in independent pharmacies consisting of one to four stores. Few pharmacy technicians worked in mid-sized chains ranging from five to ten stores. Another 13.5 percent worked primarily in super market or mass merchandiser based pharmacies. Seventeen percent worked primarily in hospitals or health systems, mainly (11.4% of pharmacy technicians) in non-governmental hospitals in inpatient settings. All other establishment types accounted for fewer than 5 percent of primary work locations.

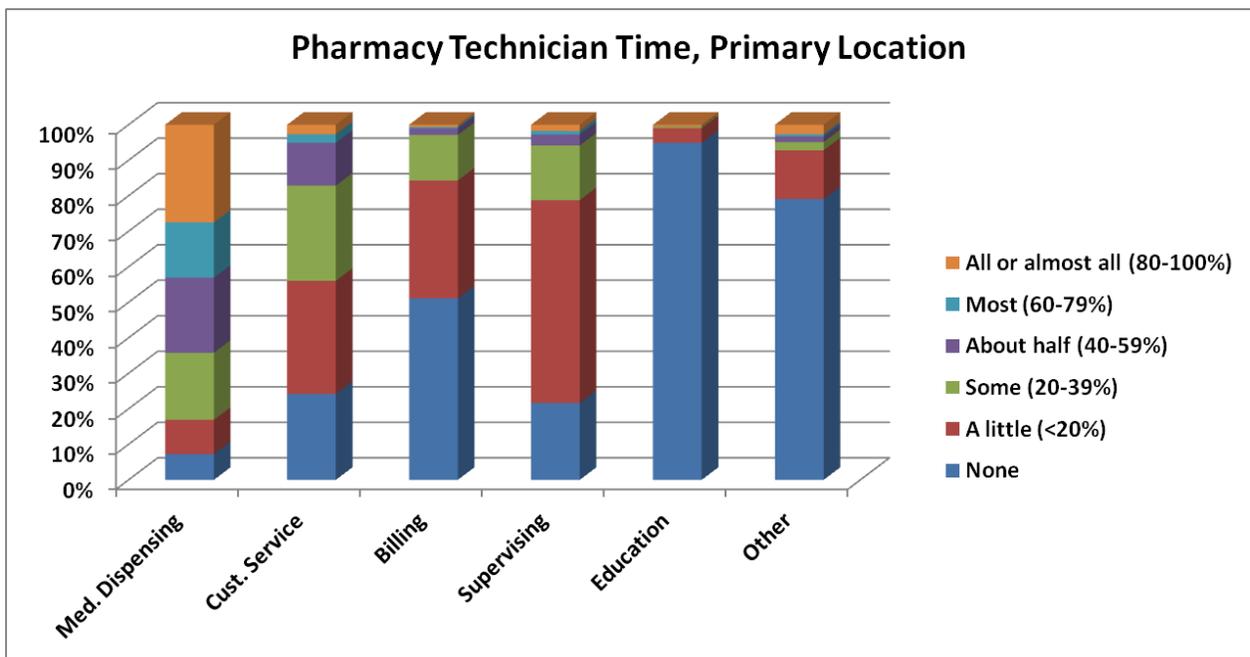
Secondary work locations exhibited a similar pattern. However a smaller proportion of pharmacy technicians who had a second workplace worked in independent community pharmacies, or in nursing homes, mass merchandise based pharmacies and large chains. Non-profits, clinics and academic institutions gained proportional share among secondary work locations.

Establishment Type	Primary Work Location		Secondary Work Location	
	Weighted Estimate	%	Weighted Estimate	%
Large Chain Community Pharmacy (11+ stores)	3808	40.1%	472	35.0%
Independent Community Pharmacy (1-4 stores)	1203	12.7%	96	7.1%
Non-government Hospital / Health System, Inpatient	1084	11.4%	155	11.5%
Supermarket Pharmacy	936	9.9%	142	10.5%
Nursing Home, Long Term Care	468	4.9%	39	2.9%
Mass Merchandiser (i.e. Big Box Store)	344	3.6%	23	1.7%
Other Non-profit Corporation / Organization	263	2.8%	65	4.8%
Government Hospital / Health System, Inpatient	226	2.4%	49	3.6%
Clinic-Based Pharmacy	191	2.0%	59	4.4%
Other For-profit Corporation / Organization	184	1.9%	57	4.2%
Government Hospital / Health System, Outpatient	179	1.9%	29	2.1%
Non-government Hospital / Health System, Outpatient	143	1.5%	36	2.7%
Home Health / Infusion	126	1.3%	25	1.9%
Pharmacy Benefit Administration (e.g. PBM, managed care)	102	1.1%	17	1.3%
Academic Institution	86	0.9%	68	5.0%
Mail Service Pharmacy	81	0.9%	7	0.5%
Small Chain Community Pharmacy (5-10 stores)	76	0.8%	11	0.8%
<b>Total</b>	<b>9501</b>	<b>100.0%</b>	<b>1350</b>	<b>100.0%</b>
Item Missing (Have location, did not respond)	319		357	
Total with Location	9820		1707	
Ineligible (Do not have location)	1619		9732	
	11439		11439	

## Work Roles

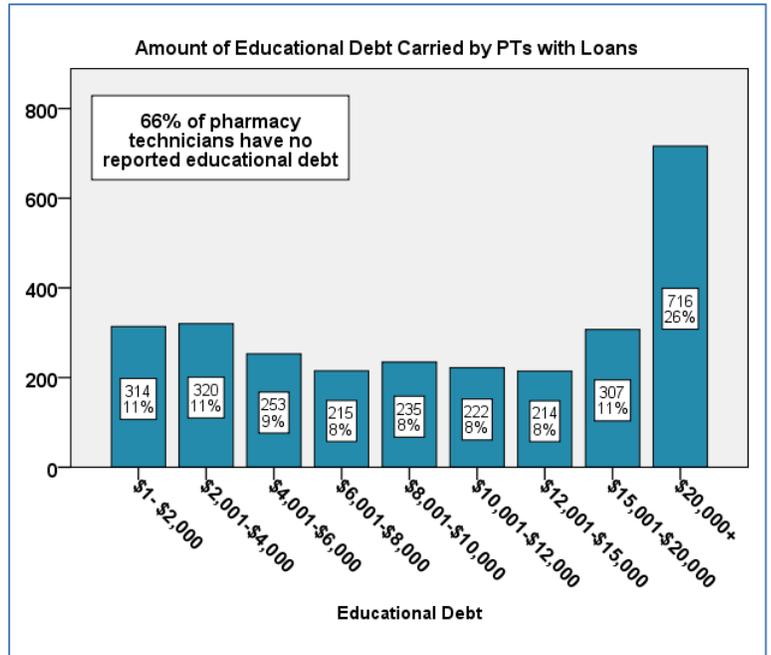
The survey asked respondents to report the percentage of time spent working in each of six roles at their primary work location, as well as an “other” category. Proper analysis of these questions requires valid combined responses for all of the roles. We obtained valid responses for 3,711 of Virginia’s pharmacy technicians (weighted), excluding those without a primary work location.

All but seven percent of pharmacy technicians spent at least a little time on medication dispensing, including 44 percent who spent most, almost all, or all of their time on medication dispensing. Most pharmacy technicians spent at least a little time on customer service and supervising. However, among these tasks, pharmacy technicians tended to spend more time on customer service than on supervising. About half of pharmacy technicians also spent some time on billing. Only five percent of pharmacy technicians spent any time on education or training, and 80 percent of those who did spend only a little time on education or training.



## Educational Debt

About two-thirds of Virginia's pharmacy technicians did not have any educational debt, while a third did. Among those who did hold educational debt, the median amount owed was between \$10,000 and \$12,000. Pharmacy technicians with educational debt tended to have either little debt or a high amount of debt. Almost 23 percent carried \$4,000 or less in debt, while 37 percent carried over \$15,000, including over a quarter with more than \$20,000 in debt. Among all of Virginia's pharmacy technicians, almost three-quarters carried \$4,000 or less in debt, while over 12 percent carried more than \$15,000.

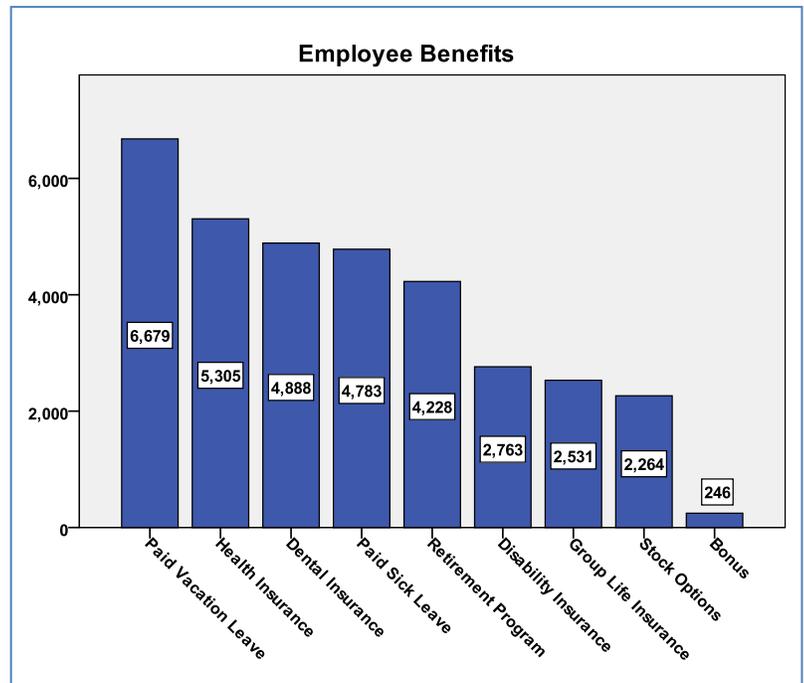


## Benefits

Including those who did not work in 2011, over 61 percent of Virginia's pharmacy technicians received at least some employer provided benefits. Among the 9,820 pharmacy technicians who did work in 2011, over 71 percent received at least some employer provided benefits.

Over 68 percent of working pharmacy technicians received paid vacation while only 48 percent received paid sick leave. Only 54 percent received health insurance and less than half received dental insurance or retirement benefits.

Note that this question referred to benefits received by any current employer at the time the survey was completed (December 2011).



## Wages

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Hourly Wage	Weighted Estimate	Percent
Volunteer work only	121	1.6%
\$7.25-9.00/hr	382	5.0%
\$9.01-\$11.00/hr	1772	23.2%
\$11.01-\$13.00/hr	1733	22.6%
\$13.01-\$15.00/hr	1368	17.9%
\$15.01-\$17.00/hr	1018	13.3%
\$17.01-\$19.00/hr	589	7.7%
\$19.01-\$21.00/hr	386	5.0%
More than \$21.00/hr	283	3.7%
<b>Total</b>	<b>7653</b>	
Missing	3786	
<b>Median Excluding Volunteer</b>	<b>\$11.01-\$13.00</b>	

Almost 50 percent of pharmacy technicians earned, on average, between \$9.00 and \$13.00 per hour. Excluding volunteers, only 5 percent earned less than this per hour. Another 30 percent earned between \$13.01 and \$17.00 per hour, while just over 16% earned more. Excluding volunteers, the typical pharmacy technician earns an hourly wage of between \$11.01 and \$13.00 per hour. For full time work, this translates to about \$23,000 to \$27,000 annually.

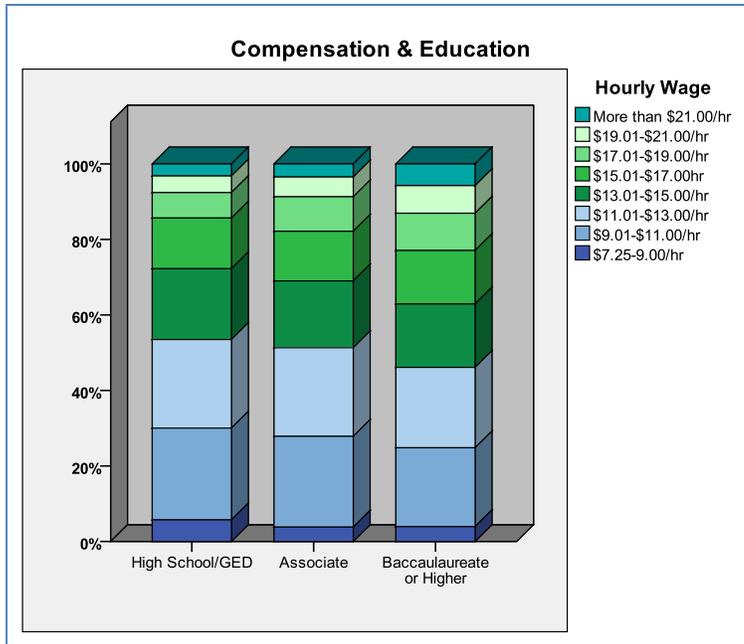
## Indicators of Pharmacy Technician Wages

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The next few sections examine several potential indicators of pharmacy technician wages: education, certification, establishment type, region and metro status. For each of these potential indicators, the HWDC found statistically significant differences between groups and/or correlations between indicators and wages. However, this may be an artifact of our large sample size. Further tests indicate that the real-world effect of some indicators appears to be small. Additionally, some of these indicators may co-vary. For instance, pharmacy technicians working in large metro areas may also be more likely to work in hospitals. In a case such as this, it is difficult to determine if metro status or establishment type (or other intervening variables) are the actual cause of higher or lower wages for a category. Despite this caveat, the information presented below is useful to pharmacy technicians, students, employers and policy makers, and points to areas of further research.

## Wages & Education

Statistical tests confirm that wages increase with education within the profession, although the effect may be small.<sup>4</sup> Pharmacy technicians with a bachelor's degree tend to receive higher wages, with a median hourly wage of \$13.01 to \$15.00 per hour.



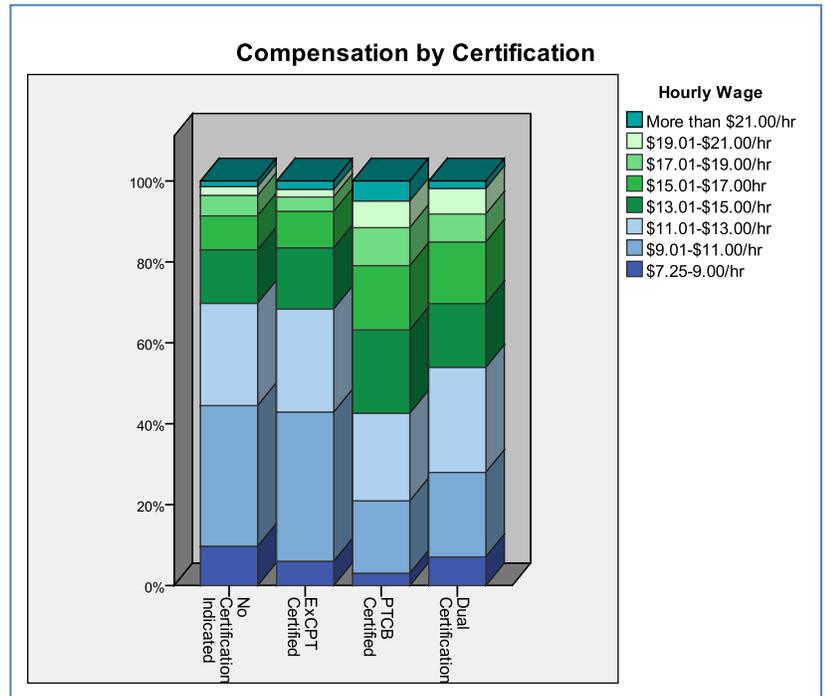
Hourly Wage	High School/GED	Associate	Baccalaureate or Higher
\$7.25-9.00/hr	5.7%	3.8%	3.9%
\$9.01-\$11.00/hr	24.3%	24.1%	20.9%
\$11.01-\$13.00/hr	23.5%	23.5%	21.3%
\$13.01-\$15.00/hr	18.8%	17.7%	16.8%
\$15.01-\$17.00/hr	13.4%	13.1%	14.2%
\$17.01-\$19.00/hr	6.7%	9.1%	9.9%
\$19.01-\$21.00/hr	4.4%	5.2%	7.3%
More than \$21.00/hr	3.2%	3.5%	5.7%
<b>Median</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$13.01-\$15.00/hr</b>

<sup>4</sup> Spearman's rho of 0.85 is significant at the .01 level.

