West Virginia Tobacco Quitline Evaluation

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WV Tobacco Quitline Evaluation

The West Virginia Bureau for Public Health (BPH) Division of Tobacco Prevention (DTP) offers a tobacco use prevention and cessation program which includes access to a free Tobacco Quitline. This evaluation focuses on enrollment data from January 1, 2012 through December 31, 2014 and follow-up data from 2012 and 2013 enrollees.

About the Quitline

The WV tobacco Quitline is a free tobacco cessation service offered to eligible West Virginia residents, including uninsured, underinsured, and Medicaid populations. The Quitline offers tobacco cessation educational materials, telephone cessation counseling, and nicotine replacement therapy (NRT) to callers who qualify. These services are provided under contract by beBetter Health, Inc.

Methods

This evaluation was conducted from a payor perspective. Specifically, the Quitline services were divided into three groups: "BPH," "Medicaid," and "Overall," which includes the combined information regarding all participants enrolled in the Quitline. BPH enrollment eligibility varied during 2012-2014.

All data were acquired by request to beBetter, Inc.'s operating systems and were analyzed by SAS 9.3 statistical software. Additionally, the North American Quitline Consortium (NAQC) guidelines were used as the "gold standard" for comparison of Quitline services.

Several key staff members at beBetter, Inc. were asked to discuss their roles with the Quitline and provide information regarding Quitline services. These key informant interviews were conducted with two cessation coaches, the coaching supervisor, and the Quitline's Medical Director. Finally, a key informant interview was conducted with a staff member at the state of Arizona's Quitline to compare services between states.

Five evaluation questions (EQ 1- EQ5) were developed to examine the Quitline's functionality, utility, quality of services provided, and overall effectiveness.

EQ 1: To what extent are the Quitline's protocols successful at enrolling, reaching, and retaining WV tobacco users for service?

Quitline Coverage

As previously mentioned, the Quitline offers free tobacco cessation services to those with no insurance, underinsured persons, and Medicaid recipients. Underinsured persons include those whose employer-funded or other private insurance does not offer coverage for tobacco cessation services. Quitline callers with tobacco cessation coverage through their insurance are advised to utilize the services offered through their payor.

Number of enrollments

Total call volume was 26,246 in 2012, 29,391 in 2013, and 35,435 in 2014. These figures include both calls that result in participant enrollment and those that do not, such as calls regarding general inquiries from physicians or participants who receive cessation coverage through their insurance.

As represented in Table 1, 31,395 of these calls resulted in an enrollment between January 1, 2012 and December 31, 2014. Annual overall enrollment remained consistent over the three-year period, increasing slightly between 2012 and 2013.

The increase in call volume during some of these months may be attributable to the Centers for Disease Control and Prevention (CDC) Tips Campaign, which features stories from former tobacco users in a three-month advertising campaign. These advertisements specifically reference the use of the Quitline to aid in quitting tobacco use. The Tips Campaign ran from March-June in 2012 and 2013, and February-April and July-September in 2014. Spikes in enrollment can be seen during these months in Figures 1 and 2.

Figure 3 and its accompanying Table 2 display enrollment through the WV Bureau for Public Health (BPH). Decline in BPH enrollees is observable between 2013 and 2014 and may potentially be attributable to the enactment of the Affordable Care Act (ACA), which expanded Medicaid services to more West Virginians. This decline in BPH-funded enrollees occurred with a corresponding increase in Medicaid-funded Quitline enrollments in Figure 1.