## Wages & Certification

Statistical tests indicate that certified pharmacy technicians do earn higher wages. However, the effect appears to be centered on those certified by the Pharmacy Technician Certification Board (PTCB).<sup>5</sup> Of all of the categories listed (including dual certification) only those with a sole PTCB certification tended to have an income higher than the median income.<sup>6</sup> PTCB-certified pharmacy technicians had a median income of \$13.01 to \$15.01/hr. All other categories had a median income of \$11.01 to \$13.00/hr.

Hourly Wage	None	ExCPT Certified	PTCB Certified	Dual
\$7.25-9.00/hr	9.7%	5.9%	3.0%	7.1%
\$9.01-\$11.00/hr	34.8%	36.9%	17.9%	20.9%
\$11.01-\$13.00/hr	25.3%	25.5%	21.6%	25.9%
\$13.01-\$15.00/hr	13.2%	15.1%	20.6%	15.8%
\$15.01-\$17.00hr	8.4%	9.0%	15.9%	15.2%
\$17.01-\$19.00/hr	5.0%	3.6%	9.4%	7.0%
\$19.01-\$21.00/hr	2.2%	1.8%	6.6%	6.3%
More than \$21.00/hr	1.4%	2.1%	5.0%	1.9%
<b>Median</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$13.01-\$15.00/hr</b>	<b>\$11.01-\$13.00/hr</b>



## Wages & Work Location

The next few sections examine wages by work location. The Pharmacy Technician Workforce Survey does not collect wage information for each reported work location. Rather, we ask respondents to provide estimated hourly earnings across work settings. We use respondents' primary work location to assign responses to the categories listed on the following pages. This may result in some misassignment for those with secondary work locations. To ameliorate this effect, we combined smaller response sets into broader categories. Some tables in this section combine the two highest wage categories due to the low number of pharmacy technicians in these categories in a few instances.

<sup>5</sup> Using the Kruskal-Wallis test,  $\chi^2=504.539$ ( $n=7038$ ,  $df=3$ ) and is significant at the .01 level. Mean ranks were : ExCPT Certified= 2741.09, No Certification indicated=2770.91, , Dual certified =3485.96, PTCB Certified=3915.97.

<sup>6</sup> Using the Median Test,  $\chi^2=402.883$  ( $n=7038$ ,  $df=3$ ) and is significant at the .01 level. Median scores were (>/=<): No certification indicated (559/1321), ExCPT Certified (121/305), PTCB certified (2435/1978), Dual (141/178).

## Wages & Establishment Type

Statistical tests indicate that wages vary by type of employer.<sup>7</sup> Pharmacy technicians working for hospitals tend to receive the highest wages, followed by pharmacy technicians in the “other” category. This “other” category groups academic institutions, mail-order pharmacies, benefits administration and other categories. Pharmacy technicians working in large chains (more than 10 stores) and in supermarket or big box store pharmacies tend to receive the lowest wages.

Hourly Compensation	Hospital	Supermarket/ Big Box	Small Chain/ Independent Pharmacy	Large Chain Pharmacy	Nursing Home/ Home Health	Other
\$7.25-9.00/hr	0.3%	5.5%	7.1%	7.6%	1.4%	1.6%
\$9.01-\$11.00/hr	4.9%	33.5%	22.5%	32.4%	15.9%	10.7%
\$11.01-\$13.00/hr	15.7%	26.0%	25.1%	27.0%	23.8%	10.1%
\$13.01-\$15.00/hr	20.8%	13.7%	20.2%	16.8%	26.7%	18.2%
\$15.01-\$17.00hr	19.2%	13.4%	12.3%	10.0%	15.5%	18.3%
\$17.01-\$19.00/hr	16.3%	5.1%	6.3%	3.6%	7.3%	17.1%
\$19.01-\$21.00/hr	13.9%	1.5%	3.7%	1.6%	4.9%	12.1%
More than \$21.00/hr	8.8%	1.1%	2.8%	0.9%	4.4%	11.9%
<b>Median</b>	<b>\$15.01-\$17.00hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$13.01-\$15.00/hr</b>	<b>\$15.01-\$17.00hr</b>

## Regional Wages

Statistical tests indicate that compensation varies by Council on Virginia’s Future Regions.<sup>8</sup> Pharmacy technicians in Northern and Central Virginia tend to receive the highest wages, while those in Southwest tend to receive the lowest.

Hourly Wage	Central	Eastern	Hampton Roads	Northern	Southside	Southwest	Valley	West Central
\$7.25-9.00/hr	4.5%	8.0%	4.5%	2.4%	8.6%	11.2%	6.8%	5.0%
\$9.01-\$11.00/hr	20.2%	26.2%	19.6%	20.6%	29.2%	35.3%	28.6%	30.4%
\$11.01-\$13.00/hr	20.5%	34.4%	25.2%	19.4%	28.2%	30.6%	20.9%	23.9%
\$13.01-\$15.00/hr	21.0%	14.9%	20.1%	13.7%	18.1%	12.5%	19.5%	20.1%
\$15.01-\$17.00hr	16.1%	5.0%	14.3%	15.0%	10.4%	5.1%	12.1%	13.5%
\$17.01-\$19.00/hr	8.0%	7.4%	7.4%	12.6%	2.7%	3.2%	6.9%	4.2%
More than \$19.00/hr	9.7%	4.1%	9.0%	16.4%	2.8%	2.1%	5.2%	2.9%
<b>Median</b>	<b>\$13.01-\$15.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$13.01-\$15.00/hr</b>	<b>\$13.01-\$15.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>

<sup>7</sup> Using the Kruskal-Wallis test,  $\chi^2=1434.478$ (n=6955, df=5) and is significant at the .01 level. Mean ranks were: Large Chain=2782.96, Supermarket/big box=2909.07, Small chain/independent= 3379.98, Nursing home/home health=3942.89, Other, 4820.37 & Hospitals=5004.58.

<sup>8</sup> Using the Kruskal-Wallis test,  $\chi^2=247.504$  (n=6917, df=7) and is significant at the .01 level. Mean ranks were: Southwest=2500.27, Eastern= 2886.35, Southside= 2908.14, West Central=3154.98, Valley= 3307.20, Hampton Roads=3451.36, Central=3569.68, Northern= 3898.07

## Wages along the Rural-Urban Continuum

The US Department of Agriculture’s Economic Research Service Rural-Urban Continuum codes classify localities by their metro status, the size of their urban or town populations and by their adjacency to metro areas. The Continuum scale ranges from “1” to “9”, with a 1 representing a metro locality in an urban area with a population of at least one million and nine representing “completely rural” counties.<sup>9</sup> This classification allows us to examine the influence of metro status on pharmacy technician wages at a finer scale.

While statistical tests do indicate that pharmacy technicians working in metro areas earn a higher hourly wage, the effect is small. The median wage of pharmacy technicians working in metro areas with a population of 1 million or more is \$13.01-\$15.00, compared to \$11.01-\$13.01 for the rest of the categories.<sup>10</sup>

Hourly Wage	Metro, 1 million+	Metro, 250,000 to 1 million	Metro, 250,000 or less	Urban pop 20,000+, Metro adj	Urban pop, 2,500-19,999, Metro adj	Urban pop, 2,500-19,999, nonadj	Rural, Metro adj	Rural, nonadj
\$7.25-9.00/hr	3.90%	3.50%	5.40%	10.80%	8.30%	8.80%	0.00%	18.80%
\$9.01-\$11.00/hr	20.20%	26.00%	31.00%	28.30%	30.30%	26.50%	32.10%	28.60%
\$11.01-\$13.00/hr	21.50%	24.00%	22.10%	18.80%	28.50%	41.60%	35.90%	28.60%
\$13.01-\$15.00/hr	17.90%	25.80%	18.00%	19.70%	17.70%	12.60%	19.20%	10.40%
\$15.01-\$17.00hr	15.40%	12.40%	11.60%	15.70%	9.40%	3.40%	9.00%	5.20%
\$17.01-\$19.00/hr	9.30%	5.00%	6.10%	4.00%	4.10%	5.50%	3.80%	3.90%
More than \$19.00/hr	11.9%	3.2%	5.8%	2.6%	1.6%	1.7%	0.00%	4.50%
<b>Median</b>	<b>\$13.01-\$15.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>	<b>\$11.01-\$13.00/hr</b>

<sup>9</sup> Additional information on the rural-urban continuum codes is available on the USDA Economic Research Service’s *Rural Classifications* website: <http://www.ers.usda.gov/topics/rural-economy-population/rural-classifications.aspx>.

<sup>10</sup> Somers’ d, with hourly wage as the dependent variable, is -0.201, and is significant at the 0.01 level. Non-directional measures of association are also significant at the 0.01, including Kendall’s Tau-c (-0.133) and Spearman’s Rho (-0.144).

## Work Hours

The pharmacy technician workforce survey asked respondents to estimate the average weekly hours provided at any primary and secondary work location and the number of weeks worked at each location in the past twelve months. As with all surveys and particularly online surveys, our responses suffered from some item-missing data, a little over three percent in each of the categories in this section. To get a more complete look at the pharmacy technician labor supply, we imputed missing data on these variables. Although these changes had little effect on aggregate descriptive statistics, they may have a larger effect on estimates when examining small groups (e.g. estimates for rural counties.) Details of our methodology appear in Appendix B.

The tables on this page show the results of the imputation. Respondents were asked to provide average hours for the weeks worked at each location. Note, respondents reported individual work locations rather than employers. About 25 percent of those who had a second work location worked at that location for 48 or more weeks, and indication of those who worked the entire year at two locations. About half worked at a secondary location for less than half the year. By contrast, almost two-thirds of those with a work location worked 48 weeks or more at their primary work location. Only 15 percent worked 26 weeks or less at a primary location. Over 75 percent of persons worked 30 or more hours per week at their primary work locations, including 43 percent who worked 40 hours or more. Over 70 percent worked fewer than 37.2 hours at a secondary work location.

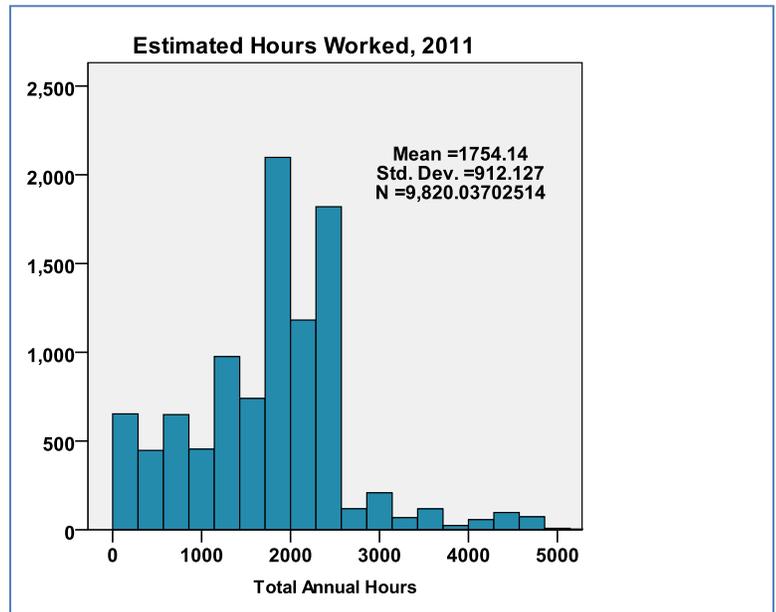
Ave. Hours per Week Worked	Primary Location		Secondary Location	
	Frequency	%	Frequency	%
1 to 9 hours	376	3.8%	354	20.8%
10 to 19 hours	712	7.3%	279	16.4%
20 to 29 hours	1,114	11.3%	469	27.5%
30 to 39 hours	3,384	34.5%	264	15.5%
40 to 49 hours	3,888	39.6%	279	16.4%
50 to 59 hours	109	1.1%	18	1.1%
60 to 69 hours	27	0.3%	4	0.2%
70 to 79 hours	41	0.4%	10	0.6%
80 or more hours	168	1.7%	28	1.6%
<b>Total</b>	<b>9,819</b>	<b>100.0%</b>	<b>1,705</b>	<b>100.0%</b>
Ineligible	1,619		9,732	

Weeks Worked	Primary Location		Secondary Location	
	Weighted Estimate	%	Weighted Estimate	%
10 weeks or less	474	4.8%	425	25.0%
11 to 20 weeks	628	6.4%	228	13.4%
21 weeks	21	0.2%	7	0.4%
22 weeks	36	0.4%	11	0.6%
23 weeks	17	0.2%	8	0.5%
24 weeks	151	1.5%	54	3.2%
25 weeks	65	0.7%	111	6.5%
26 weeks	124	1.3%	31	1.8%
27 weeks	17	0.2%	18	1.1%
28 weeks	89	0.9%	30	1.8%
29 weeks	92	0.9%	18	1.1%
30 weeks	120	1.2%	39	2.3%
31 weeks	10	0.1%	29	1.7%
32 weeks	91	0.9%	40	2.4%
33 weeks	21	0.2%	11	0.6%
34 weeks	43	0.4%	43	2.5%
35 weeks	75	0.8%	11	0.6%
36 weeks	111	1.1%	23	1.4%
37 weeks	77	0.8%	7	0.4%
38 weeks	56	0.6%	3	0.2%
39 weeks	18	0.2%	1	0.1%
40 weeks	342	3.5%	52	3.1%
41 weeks	23	0.2%	3	0.2%
42 weeks	135	1.4%	9	0.5%
43 weeks	54	0.5%	4	0.2%
44 weeks	97	1.0%	15	0.9%
45 weeks	186	1.9%	22	1.3%
46 weeks	194	2.0%	19	1.1%
47 weeks	104	1.1%	12	0.7%
48 weeks	734	7.5%	33	1.9%
49 weeks	409	4.2%	30	1.8%
50 weeks	1,144	11.6%	51	3.0%
51 weeks	316	3.2%	16	0.9%
52 weeks	3,747	38.2%	288	16.9%
<b>Total</b>	<b>9,821</b>	<b>100.0%</b>	<b>1,702</b>	<b>100.0%</b>
Ineligible	1,619		9,732	

## Total Hours

According to our estimates, a total of 9,820 Virginia pharmacy technicians worked an average of 1,754 hours in 2011 providing over 17 million man-hours of labor. An additional 1,619 Virginia pharmacy technicians did not work in 2011, but intend to work in Virginia. The average of 1,754 hours is equivalent to about 44 weeks at 40 hours per week, or 50 weeks at 35 hours per week. The median is 1,820 hours, or 35 hours a week over all 52 weeks.

The distribution is skewed towards lower hours, with a quarter of workers working 1,250 or fewer hours in 2011, the equivalent of 31.25 weeks at 40 hours per week or 25 hours a week over 50 weeks. Fewer than 4 percent worked twice the average (3,508 hours) or more. That equates to 67.5 hours per week with no weeks off.



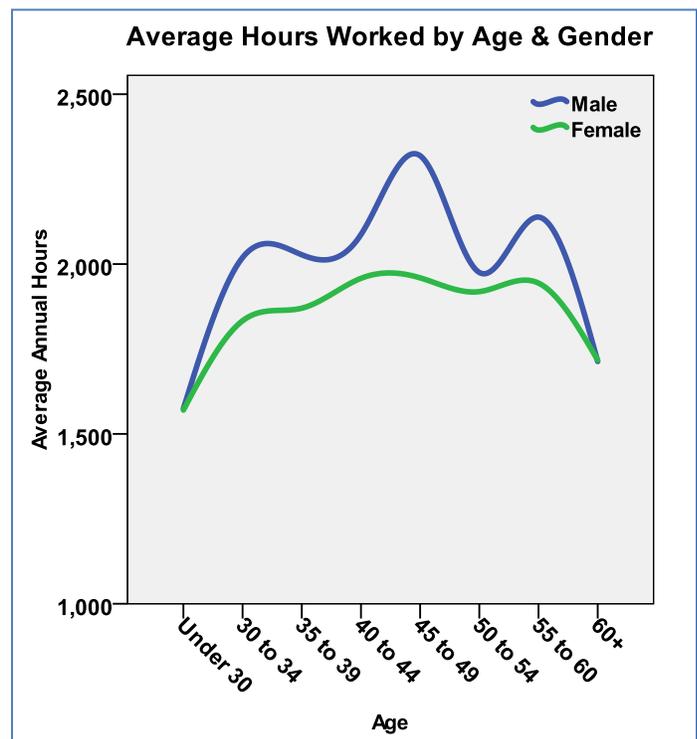
## Work Hours and Age

Age	Total Annual Hours	
	Mean	Median
Under 30	1,551	1,710
30 to 34	1,859	1,820
35 to 39	1,884	1,820
40 to 44	1,975	2,025
45 to 49	1,991	2,160
50 to 54	1,927	2,000
55 to 59	1,990	1,980
60 or over	1,704	1,750

Annual hours worked varied by age, although the effect is small.<sup>11</sup> The number of annual hours worked peaked from age 40 to 60. For some age groups the mean is lower than the median, in these cases indicating a significant number of persons working a low number of hours in the year.

## Work Hours and Gender

Due to the changing demographics of many health professions, the HWDC examines work participation by gender. Except for those under age 30 or over age 60, male pharmacy technicians appear to work more hours than female pharmacy technicians. Despite this, statistical tests failed to confirm this difference and hours worked among both men and women varied widely.



<sup>11</sup> Somers' d value of 0.165, significant at the .01 level. Kendall's tau-c value of 0.144, significant at the .01 level.

## Full Time Equivalency Units (FTEs)

Economists and human resources professionals often refer to Full Time Equivalency units (or FTEs) when discussing labor market participation. Conceptually, an FTE represents one full time worker or one full time position. One FTE may be provided by two part-time workers or one full time worker. Alternatively, one worker with one full time job and one part time job may provide 1.5 FTEs. FTEs provide an easy way to compare labor or job supply while accounting for differing levels of work supplied by individuals.

FTEs are defined using a variety of methods. Human resources professionals (and employees) often think in terms of positions or jobs, with one full time position equivalent to one FTE and one part time position equivalent to 0.5 FTEs. Economists (and payroll professionals), however, often need more precise measures of hours worked. Economists often use hours worked (as we did in the previous section). Using FTEs, however, provides a human scale for examining data and provides for easy benchmarking across data sources.

Age	Total FTEs	
	Mean	Sum
Under 30	.78	3,294.00
30 to 34	.93	1,169.14
35 to 39	.94	817.84
40 to 44	.99	880.30
45 to 49	1.00	783.01
50 to 54	.96	727.29
55 to 59	1.00	550.61
60 to 64	.92	295.08
65 to 69	.72	70.44
70 to 74	.74	19.46
75 to 79	.61	4.49
80 and over	.16	.95
<b>Total</b>	<b>.88</b>	<b>8612.61</b>

When using FTEs, readers are cautioned to look closely at how FTEs are defined. Does FTE refer to positions, or is it derived from hours worked (or some other measure of services provided, such as medications dispensed)? How many hours equates to one FTE? Unless defined equivalently, direct comparisons of FTEs require caution. In many cases, direct comparisons are not appropriate. The HWDC defines one FTE as 2,000 hours worked per year. That equates to someone working 40-hours per week for 50 weeks (2-weeks off).<sup>12</sup> Other common methods, such as a full 52 week schedule, or a 35-hour work week can be calculated using the HWDC's raw figures.

FTEs by age, along with the FTE per individual in the age group, are reported in the table above. The distribution (proportion by age group) is equivalent to the distribution by hour. All told, the 9,820 Virginia pharmacy technicians who worked in 2011 provided approximately 8,613 FTEs at their primary and secondary locations, or about 0.88 FTEs per pharmacy technician. FTEs are reported alongside hours in the following charts and in the map section beginning on page 24.

<sup>12</sup> There does not seem to be a common method for estimating FTEs. The method described here is used by the US Bureau of Labor Statistics when calculating accident rates in the workforce. Readers should note that previous reports of FTEs by the HWDC referred to positions, not a derivation of hours worked, usually by asking directly whether employees worked full time or part time. Since HWDC surveys are not monthly "snapshot" surveys this method caused some confusion. The pharmacy technician survey, for instance, occurs annually, with practitioners generally renewing in December. Practitioners report their activities for the prior 12 month period and work participation can change drastically over this time period.

## Work Hours and Type of Establishment

About 36 percent of all work hours provided by pharmacy technicians were provided at large chain community pharmacies. Another 13 percent were provided at non-governmental inpatient hospitals or health systems. Another 13 percent were provided at independent community pharmacies, and 12 percent were provided pharmacies located in supermarkets or mass merchandisers. Less than 4 percent of all hours were provided at each of the other establishment types.

Establishment Type	Primary Location		Secondary Location		Combined Locations		
	Average Hours	Total Hours	Average Hours	Total Hours	Total	FTEs	Percent of all Hours (Valid)
Large Chain Community Pharmacy (11+ stores)	1,472	5,605,953	729	343,778	5,949,731	2,975	36%
Non-government Hospital / Health System, Inpatient	1,900	2,059,873	887	137,763	2,197,636	1,099	13%
Independent Community Pharmacy (1-4 stores)	1,677	2,017,750	862	82,410	2,100,160	1,050	13%
Supermarket Pharmacy	1,430	1,338,270	796	113,267	1,451,537	726	9%
Nursing Home, Long Term Care	1,983	928,234	1,098	43,119	971,353	486	6%
Mass Merchandiser (i.e. Big Box Store)	1,488	511,680	498	11,231	522,911	261	3%
Other Non-profit Corporation / Organization	1,707	449,135	769	49,999	499,134	250	3%
Government Hospital / Health System, Inpatient	1,954	442,252	1,001	48,973	491,225	246	3%
Government Hospital / Health System, Outpatient	2,011	360,657	923	26,807	387,464	194	2%
Other For-profit Corporation / Organization	1,708	314,062	836	47,417	361,479	181	2%
Clinic-Based Pharmacy	1,614	307,991	800	47,465	355,456	178	2%
Non-government Hospital / Health System, Outpatient	1,804	257,065	948	34,153	291,218	146	2%
Home Health / Infusion	1,822	229,248	583	14,607	243,855	122	1%
Pharmacy Benefit Administration (e.g. PBM, managed care)	1,951	199,912	1,987	33,714	233,626	117	1%
Academic Institution	1,478	127,605	542	36,912	164,517	82	1%
Mail Service Pharmacy	1,903	154,191	714	4,988	159,179	80	1%
Small Chain Community Pharmacy (5-10 stores)	1,110	84,099	645	7,187	91,286	46	1%
<b>Valid Total</b>	<b>1,616</b>	<b>15,387,977</b>	<b>795</b>	<b>1,083,790</b>	<b>16,471,767</b>	<b>8,236</b>	<b>100%</b>
Establishment Missing	1,514	483,652	764	270,300	753,952	377	
<b>Total</b>	<b>1,616</b>	<b>15,871,628</b>	<b>795</b>	<b>1,354,090</b>	<b>17,225,718</b>	<b>8,613</b>	

## Work Hours by Location

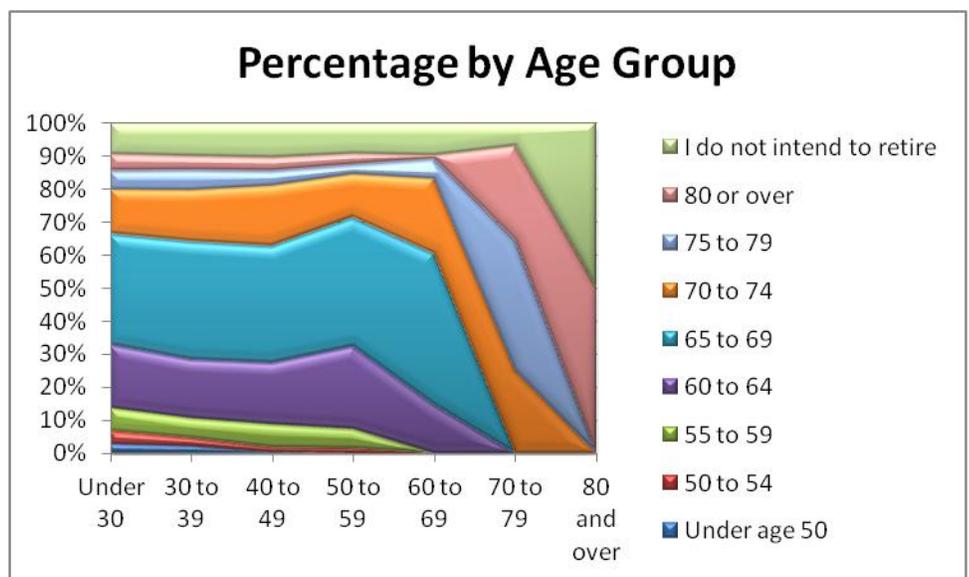
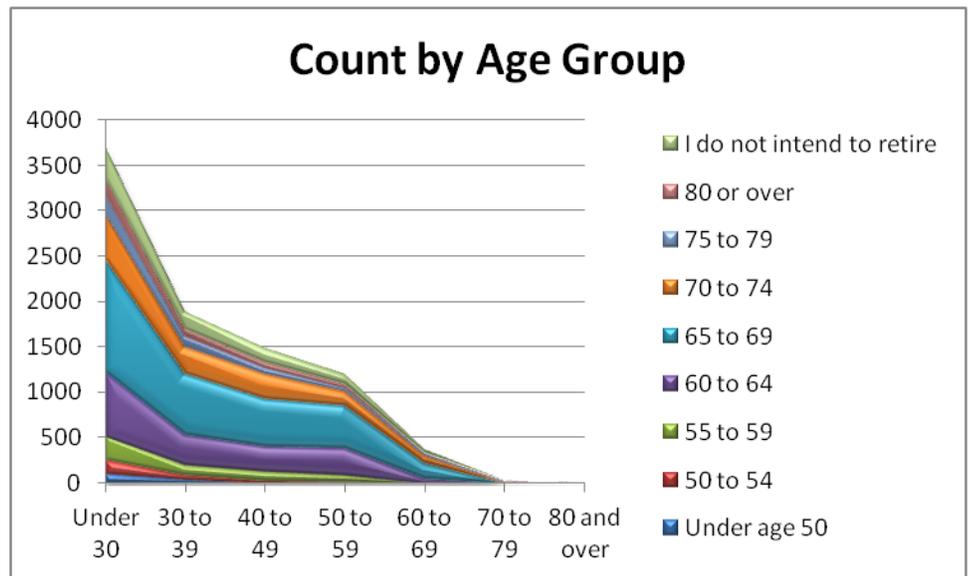
As noted earlier, the HWDC uses the eight regions defined by the Council of Virginia’s Future to give a general idea of how Virginia’s pharmacy technician workforce is distributed across the state (for information on COVF regions see the *Virginia Performs* website: <http://vaperforms.virginia.gov/extras/regions.php>). For more detailed information of the geographic distribution of pharmacy technicians, see the Map section on page 24.

Not surprisingly, the distribution of work hours tends to follow the distribution of work locations. Over two-thirds of pharmacy technician work hours were provided in the Central Virginia, Hampton Roads and Northern Virginia regions. The remaining 34 percent were divided among the remaining five regions, with Eastern Virginia receiving the lowest share. Only 2.2 percent of pharmacy technician work hours are provided in Eastern Virginia. Pharmacy technicians in Virginia’s workforce provide almost all of their services in Virginia, with less than one half of one percent of work hours occurring in other states.

Locality	Total Hours			Combined FTEs	% of Valid Hours	% of Virginia Hours
	Primary Location	Secondary Location	Combined Locations			
<b>In Virginia</b>						
Central	3,602,015	321,595	3,923,610	1,962	23.7%	23.8%
Eastern	324,826	30,299	355,125	178	2.1%	2.2%
Hampton Roads	3,315,941	222,159	3,538,100	1,769	21.3%	21.4%
Northern	3,196,347	307,008	3,503,355	1,752	21.1%	21.2%
Southside	702,807	56,599	759,406	380	4.6%	4.6%
Southwest	1,145,898	50,196	1,196,094	598	7.2%	7.2%
Valley	1,137,857	38,960	1,176,817	588	7.1%	7.1%
West Central	1,898,755	140,262	2,039,017	1,020	12.3%	12.4%
Several Localities	9,480	75	9,555	5	0.1%	0.1%
<b>Virginia Total</b>	<b>15,333,926</b>	<b>1,167,153</b>	<b>16,501,079</b>	<b>8,251</b>	<b>99.6%</b>	<b>100.0%</b>
<b>Outside of Virginia</b>						
Virginia Border State/DC	19,165	8,878	28,043	14	0.2%	
Other US State	17,703	25,741	43,444	22	0.3%	
Outside of the US	0	0	0	0	0.0%	
<b>Total outside Virginia</b>	<b>36,868</b>	<b>34,618</b>	<b>71,486</b>	<b>36</b>	<b>0.4%</b>	
<b>Totals &amp; Missing</b>						
<b>Total Valid</b>	<b>15,370,794</b>	<b>1,201,771</b>	<b>16,572,565</b>	<b>8,286</b>	<b>100.0%</b>	
Location Unknown	500,835	152,319	653,154	327		
Total, Virginia Pharmacy Technician Workforce	15,871,628	1,354,090	17,225,718	8,613		

Expected Retirement Age

Almost 55 percent of pharmacy technicians expected to retire between the ages of 60 to 69, including over 35 percent who expected to retire between the ages of 65 and 69. The proportions remain relatively stable across the generations, with the exception that the proportion of Virginia pharmacy technicians expecting to retire in the 60 to 64 age range is highest among those aged 50 to 59. Only 11 percent of pharmacy technicians expect to retire under age 60, including only 1.6 percent who expect to retire under age 50.



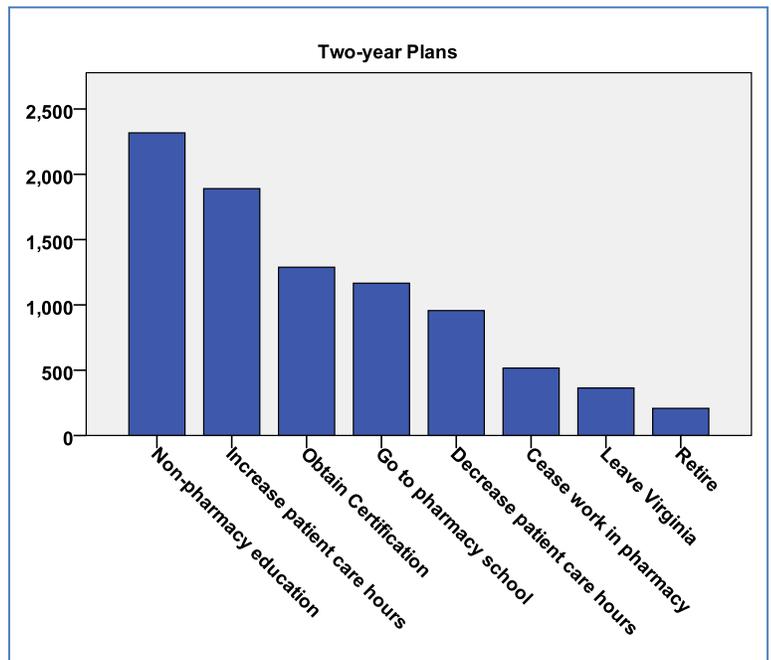
## Retirement Plans

By comparing pharmacy technicians' retirement expectations to their actual age, we can estimate how many pharmacy technicians plan to retire within a certain time period. Pharmacy technicians also provide information on their near-term plans, including plans to retire, allowing us to make more definitive estimates of retirement rates within the next five years. Only 6.4 percent of Virginia's pharmacy technicians planned to retire within the next 5 years, and only 2.8 percent planned to retire within two years of completing the survey.

	Weighted Estimate	%	Cumulative %
Within 2 Years	223	2.8%	2.8%
Within 3 -5 Years	278	3.5%	6.4%
Within 6 -10 Years	272	3.5%	9.9%
Within 7-14 Years	374	4.8%	14.6%
Within 11-19 Years	531	6.8%	21.4%
Within 16-25 Years	671	8.6%	30.0%
Within 21-30 Years	732	9.3%	39.3%
Within 26-35 Years	968	12.4%	51.7%
Within 31-40 Years	1277	16.3%	68.0%
Within 36-45 Years	1478	18.9%	86.8%
Within 41-50 Years	582	7.4%	94.3%
Within 46-55 Years	262	3.3%	97.6%
Within 51-60 Years	186	2.4%	100.0%
Total	7834	100.0%	
Missing/Do not expect to retire.	3605		
Total	11439		

## Two-year Plans

About 20 percent of pharmacy technicians plan to pursue non-pharmacy related education within the next two years. Another ten percent plan to go to pharmacy school to become a pharmacist, while 11 percent intend to obtain a pharmacy technician certification. Over 16 percent plant to increase their hours working as a pharmacy technician, while eight percent plan to decrease their hours. Almost ten percent plan to cease working in the pharmacy field in Virginia, including those who plan to cease working in pharmacy, move out of Virginia, or retire.



## Plans to Enter Virginia's Pharmacy Technician Workforce

A total of 26 registered pharmacy technicians currently NOT in Virginia's workforce planned to return to Virginia's workforce, including 10 who planned to return within the next year. These figures include only registered pharmacy technicians whose mailing address is not in Virginia.

Plans to Return	Weighted Estimate
Within 1 year	10
Within 1-2 years	0
Within 3-5 years	4
In more than 5 years	3
Yes, but do not know when	9
<b>Total</b>	<b>26</b>

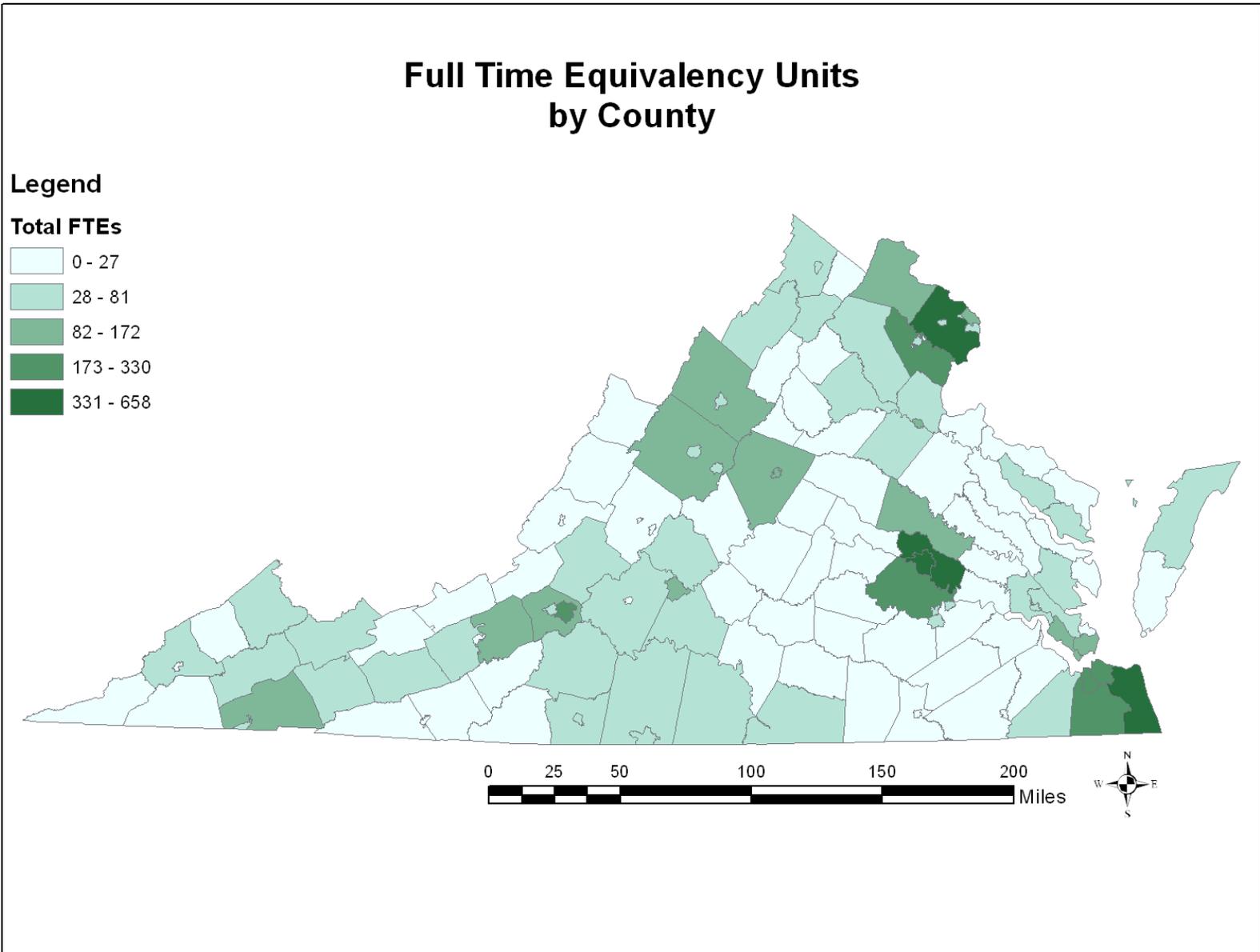
## Reasons for Not Working

An estimated 1,619 pharmacy technicians in Virginia's pharmacy technician workforce did not work in pharmacy in 2011. These pharmacy technicians had mailing addresses in Virginia and indicated plans to return to Virginia's workforce. Of these, an estimated 1,359 provided information on why they did not work and what they did. Some provided multiple responses (e.g., experienced voluntary unemployment, pursued non-pharmacy education). Only 10.5 percent indicated they did not work due to involuntary unemployment, while 15.5 percent experienced voluntary unemployment (including for medical reasons). About 14 percent pursued pharmacy-related education.

Over half worked in another profession, exceeding all other categories. Additionally, almost 20 percent pursued non-pharmacy education.

	Weighted Estimate	%
Worked in another profession	721	53.1%
Pursued non-pharmacy education	263	19.4%
Experienced voluntary unemployment	210	15.5%
Pursued pharmacy-related education	187	13.8%
Experienced involuntary unemployment	143	10.5%
Worked outside of Virginia	85	6.3%
Retired	80	5.9%
Performed occasional charity or consultant services	53	3.9%
Required to hold registration for management position	42	3.1%
In US Military/Peace Corps	9	0.7%
<b>Total</b>	<b>1359</b>	<b>100.0%</b>

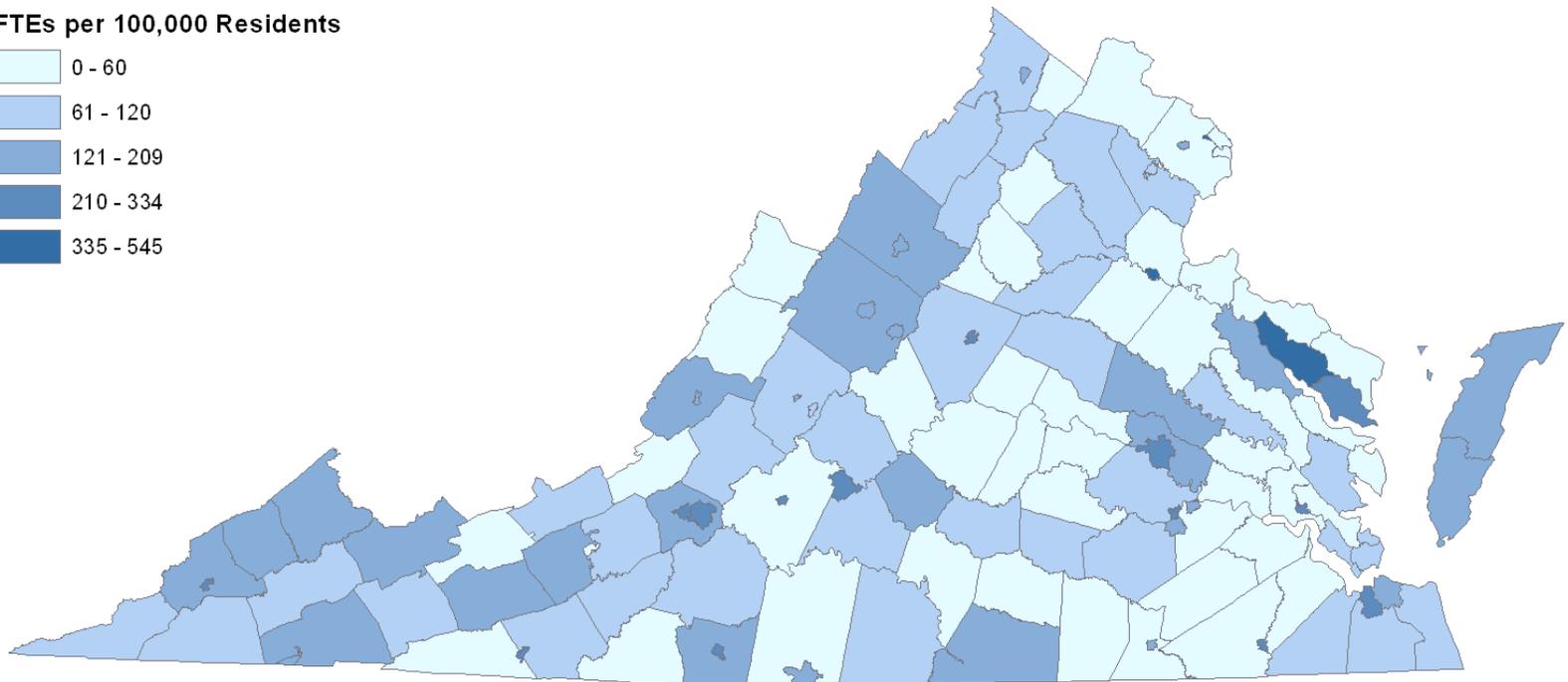
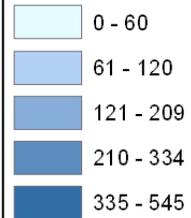
Figures do not add due to some respondents providing multiple responses.



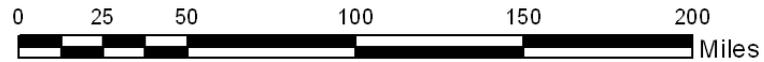
# Full Time Equivalency Units per 100,000 Residents by County

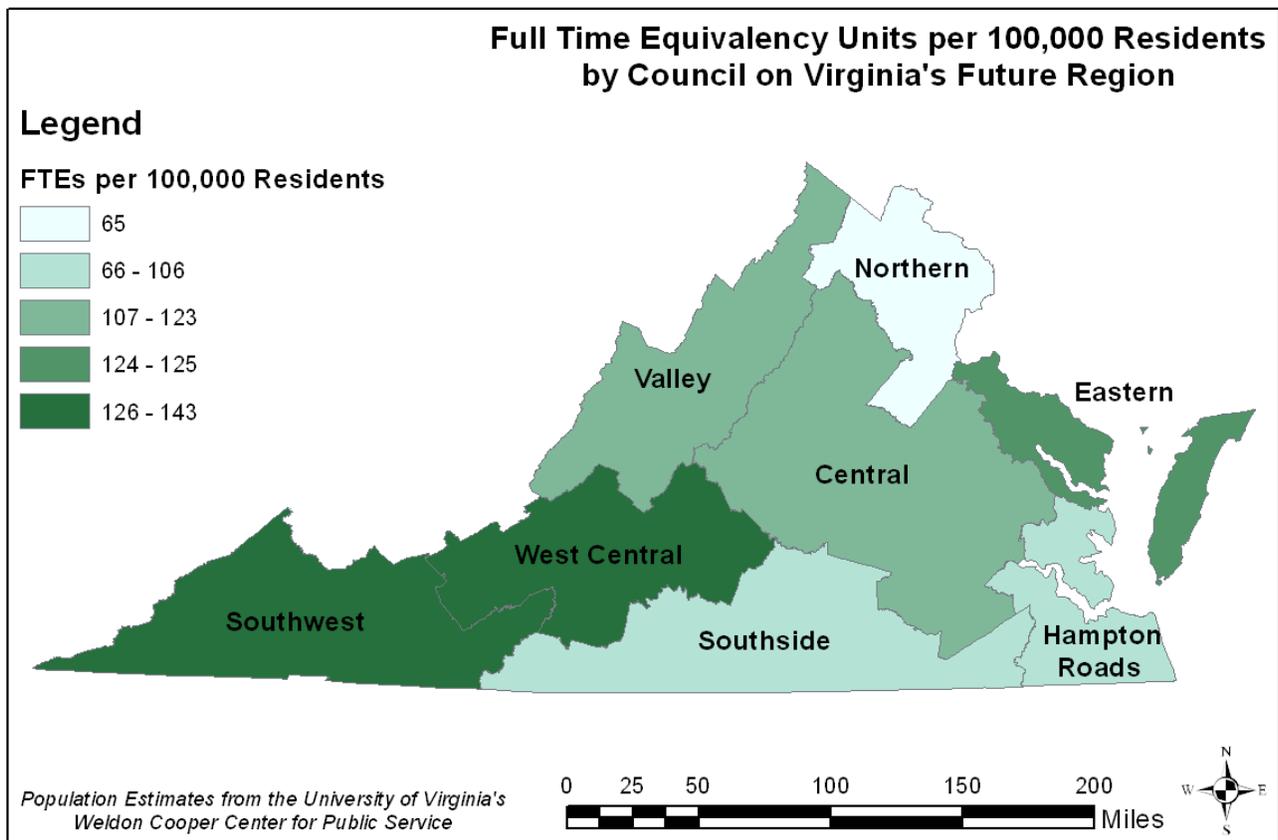
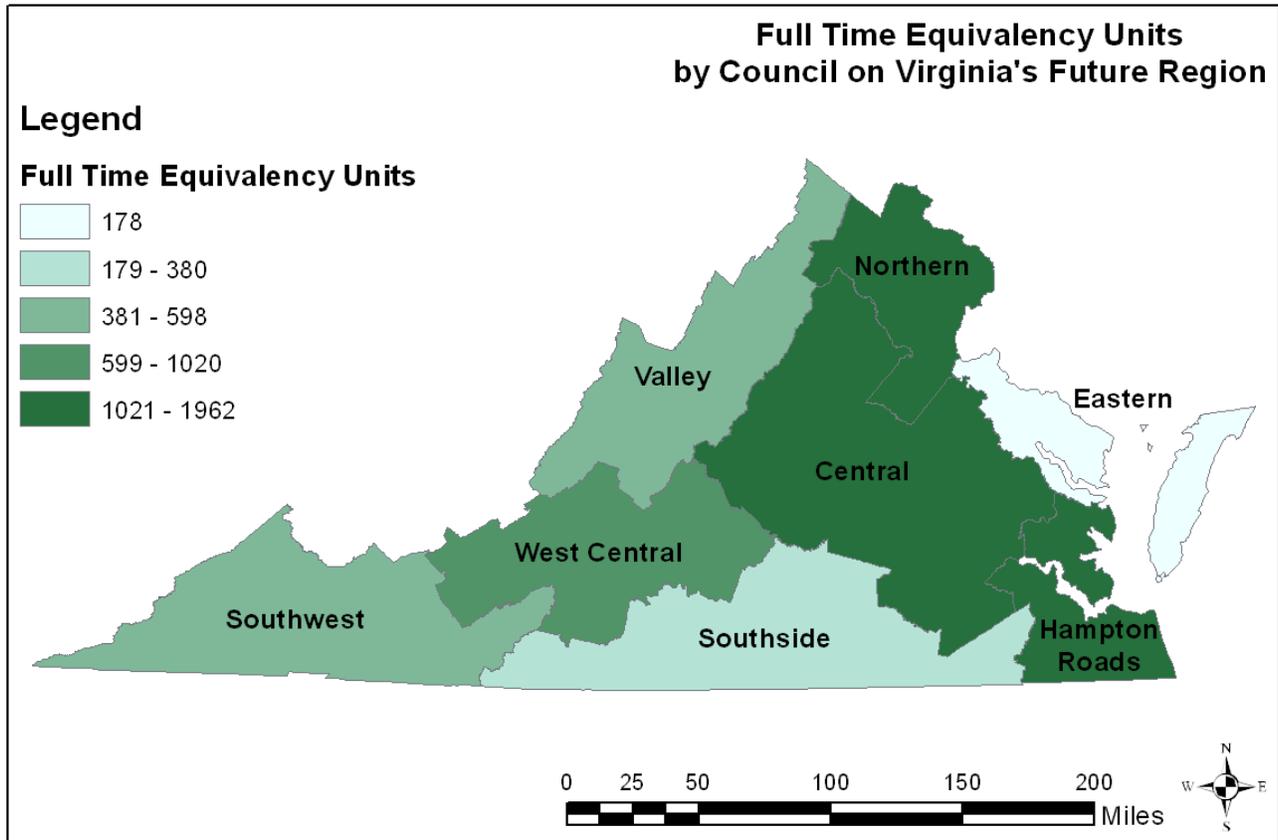
## Legend

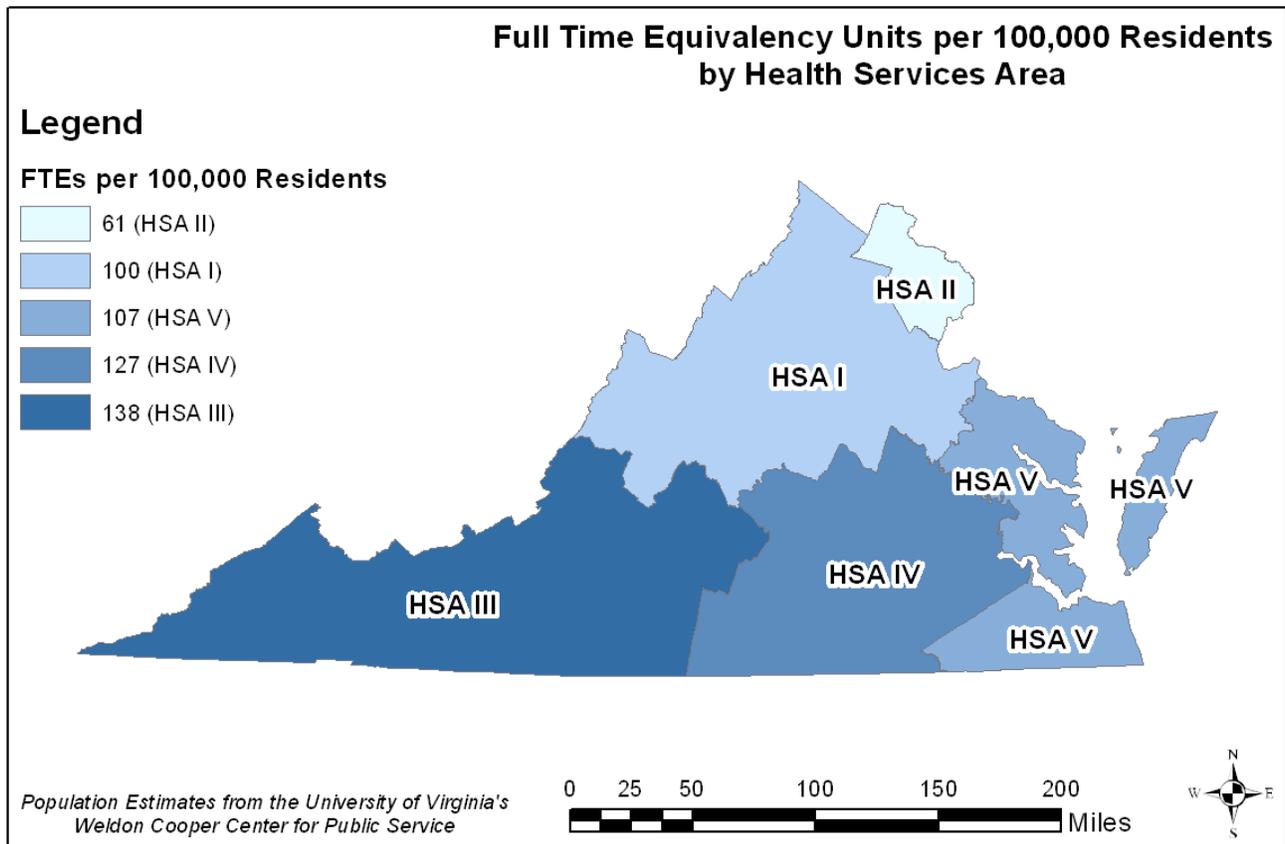
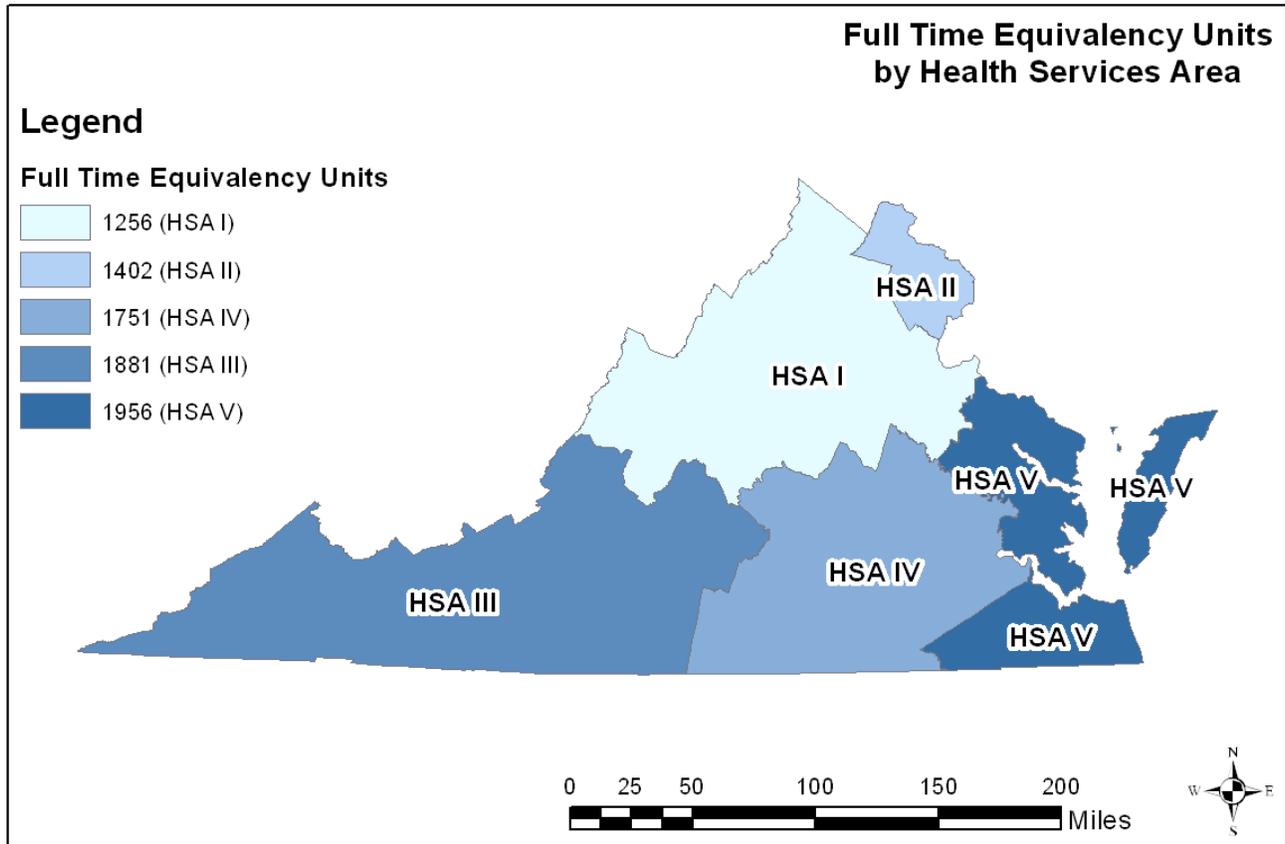
FTEs per 100,000 Residents

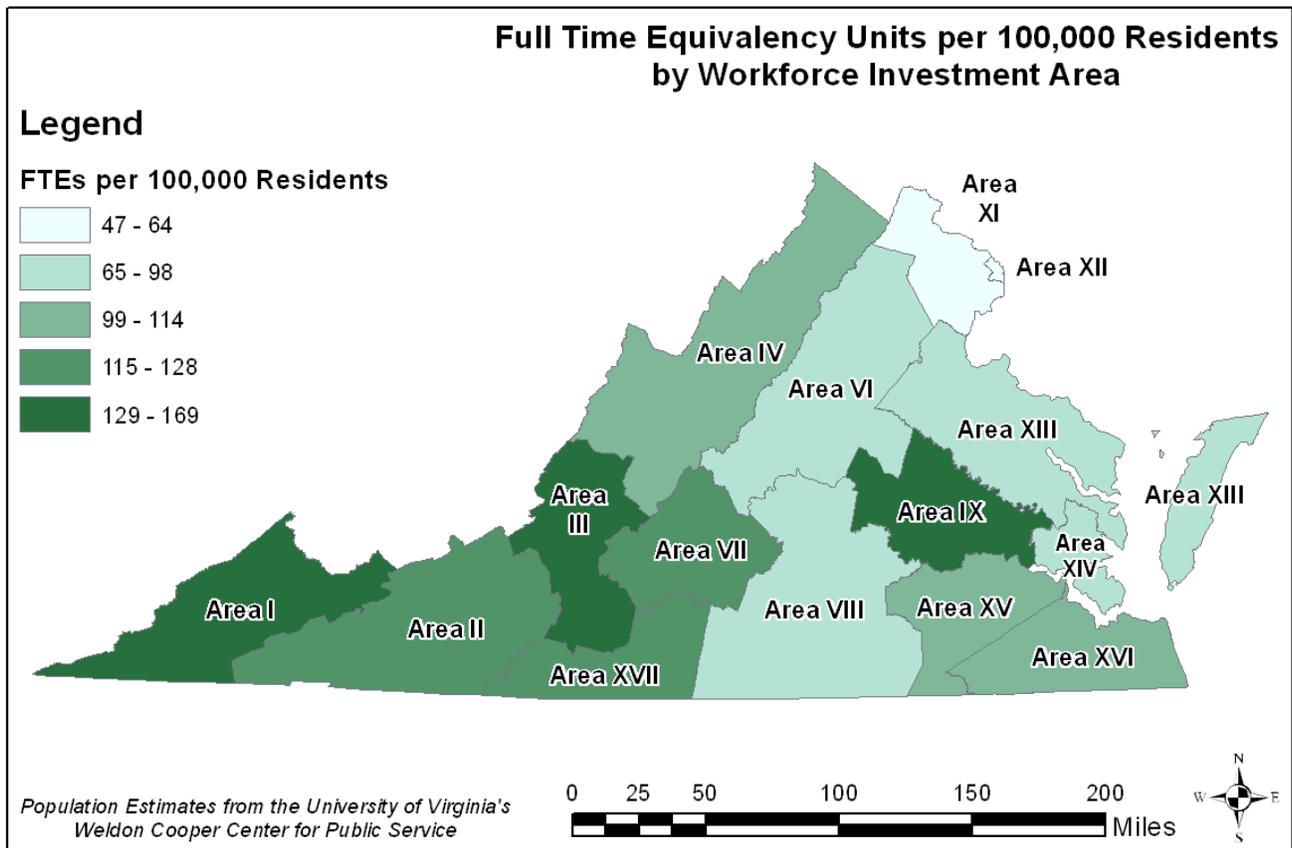
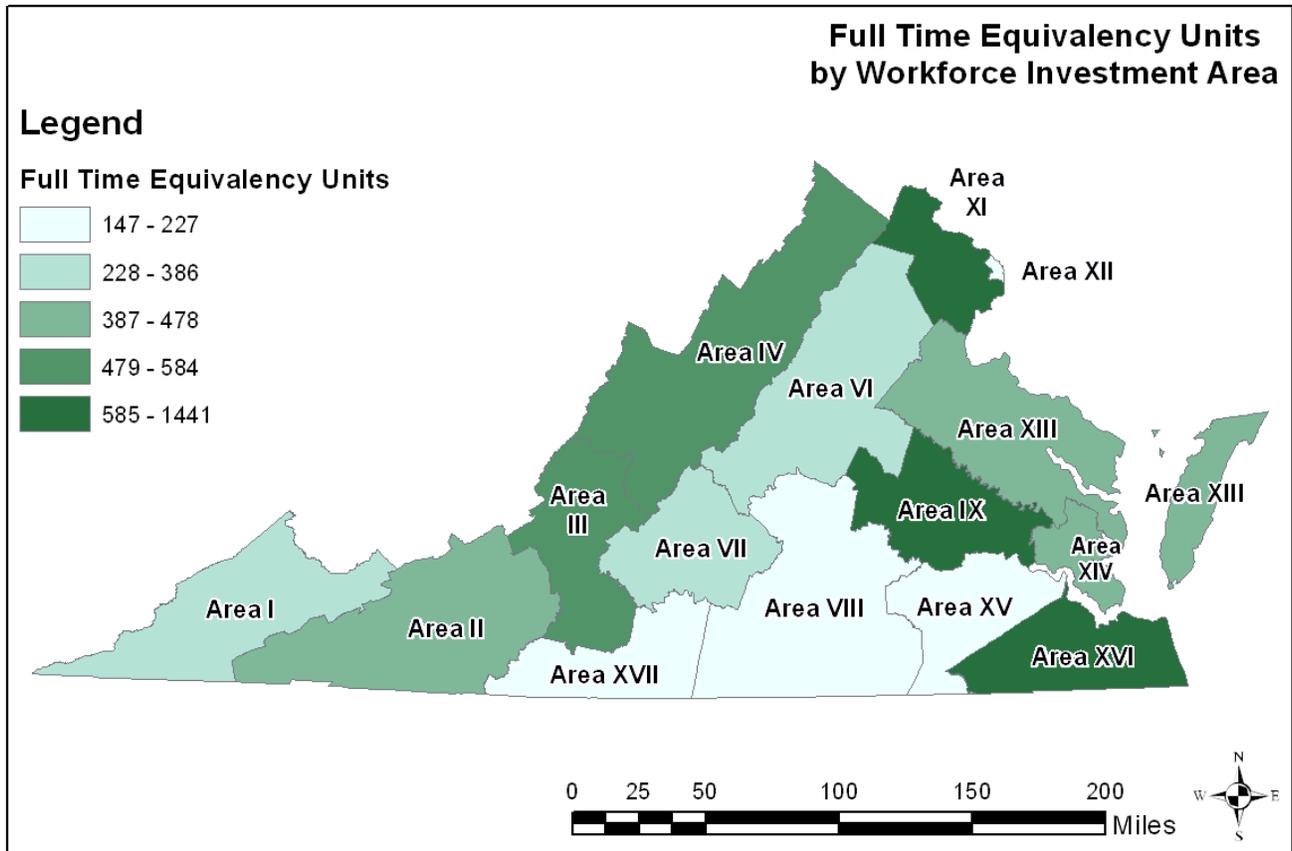


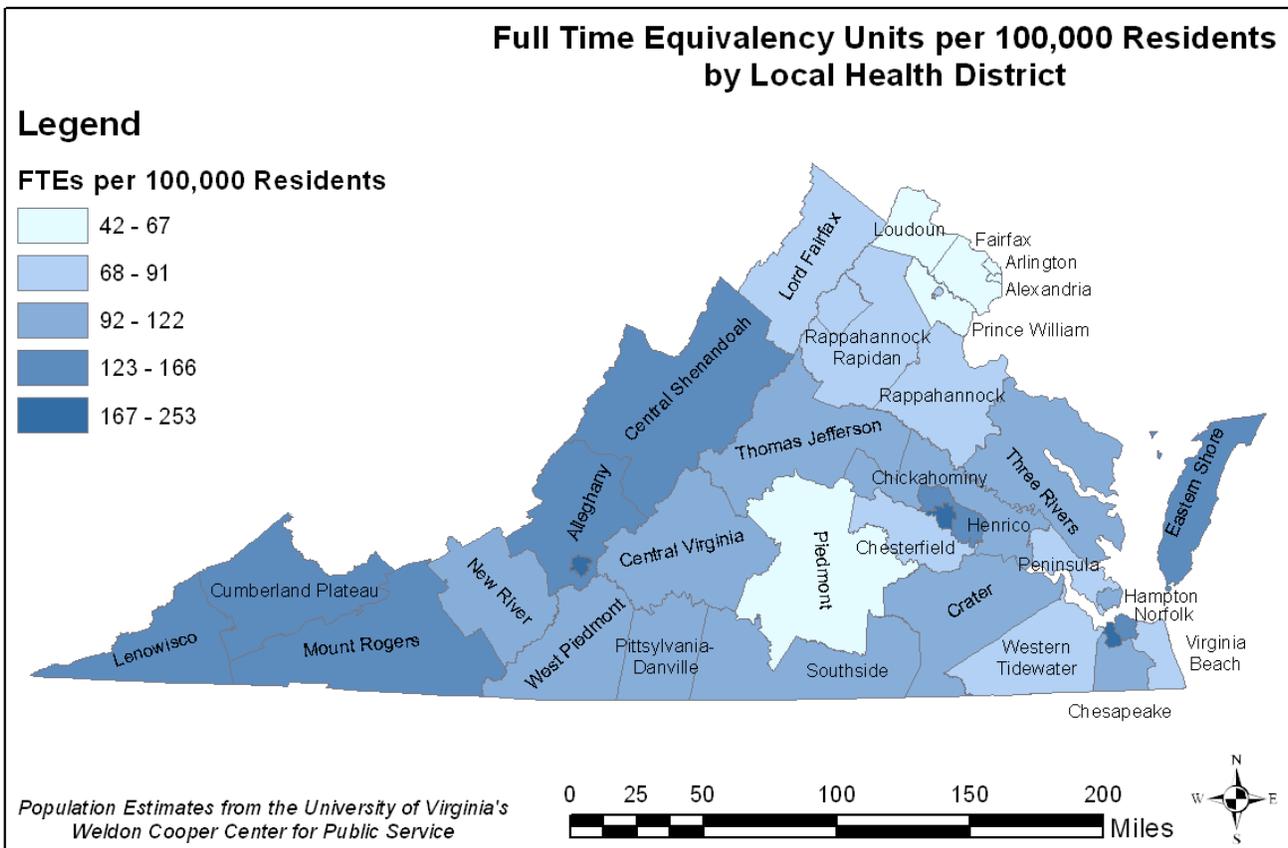
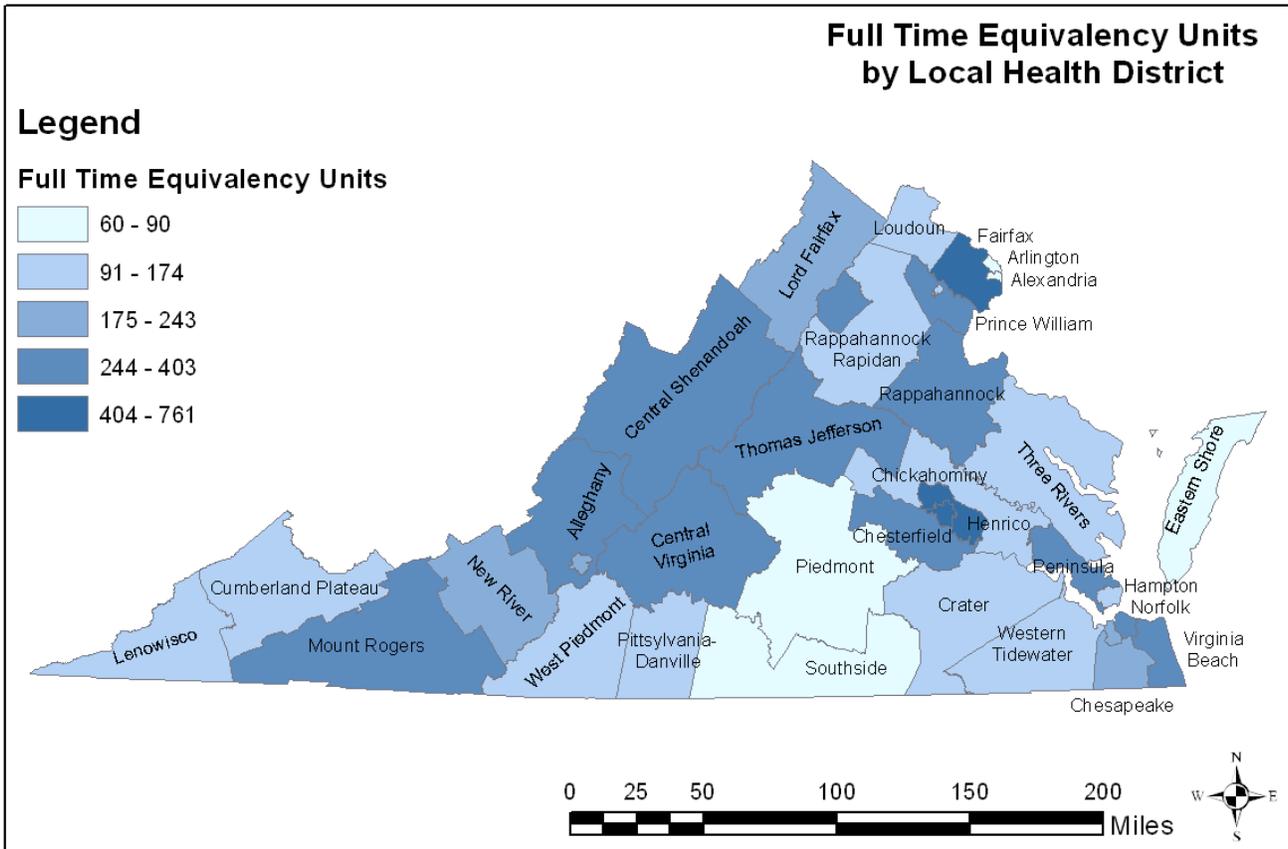
Population Estimates from the University of Virginia's  
Weldon Cooper Center for Public Service

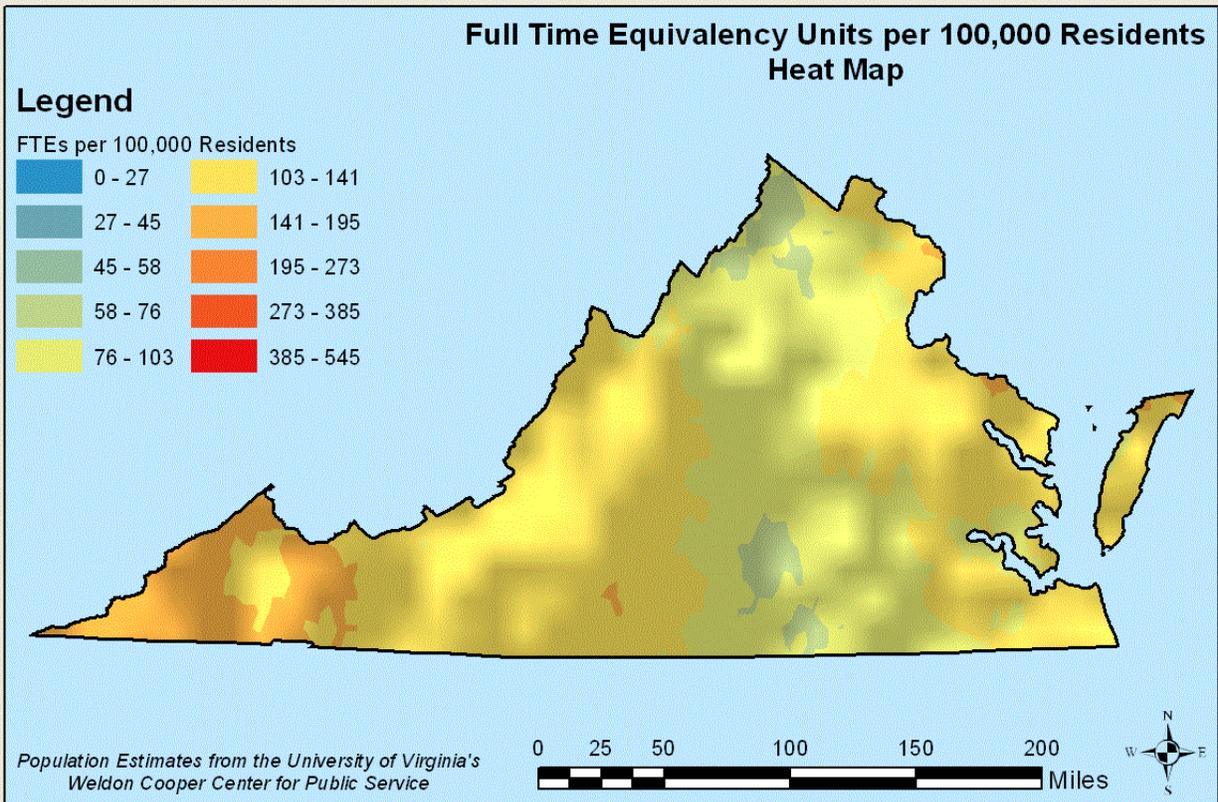
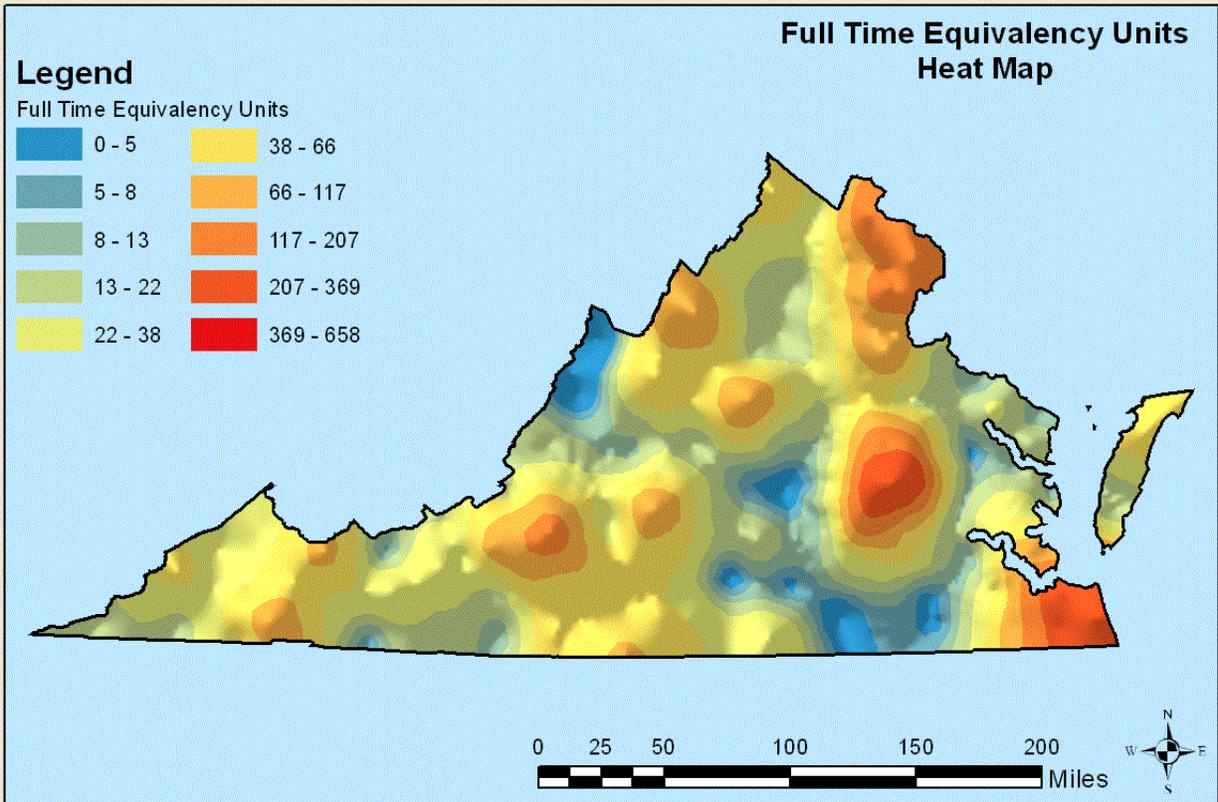












## Appendices

### Appendix A: Weights

Final weights were calculated by multiplying the two weights and the overall response rate:  $\text{ageweight} \times \text{ruralweight} \times \text{responserate} = \text{final weight}$ .

Note: No pharmacy technicians had mailing addresses in counties with rural status “Urban pop 20,000+, nonadj”.

Age	Response Rate	Weight
Under 30	66.62%	1.5009549795361500
30 to 34	72.72%	1.3752079866888500
35 to 39	74.38%	1.3443935926773500
40 to 44	76.29%	1.3107221006564600
45 to 49	78.65%	1.2713754646840100
50 to 54	77.38%	1.2923076923076900
55 to 59	73.90%	1.3531531531531500
60 to 64	78.07%	1.2808988764044900
65 to 69	65.22%	1.5333333333333300
70 to 74	57.14%	1.7500000000000000
75 to 79	40.00%	2.5000000000000000
80 and over	33.33%	3.0000000000000000
Age Unknown*	16.67%*	1.3990534581047700*

\* Seven registered pharmacy technicians are of unknown age, including one respondent. This respondent was given the average weight of all respondents for the age weight.

Rural Status	Response Rate	Weight
Metro, 1 million+	70.91%	1.410237923576060
Metro, 250,000 to 1 million	74.92%	1.334831460674160
Metro, 250,000 or less	73.00%	1.369841269841270
Urban pop 20,000+, Metro adj	73.43%	1.361842105263160
Urban pop 20,000+, nonadj	None in VA	None in VA
Urban pop, 2,500-19,999, Metro adj	75.51%	1.324324324324320
Urban pop, 2,500-19,999, nonadj	71.31%	1.402390438247010
Rural, Metro adj	72.04%	1.388157894736840
Rural, nonadj	74.02%	1.350961538461540
Virginia border state/DC	63.45%	1.576131687242800
Other US State	62.89%	1.590163934426230

## Appendix B: Hours Worked Imputation

As with all surveys, and particularly online surveys, our responses suffered from some item-missing data. The extent of the missing data appears in the tables on this page. To get a more complete look at the pharmacy technician labor supply, we imputed missing data on the hours worked and weeks worked variables for each location. Although these changes had little impact on aggregate descriptive estimates (See tables, next page), they may have a large effect on estimates when examining small groups (e.g., estimates for rural counties.)

We imputed data using a two-step process. First, we imputed weighted group means for groups of pharmacy technicians related on three key variables: age, metro-status of the location and total number of locations. The location, and thus the metro status of the location, was sometimes missing itself, resulting in a separate group. Additionally, locations outside of Virginia were also treated as a separate group. Second, we recoded the imputed means into an existing response. In the case of weeks, we rounded to the nearest integer week. (Note: 20 or fewer weeks are aggregated in the table only. The data is precise to the week). In the case of hours, we used our existing censored ranges. Decimals were truncated.

Ave. Hours per Week Worked	Primary Location		Secondary Location	
	Weighted Estimate	%	Weighted Estimate	%
1 to 9 hours	376	3.8%	354	20.7%
10 to 19 hours	712	7.3%	255	14.9%
20 to 29 hours	1114	11.3%	190	11.1%
30 to 39 hours	3135	31.9%	244	14.3%
40 to 49 hours	3842	39.1%	264	15.5%
50 to 59 hours	109	1.1%	13	0.8%
60 to 69 hours	27	0.3%	4	0.2%
70 to 79 hours	41	0.4%	10	0.6%
80 or more hours	168	1.7%	28	1.6%
<b>Total non-missing</b>	<b>9524</b>	<b>97.0%</b>	<b>1362</b>	<b>79.8%</b>
Missing (excluding ineligible)	296	3.0%	345	20.2%
<b>Total w/ Location</b>	<b>9820</b>	<b>100.0%</b>	<b>1707</b>	<b>100.0%</b>
<b>Ineligible</b>	<b>1619</b>		<b>9732</b>	

Weeks Worked	Primary Location		Secondary Location	
	Weighted Estimate	%	Weighted Estimate	%
<b>10 weeks or less</b>	474	4.8%	424	24.8%
<b>11 to 20 weeks</b>	626	6.4%	220	12.9%
21 weeks	21	0.2%	7	0.4%
22 weeks	36	0.4%	6	0.4%
23 weeks	17	0.2%	6	0.4%
24 weeks	151	1.5%	36	2.1%
25 weeks	65	0.7%	15	0.9%
26 weeks	124	1.3%	31	1.8%
27 weeks	17	0.2%	6	0.4%
28 weeks	89	0.9%	11	0.6%
29 weeks	92	0.9%	18	1.1%
30 weeks	120	1.2%	31	1.8%
31 weeks	10	0.1%	3	0.2%
32 weeks	91	0.9%	23	1.3%
33 weeks	21	0.2%	0	0.0%
34 weeks	43	0.4%	6	0.4%
35 weeks	54	0.5%	11	0.6%
36 weeks	111	1.1%	14	0.8%
37 weeks	22	0.2%	7	0.4%
38 weeks	51	0.5%	3	0.2%
39 weeks	15	0.2%	0	0.0%
40 weeks	340	3.5%	52	3.0%
41 weeks	23	0.2%	1	0.1%
42 weeks	70	0.7%	9	0.5%
43 weeks	25	0.3%	4	0.2%
44 weeks	89	0.9%	10	0.6%
45 weeks	155	1.6%	22	1.3%
46 weeks	141	1.4%	18	1.1%
47 weeks	103	1.0%	10	0.6%
48 weeks	732	7.5%	33	1.9%
49 weeks	409	4.2%	30	1.8%
50 weeks	1144	11.6%	51	3.0%
51 weeks	315	3.2%	16	0.9%
52 weeks	3745	38.1%	288	16.9%
<b>Total</b>	<b>9541</b>	<b>97.2%</b>	<b>1422</b>	<b>83.3%</b>
Missing (excluding ineligible)	279	2.8%	285	16.7%
<b>Total w/ Location</b>	<b>9820</b>	<b>100.0%</b>	<b>1707</b>	<b>100.0%</b>
<b>Ineligible</b>	<b>1619</b>		<b>9732</b>	

There are limitations inherent in this method. Two are related to the use of censored intervals for continuous data for hours worked. The first weakness is that we assign the center of the category as the numeric value for each interval. This assumes actual hours worked are symmetrically distributed within the categories. In reality, hours are likely distributed on a curve (e.g., more people likely worked closer to 50 hours per week than 59 hours per week in the “50 to 59 hours” category). The second is we could not use parametric statistical tests to measure correlation. Rather, we used Spearman rank-order correlation to determine correlation to confirm relationships. Some of the correlations found were weak (see table next page). Additionally, there are significant correlations between the imputed variables themselves. The HWDC is researching methods to apply modern multiple imputation methods to its data.

Despite these limitations, the imputation method appears to have only minimal effect on standard indicators. Results for the original variable, the group-mean imputed variable, and the rebinned variable (estimates) appear below:

**Table 1: Indicators of the effects of imputation, Primary Location.**

	Primary Weeks Worked	SMEAN (PriWeeks)	Primary Weeks, Estimated	Primary Average Hours	SMEAN(PriHours)	Primary Hours, Estimated
Valid	9541	9820	9820	9524	9820	9820
Missing	1898	1619	1619	1916	1619	1619
Mean	42.99	42.952	42.96	36.55	36.566	36.55
Std. Error of Mean	0.141	0.1371	0.137	0.135	0.1309	0.131
Median	50	50	50	35	35	35
Std. Deviation	13.765	13.5894	13.59	13.16	12.9724	12.975
Variance	189.484	184.671	184.679	173.184	168.284	168.362
Skewness	-1.592	-1.6	-1.601	0.202	0.202	0.206
Std. Error of Skewness	0.025	0.025	0.025	0.025	0.025	0.025
Kurtosis	1.296	1.378	1.38	2.643	2.796	2.792
Std. Error of Kurtosis	0.05	0.049	0.049	0.05	0.049	0.049
Sum	410221	421788.6	421828	348106	359078.9	358941
Percentiles						
25	40	40	40	35	35	35
50	50	50	50	35	35	35
75	52	52	52	45	45	45

**Table 2: Indicators of the effects of imputation, Secondary Location.**

	Secondary Weeks Worked	SMEAN (SecWeeks)	Secondary Weeks, Estimate	Secondary Average Hours	SMEAN (SecHours)	Secondary Hours, Estimated
Valid	1422	1704	1704	1362	1704	1704
Missing	10017	9735	9735	10078	9735	9735
Mean	27.24	27.43	27.45	25.6	25.483	25.69
Std. Error of Mean	0.516	0.434	0.434	0.487	0.3962	0.395
Median	25	26	26	25	25	25
Std. Deviation	19.454	17.9145	17.917	17.982	16.3571	16.321
Variance	378.452	320.929	321.033	323.34	267.555	266.375
Skewness	0.048	0.025	0.022	0.802	0.891	0.865
Std. Error of Skewness	0.065	0.059	0.059	0.066	0.059	0.059
Kurtosis	-1.597	-1.364	-1.365	0.74	1.424	1.427
Std. Error of Kurtosis	0.13	0.119	0.119	0.133	0.119	0.119
Sum	38735	46743.7	46775	34856	43426.6	43786
Percentiles						
25	8	11	11	5	15	15
50	25	26	26	25	25	25
75	49.48	47	47	35	35	35

**Table 3: Correlations.**

	Spearman's rho	Location Count	Primary Average Hours	Primary Weeks Worked	Secondary Average Hours	Secondary Weeks Worked
Age 5 yr	Correlation Coefficient	-0.013	.195**	.110**	.082**	.089**
	Sig. (2-tailed)	0.186	0	0	0.003	0.001
	N	10678	8874	8887	1293	1341
Location Count	Correlation Coefficient	1	-0.017	-.096**	.068*	-0.051
	Sig. (2-tailed)	.	0.119	0	0.015	0.06
	N	10679	8875	8888	1293	1341

## Appendix C: The 2011 Pharmacy Technician Workforce Survey

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### Education and Background

1) Where did you attend high school (Secondary School)?

Outside Of The U.S. or Canada  
Canada

List of States and Territories

2) What is the highest level of education you have attained as of today? Check all that apply

High School/GED  
Associate Degree  
Baccalaureate Degree  
Masters Degree

2) What is the highest level of education you have attained as of today? Check all that apply

Ph.D.

3) Do you hold either of the following national pharmacy technician certifications as of today? Check all that apply

Pharmacy Technician Certification Board (PTCB)

Exam for Certification of Pharmacy Technicians (ExCPT)

None of the Above

4) Within the past 12 months, have you worked, volunteered, taught or practiced, in any environment related to pharmacy technicians or in any position that drew on your knowledge of pharmacy? (if only occasional practice--less than 100 hrs--please select "No") Please note: Answer "yes" for any pharmacy-related activities, including administrative, educational, regulatory or other activities. If you answered "No" to Question 4, please go to Question 26 in the Demographics section. If you answered "Yes", please continue.

*Fill in the blank*

Primary Work Location<i>Question 5 through Question 10 refers to your primary place of employment, work or practice. This is the place where you spend the most work hours during an average workweek, or where you spent the most weeks working in the past 12 months. Please use these questions to describe a particular work location, not an employer. Temporary or traveling workers who spend or spent a significant amount of time at a particular location should use that location as his or her primary work location. Persons who consistently work in multiple locations (i.e. temporary workers, locum tenens) should indicate this in Question 5.</i>

5) Please select the location of your primary place of employment, work or practice:

List of VA counties

Several localities (temporary, mobile clinic, etc.)

Outside of US

Virginia Border State/DC

Other US State

6) Approximate number of weeks at which at least some time was spent at this work location within the past twelve months (exclude vacation, medical leave, etc.)

1 - 52 weeks

Independent Community Pharmacy (1-4 stores)

Small Chain Community Pharmacy (5-10 stores)

Large Chain Community Pharmacy (11+ stores)

Mass Merchandiser (i.e. Big Box Store)

Supermarket Pharmacy

Clinic-Based Pharmacy

Mail Service Pharmacy

Government Hospital / Health System, Inpatient

Government Hospital / Health System, Outpatient

7a) Please select the type of practice setting:

- Non-government Hospital / Health System, Inpatient
- Non-government Hospital / Health System, Outpatient
- Nursing Home, Long Term Care
- Home Health / Infusion
- Pharmacy Benefit Administration (e.g. PBM, managed care)
- Academic Institution
- Other For-profit Corporation / Organization
- Other Non-profit Corporation / Organization

7b) If you selected Other For-profit or Non-profit Corporation / Organization, please provide a brief description:

8) How many hours did you work at this location during your average workweek?

*Fill in the blank*

- 1 to 9 hours
- 10 to 19 hours
- 20 to 29 hours
- 30 to 39 hours
- 40 to 49 hours
- 50 to 59 hours
- 60 to 69 hours
- 70 to 79 hours
- 80 or more hours

9) In the average workweek, what percentage of your working hours were spent in the following roles: 9a) Medication Dispensing (including counting, labelling, repackaging, placing drugs in counting devices or robots)

- None
- 1% to 9%
- 10% to 19%
- 20% to 29%
- 30% to 39%
- 40% to 49%
- 50% to 59 %
- 60% to 69%
- 70% to 79%
- 80% to 89%
- 90% to 99%

9b) Customer Service (including cashiering, receiving written prescriptions)

- None
- 1% to 9%
- 10% to 19%
- 20% to 29%
- 30% to 39%
- 40% to 49%
- 50% to 59 %
- 60% to 69%
- 70% to 79%
- 80% to 89%
- 90% to 99%

100%

9c) Supervisory/Staff management/Scheduling tasks

- None
- 1% to 9%
- 10% to 19%
- 20% to 29%
- 30% to 39%

100%

	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	
	80% to 89%	
	90% to 99%	100%
9d) Third party payor billing & coordination	None	
	1% to 9%	
	10% to 19%	
	20% to 29%	
	30% to 39%	
	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	
	80% to 89%	
	90% to 99%	100%
9e) Other Clerical and Administrative tasks (including assisting with proper maintenance of records, billing patients, stocking/restocking drug inventory)	None	
	1% to 9%	
	10% to 19%	
	20% to 29%	
	30% to 39%	
	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	
	80% to 89%	
	90% to 99%	100%
9f) Teaching a board-approved pharmacy technician training program	None	
	1% to 9%	
	10% to 19%	
	20% to 29%	
	30% to 39%	
	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	
	80% to 89%	
	90% to 99%	100%
9g) Other	None	
	1% to 9%	
	10% to 19%	
	20% to 29%	
	30% to 39%	
	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	

80% to 89%  
90% to 99%

100%

10) How are you paid for your services at your primary work location? If you only have one practice location, please skip to question 18. If you have additional practice locations, please continue. Check all that apply

Salary  
Hourly wage  
Profits (owner/part owner)  
Volunteer/Not paid

Secondary Practice Setting<i>Question 11 through Question 16 refers to your secondary place of employment, work or practice. This is the place where you spend the second most work hours during an average workweek, or where you spent the second most weeks working in the past 12 months. Please use these questions to describe a particular work location, not an employer. Temporary or traveling workers who can identify a second location where he or she spends or spent a significant amount of time should use this as his or her secondary work location. Persons who consistently work in multiple locations (i.e. temporary workers, locum tenens) should indicate this in Question 11.</i>

11) Please select the location of your secondary place of employment, work or practice:

List of VA counties  
Several localities (temporary, mobile clinic, etc.)  
Outside of US  
Virginia Border State/DC  
Other US State

12) Approximate number of weeks at which at least some time was spent at this work location within the past twelve months (exclude vacation, medical leave, etc.)

1 - 52 weeks  
Independent Community Pharmacy (1-4 stores)  
Small Chain Community Pharmacy (5-10 stores)  
Large Chain Community Pharmacy (11+ stores)

13a) Please select the type of practice setting:

Mass Merchandiser (i.e. Big Box Store)  
Supermarket Pharmacy  
Clinic-Based Pharmacy  
Mail Service Pharmacy  
Government Hospital / Health System, Inpatient  
Government Hospital / Health System, Outpatient  
Non-government Hospital / Health System, Inpatient  
Non-government Hospital / Health System, Outpatient  
Nursing Home, Long Term Care  
Home Health / Infusion  
Pharmacy Benefit Administration (e.g. PBM, managed care)  
Academic Institution  
Other For-profit Corporation / Organization  
Other Non-profit Corporation / Organization

13b) If you selected Other For-profit or Non-profit Corporation / Organization, please provide a brief description:

*Fill in the blank*

14) How many hours did you work at this location during your average workweek?

1 to 9 hours  
10 to 19 hours

20 to 29 hours  
 30 to 39 hours  
 40 to 49 hours  
 50 to 59 hours  
 60 to 69 hours  
 70 to 79 hours  
 80 or more hours

15) In the average workweek, what percentage of your working hours were spent in the following roles:15a) Medication Dispensing (including counting, labelling, repackaging, placing drugs in counting devices or robots)

None  
 1% to 9%  
 10% to 19%  
 20% to 29%  
 30% to 39%  
 40% to 49%  
 50% to 59 %  
 60% to 69%  
 70% to 79%  
 80% to 89%  
 90% to 99%

100%

15b) Customer Service (including cashiering, receiving written prescriptions)

None  
 1% to 9%  
 10% to 19%  
 20% to 29%  
 30% to 39%  
 40% to 49%  
 50% to 59 %  
 60% to 69%  
 70% to 79%  
 80% to 89%  
 90% to 99%

100%

15c) Supervisory/Staff management/Scheduling tasks

None  
 1% to 9%  
 10% to 19%  
 20% to 29%  
 30% to 39%  
 40% to 49%  
 50% to 59 %  
 60% to 69%  
 70% to 79%  
 80% to 89%  
 90% to 99%

100%

15d) Third party payor billing & coordination

None  
 1% to 9%  
 10% to 19%  
 20% to 29%  
 30% to 39%  
 40% to 49%  
 50% to 59 %  
 60% to 69%

	70% to 79%	
	80% to 89%	
	90% to 99%	
15e) Other Clerical and Administrative tasks (including assisting with proper maintenance of records, billing patients, stocking/restocking drug inventory)	None	100%
	1% to 9%	
	10% to 19%	
	20% to 29%	
	30% to 39%	
	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	
	80% to 89%	
	90% to 99%	
15f) Teaching a board-approved pharmacy technician training program	None	100%
	1% to 9%	
	10% to 19%	
	20% to 29%	
	30% to 39%	
	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	
	80% to 89%	
	90% to 99%	
15g) Other	None	100%
	1% to 9%	
	10% to 19%	
	20% to 29%	
	30% to 39%	
	40% to 49%	
	50% to 59 %	
	60% to 69%	
	70% to 79%	
	80% to 89%	
	90% to 99%	
16) How are you paid for your services at your secondary work location? Check all that apply		100%
	Salary	
	Hourly wage	
	Profits (owner/part owner)	
	Volunteer/Not paid	
17) Total hours of pharmacy technician services provided at all other Virginia locations in the past 12 months:	None	
	1 to 9 hours	
	10 to 19 hours	
	20 to 29 hours	
	30 to 39 hours	
	40 to 49 hours	

- 50 to 59 hours
- 60 to 69 hours
- 70 to 79 hours
- 80 or more hours

Employment information<i>The Healthcare Workforce Data Center collects compensation information to assess the balance of supply and demand in the state and in localities, and to assist students in planning health careers and choosing specialties. Information from the questions will only be presented in the aggregate. The confidentiality of information for these and all questions is protected by law. All questions are voluntary.</i>18) What is your estimated hourly income from your work as a pharmacy technician over the past 12 months?

- Volunteer work only
- \$7.25-9.00/hr
- \$9.01-\$11.00/hr
- \$11.01-\$13.00/hr
- \$13.01-\$15.00/hr
- \$15.01-\$17.00hr
- \$17.01-\$19.00/hr
- \$19.01-\$21.00/hr
- More than \$21.00/hr
- Prefer not to respond

19) Do you receive any of the following benefits from your current employer(s)? Check all that apply

- Paid Vacation
- Paid Sick Leave
- Paid Disability Leave
- Health Insurance
- Dental Insurance
- Stock options
- Retirement (401k, Pension, etc.)
- Group Life Insurance
- Signing/retention bonus
- No Benefits

20) Do any of your employers require you to maintain a national certification? If so, which certification? Check all that apply

- No, my employer(s) do not require a national certification.
- Yes, Pharmacy Technician Certification Board (PTCB)
- Yes, Exam for Certification of Pharmacy Technicians (ExCPT)

21) Have any of your employers provided you with increased pay for obtaining a national certification?

- Yes
- No
- Do not hold a national certification.

22) What is your estimated current educational debt?

- No educational debt
- Less than \$2,000
- \$2,001-\$4,000
- \$4,001-\$6,000
- \$6,001-\$8,000
- \$8,001-\$10,000
- \$10,001-\$12,000
- \$12,001-\$15,000
- \$15,001-\$20,000
- More than \$20,000
- Prefer not to respond

23) At what age do you predict you will retire?

- Under age 50
- 50 to 54

- 55 to 59
- 60 to 64
- 65 to 69
- 70 to 74
- 75 to 79
- 80 or over
- I do not intend to retire

24) Within the next two years do you plan to do any of the following: Check all that apply

- Retire
- Cease working as a pharmacy technician.
- Continue working as a pharmacy technician, but cease doing so in Virginia
- Increase hours working as a pharmacy technician
- Decrease hours working as a pharmacy technician
- Obtain national certification
- Attend a school of pharmacy to become a pharmacist
- Pursue additional education in a non-Pharmacy related field

25) Within the next five years do you plan to do any of the following: Check all that apply

- Retire
- Cease working as a pharmacy technician.
- Continue working as a pharmacy technician, but cease doing so in Virginia
- Increase hours working as a pharmacy technician
- Decrease hours working as a pharmacy technician
- Obtain national certification
- Attend a school of pharmacy to become a pharmacist
- Pursue additional education in a non-Pharmacy related field

Demographic Questions

26) Year of Birth

27) Sex

- 1996 --> 1920
- Male
- Female

Please select the items that best describe your race/ethnicity. Please answer both question 28a about Hispanic origin and 28b about race/ethnicity. 28a) Select One:

- Hispanic, Latino or Spanish origin
- Not Hispanic, Latino or Spanish origin
- Prefer not to respond

28b) Select all that apply:

- American Indian of Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- Some other race
- Prefer not to respond

28c) If some other race, please describe: End of Questionnaire for working Pharmacy Technicians. Please click the "submit" button below to complete the survey. Thank you! If you answered "No" to Question 4, please continue.

29) If you did not practice, teach or otherwise work as a pharmacy technician in

- Fill in the blank*
- I am retired.

Virginia within the past twelve months, did/are you . . .? Check all that apply

Work in a state bordering Virginia or in the District of Columbia?

Work in another state (not bordering Virginia)?

Work in another country?

Work as part of the US Uniformed Services or the US Peace Corps?

Work outside of Virginia with a religious or non-profit organization?

Work occasionally for charity/consultation/special patients?

Pursue pharmacy-related education, excluding required continuing education requirements?

Pursue non-pharmacy education?

Work in another profession?

Experience temporary voluntary unemployment (including for medical reasons)?

Experience temporary involuntary unemployment?

Required to hold registration as part of a management position?

Not currently planning to practice/work in Virginia.

Yes, within the next year

Yes, within 1-2 years

Yes, within 3-5 years

Yes, in more than 5 years

Yes, do not know when

30) Do you expect to begin working in the pharmacy field in Virginia? If so, when?

## Appendix D: The 2012 Pharmacy Technician Workforce Survey

While striving to maintain continuity, the HWDC continuously improves its surveys based on results of previous surveys. The HWDC has adopted a standard survey template to serve as the basis of all of its workforce surveys. The 2012 Pharmacy Technician Survey incorporates standard survey template and includes elements specific to the Pharmacy Technician survey. Please note that the survey appears online through our licensing renewal system. The final appearance of the survey for practitioners is dictated by this system. The HWDC may make additional changes before implementing the 2012 survey.

<b>Pharmacy Technician Survey</b>		
<b>Instructions:</b>		
<p>The following survey will assist policymakers at the state, federal and local levels assess the adequacy of the current pharmacy technician workforce and project future workforce trends in relation to Virginia's changing population and health needs. It will help us advance the practice of pharmacy technicians and to improve the health of all Virginians. By law, information collected as part of this survey is confidential. License numbers and other individually identifying information are removed from Healthcare Workforce Data Center data sets. The Healthcare Workforce Data Center only releases information in the aggregate or to qualified research organizations who meet our strict confidentiality standards. Participation in this survey is voluntary.</p>		
<p>The survey questions are designed to allow comparisons across professions, and among state and federal data collection efforts. Some of the questions, particularly the demographic questions, match Federal data collection standards.</p>		
<b>Education and Background</b>		
1)	Year of Birth:	<i>Dropdown: 1996 to 1920 (reverse order)</i>
2)	Sex:	<i>Dropdown: Male/Female</i>
Please select the items that best describe your race/ethnicity. Please answer both question 3a about Hispanic origin and 3b about race/ethnicity.		
3a)	Select one:	<i>Check one</i>
		Hispanic, Latino or Spanish Origin
		Not Hispanic, Latino or Spanish Origin
3b)	Select all that apply:	<i>Check all that apply</i>
		White
		Black or African American
		American Indian or Alaska Native
		Asian
		Native Hawaiian or Pacific Islander
		Some other race
3c)	If some other race, please specify:	<i>Fill in the blank</i>
4)	Where did you graduate from high school (Secondary School)?	<i>Dropdown</i>
		Outside of the US or Canada

		Canada
		57 US States and Territories
5)	Was your childhood spent mostly in rural, urban or suburban areas?	<i>Dropdown: urban, rural, suburban</i>
6)	Please indicate the highest level of education you have completed as of today:	<i>Dropdown</i>
		High School/GED
		Associate Degree
		Baccalaureate Degree
		Masters Degree
		Ph.D.
7)	Do you hold either of the following national pharmacy technician certifications as of today?	<i>Dropdown</i>
		Pharmacy Technician Certification Board (PTCB)
		Exam for Certification of Pharmacy Technicians (ExCPT)
8)	Do any of your employers require you to maintain a national certification?	<i>Dropdown (yes/no)</i>
9)	Have any of your employers provided you with increased pay for obtaining a national certification?	<i>Dropdown: yes/no/Do not hold a national certification.</i>
<b>Current Employment Status</b>		
10)	Which choice best describes your current employment or work situation?	<i>Dropdown</i>
		I am currently employed as a pharmacy technician.
		I am currently employed, but not as a pharmacy technician.
		I am retired.
		I am currently voluntarily unemployed (including for medical reasons).
		I am currently involuntarily unemployed.
11)	Overall, and taking into account all positions you fill, how satisfied are you with your current employment or work situation?	<i>Dropdown</i>
		Very satisfied
		Somewhat satisfied
		Somewhat dissatisfied
		Very dissatisfied
12)	How many positions do you currently hold?	<i>Dropdown</i>

	<i>Note: There is no legal standard for part-time work, and each employer defines part-time work differently. Part-time work generally refers to workweeks of 35-hours per week or less. Per diem, temporary, contract, self-employed and seasonal workers, and workers subject to annual limits on hours should consider average hours spent working over the term of employment.</i>	One part-time position
		One full-time position
		Two part-time positions
		One full-time position & one part-time position
		Two full-time positions
		More than two positions
13)	Considering all positions you currently fill, how long is your average workweek?	<i>Dropdown</i>
		I am not currently working
		1 to 9 hours
		10 to 19 hours
		20 to 29 hours
		30 to 39 hours
		40 to 49 hours
		50 to 59 hours
		60 to 69 hours
		70 to 79 hours
		80 or more hours
<b>Unless otherwise noted, the rest of the questions draws on your experiences over the past 12 months. If you did not work in the past 12 months in a capacity that drew on your pharmacy technician background, please skip to question 37.</b>		
<b>Primary Work Location</b>		
<i>Questions 14 to 19 refer to your primary place of employment, work or practice (volunteer or paid) over the past 12 months. This is the location where you spend the most work hours during an average workweek or where you spent the most weeks working in the past 12 months. You do not need to currently work at this location. These questions refer to a location, not an employer. Persons who consistently work in multiple locations (e.g. temporary workers, home health, multi-facility rounds) should choose the location where they are based.</i>		
14)	Please select the location of your primary place of employment, work, volunteer work or practice:	<i>Dropdown:</i>
		Outside of US
		Virginia Border State/DC
		Other US State
		List of Virginia's Cities and Counties
15)	How long have you worked at this particular location?	<i>Dropdown</i>
		I do not currently work at this location
		Less than 6 months

		6 months to 1 year
		1 to 2 years
		3 to 5 years
		6 to 10 years
		More than 10 years
16a)	Approximate number of weeks at which at least some time was spent at this work location within the past twelve months (exclude vacation, medical leave, etc):	<i>Dropdown: 1 week - 52 weeks</i>
16b)	How many hours do you (or did you) work in an average workweek at this location?	<i>Dropdown</i>
		1 to 9 hours
		10 to 19 hours
		20 to 29 hours
		30 to 39 hours
		40 to 49 hours
		50 to 59 hours
		60 to 69 hours
		70 to 79 hours
		80 or more hours
17)	In the average workweek at this location, roughly what percentage of your working hours were spent in the following roles: (Answers should roughly equate to 100%).	<i>Dropdown: (for each sub-question)</i>
17a)	Medication Dispensing (including counting, labelling, repackaging, placing drugs in counting devices or robots)	None
17b)	Customer Service (including cashiering, receiving written prescriptions)	1% to 9%
17c)	Supervisory/Staff management/Scheduling tasks	10% to 19%
17d)	Clerical and Administrative tasks, including maintenance of records, billing, stocking/restocking, drug inventory)	20% to 29%
17e)	Teaching a board-approved pharmacy technician training program	30% to 39%
17f)	Other	50% to 59%
		60% to 69%
		70% to 79%
		80% to 89%
		90% to 99%
		100%
18a)	Please select the choice that best describes this location's organizational sector:	<i>Dropdown</i>
		For-profit (e.g. private practice, corporate)
		Non-profit (including religious affiliated)
		State/local-government
		US military

		Veteran's Administration
		Other federal government
18b)	Please select the choice that best describes this practice setting:	<i>Dropdown:</i>
		Independent Community Pharmacy (1-4 stores)
		Small Chain Community Pharmacy (5-10 stores)
		Large Chain Community Pharmacy (11+ stores)
		Mass Merchandiser (i.e. Big Box Store)
		Supermarket Pharmacy
		Clinic-Based Pharmacy
		Mail Service Pharmacy
		Hospital / Health System, Inpatient
		Hospital / Health System, Outpatient
		Nursing Home, Long Term Care
		Home Health / Infusion
		Pharmacy Benefit Administration (e.g. PBM, managed care)
		Academic Institution
		Other
18c)	If you selected "other practice setting" please provide a brief description:	<i>Open-ended</i>
19)	Please indicate how you are (were) personally compensated for activities at this location:	<i>Dropdown</i>
		Salary/Commission
		Hourly wage
		By contract
		Business/Practice income
		Volunteer, unreimbursed
<b>If you only had one practice location in the past 12 months, please skip to question 31. If you had additional practice locations, please continue.</b>		
<b>Secondary Work Location</b>		
<i>Questions 20 to 26 refer to your secondary place of employment, work or practice (volunteer or paid) over the past 12 months. This is the location where you spend the second most work hours during an average workweek or where you spent the second most weeks working in the past 12 months. You do not need to currently work at this location. These questions refer to a location, not an employer. Persons who consistently work in multiple locations (e.g. temporary workers, home health, multi-facility rounds) should choose the location where they are based.</i>		
20)	Is this location with the same employer or practice as your primary location, or a different employer/practice?	<i>Dropdown</i>
		Same employer or practice
		Different employer or practice

21)	Please select the location of your secondary place of employment, work, volunteer work or practice:	<i>Dropdown:</i>
		Outside of US
		Virginia Border State/DC
		Other US State
		List of Virginia's Cities and Counties
22)	How long have you worked at this location?	<i>Dropdown</i>
		I do not currently work here
		Less than 6 months
		6 months to 1 year
		1 to 2 years
		3 to 5 years
		6 to 10 years
		More than 10 years
23a)	Approximate number of weeks at which at least some time was spent at this work location within the past twelve months (exclude vacation, medical leave, etc):	<i>Dropdown: 1 week - 52 weeks</i>
23b)	How many hours do you (or did you) work in an average workweek at this location?	<i>Dropdown</i>
		1 to 9 hours
		10 to 19 hours
		20 to 29 hours
		30 to 39 hours
		40 to 49 hours
		50 to 59 hours
		60 to 69 hours
		70 to 79 hours
		80 or more hours
24)	In the average workweek at this location, roughly what percentage of your working hours were spent in the following roles: (Answers should roughly equate to 100%).	<i>Dropdown: (for each sub-question)</i>
24a)	Medication Dispensing (including counting, labelling, repackaging, placing drugs in counting devices or robots)	None
24b)	Customer Service (including cashiering, receiving written prescriptions)	1% to 9%
24c)	Supervisory/Staff management/Scheduling tasks	10% to 19%
24d)	Clerical and Administrative tasks, including maintenance of records, billing, stocking/restocking, drug inventory)	20% to 29%
24e)	Teaching a board-approved pharmacy technician training program	30% to 39%
24f)	Other	50% to 59 %
		60% to 69%

		70% to 79%
		80% to 89%
		90% to 99%
		100%
25a)	Please select the choice that best describes this location's organizational sector:	<i>Dropdown</i>
		For-profit (e.g. private, corporate)
		Non-profit (including religious affiliated)
		State/local-government
		US military
		Veteran's Administration
		Other federal government
25b)	Please select the choice that best describes this practice setting:	<i>Dropdown:</i>
		Independent Community Pharmacy (1-4 stores)
		Small Chain Community Pharmacy (5-10 stores)
		Large Chain Community Pharmacy (11+ stores)
		Mass Merchandiser (i.e. Big Box Store)
		Supermarket Pharmacy
		Clinic-Based Pharmacy
		Mail Service Pharmacy
		Hospital / Health System, Inpatient
		Hospital / Health System, Outpatient
		Nursing Home, Long Term Care
		Home Health / Infusion
		Pharmacy Benefit Administration (e.g. PBM, managed care)
		Academic Institution
		Other
25c)	If you selected "other practice setting" please provide a brief description:	<i>Open-ended</i>
26)	Please indicate how you are (were) personally compensated for activities at this location:	<i>Select all that apply:</i>
		Salary/Commission
		Hourly wage
		By contract
		Business/Practice income
		Volunteer, unreimbursed

**If you had only two locations in the past 12 months, please skip to question 29. If you had additional practice locations, please continue.**

27)	How many total work locations have you had over the past 12 months?	<i>Dropdown</i>
		3
		4
		5
		6 or more
28)	How many work locations do you have currently?	<i>Dropdown</i>
		3
		4
		5
		6 or more
<b>Employment Information</b>		
<i>The Healthcare Workforce Data Center collects compensation information to assess the balance of supply and demand in the state and in localities, and to assist students in planning health careers and choosing specialties. Information from these questions will only be presented in the aggregate. The confidentiality of information for these and all questions is protected by law. All questions are voluntary.</i>		
29)	Within the past 12 months, have you experienced any of the following:	<i>Check all that apply</i>
		Voluntary unemployment (including for medical reasons)?
		Involuntary unemployment (including for medical reasons)?
		Switched employers/practices?
		Worked part-time or temporary positions, but would have preferred a full-time or permanent position?
		Worked two or more positions at the same time?
30)	What is your estimated annual net income from pharmacy-related activities?	<i>Dropdown:</i>
		Volunteer work only
		\$7.25-9.00/hr
		\$9.01-\$11.00/hr
		\$11.01-\$13.00/hr
		\$13.01-\$15.00/hr
		\$15.01-\$17.00/hr
		\$17.01-\$19.00/hr
		\$19.01-\$21.00/hr
		More than \$21.00/hr
33)	Do you receive any of the following benefits from any current employer?	<i>Check all that apply:</i>
		Paid Leave

		Health Insurance
		Dental Insurance
		Retirement (401k, Pension, etc.)
		Group Life Insurance
		Signing/retention bonus
34)	What is your estimated current educational debt?	<i>Dropdown:</i>
		None
		Less than \$2,000
		\$2,001-\$4,000
		\$4,001-\$6,000
		\$6,001-\$8,000
		\$8,001-\$10,000
		\$10,001-\$12,000
		\$12,001-\$15,000
		\$15,001-\$20,000
		More than \$20,000
35)	At what age do you plan to retire from work as a pharmacy technician?	<i>Dropdown</i>
		Under age 50
		50 to 54
		55 to 59
		60 to 64
		65 to 69
		70 to 74
		75 to 79
		80 or over
		I do not intend to retire
36)	Within the next two years do you plan to do any of the following:	<i>Check all that apply</i>
		Retire
		Cease working in pharmacy
		Continue working in pharmacy, but cease working in Virginia
		Increase patient care hours
		Decrease patient care hours
		Increase time spent teaching pharmacy technicians
		Decrease time spent teaching pharmacy technicians
		Pursue additional pharmacy-related education
<b>End of Questionnaire for active practitioners-Thank you!</b>		

37)	If you did not practice, teach or otherwise work as a pharmacy technician within the past twelve months, did/are you. . .?	<i>Check all that apply:</i>
		I am retired.
		Work occasionally for charity/consultation/special patients?
		Pursue your pharmacy-related education or certifications?
		Pursue education not related to pharmacy?
		Work in another profession or field?
		Experience temporary voluntary unemployment (including for medical reasons)?
		Experience temporary involuntary unemployment?
38)	Do you provide any volunteer, mentoring or other services as a pharmacy technician in Virginia? If so, approximately how many hours in the past year?	<i>Dropdown:</i>
		None
		1-25 hours
		26-50 hours
		51-75 hours
		76-100 hours
		Over 100 hours
39)	Do you expect to begin working in your profession in Virginia? If so, when?	<i>Dropdown:</i>
		Not currently planning to practice/work in Virginia
		Plan to practice/work in a volunteer capacity
		Yes, within the next year
		Yes, within 1-2 years
		Yes, within 3-5 years
		Yes, in more than 5 years
		Yes, do not know when
<b>End of Questionnaire-Thank you!</b>		