Figure 1: Number of Overall Enrollments by Payor, 2012-2014

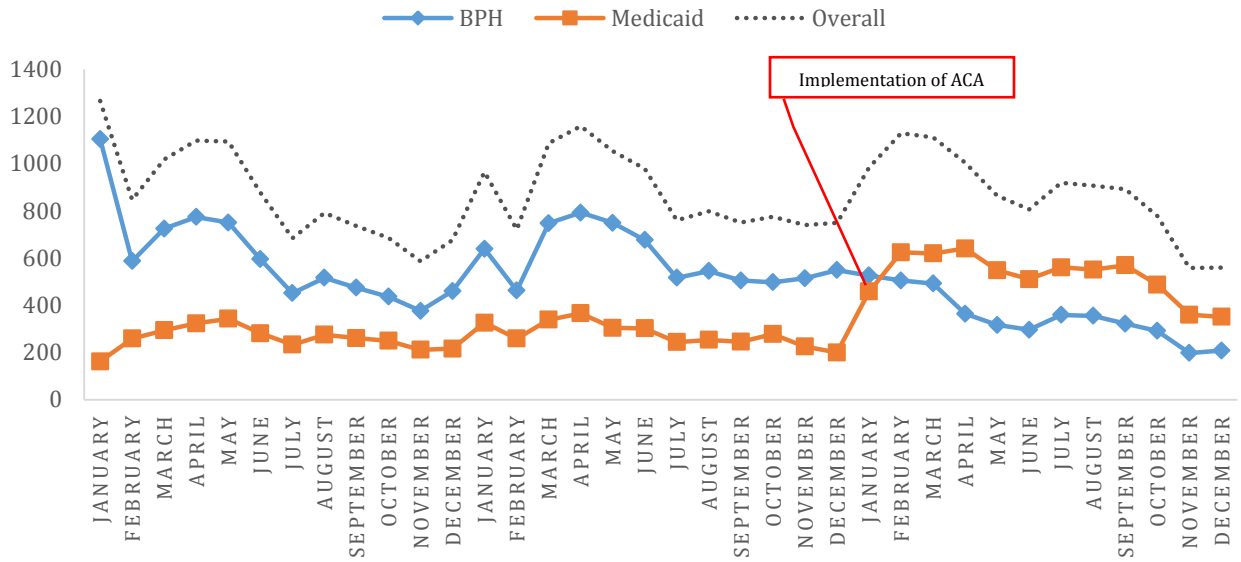


Figure 2: Number of Overall Enrollments 2012-2014 by Month

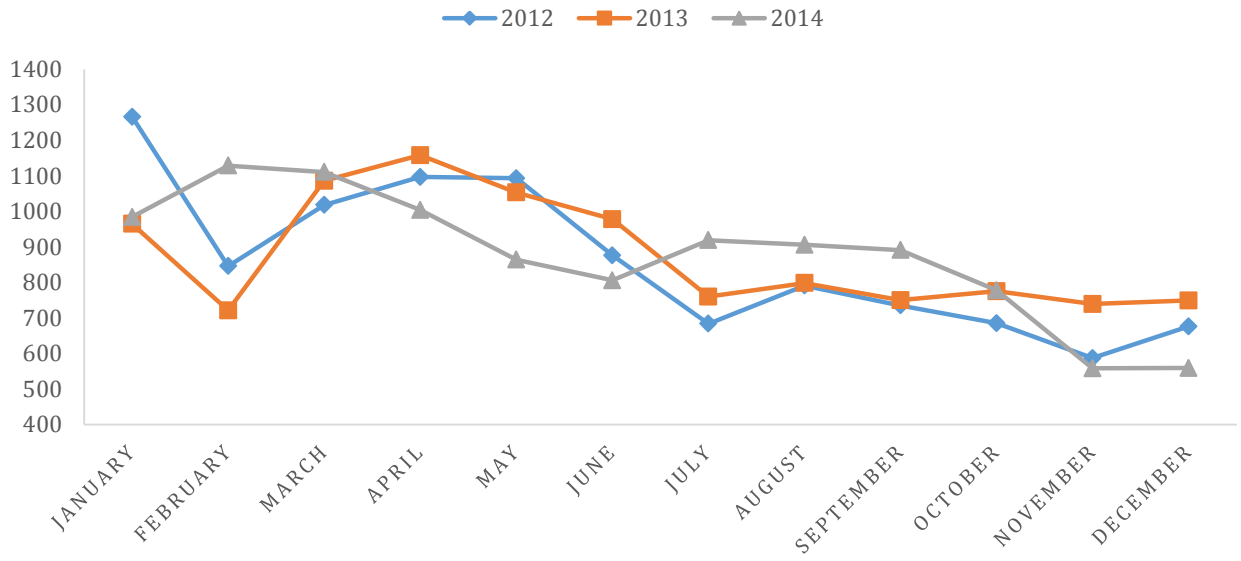


Table 1: Number of Overall Enrollments, 2012-2014, by Month

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
2012	1266	846	1018	1097	1093	876	684	791	735	685	587	676	*10354*
2013	965	721	1086	1158	1053	978	760	798	750	775	739	749	*10532*
2014	984	1129	1111	1004	864	806	919	906	891	778	558	559	*10509*
	3215	*2696*	*3215*	*3259*	*3010*	*2660*	*2363*	*2495*	*2376*	*2238*	*1884*	*1984*	*31395*

Figure 3: Number of BPH Enrollments 2012-2014 by Month

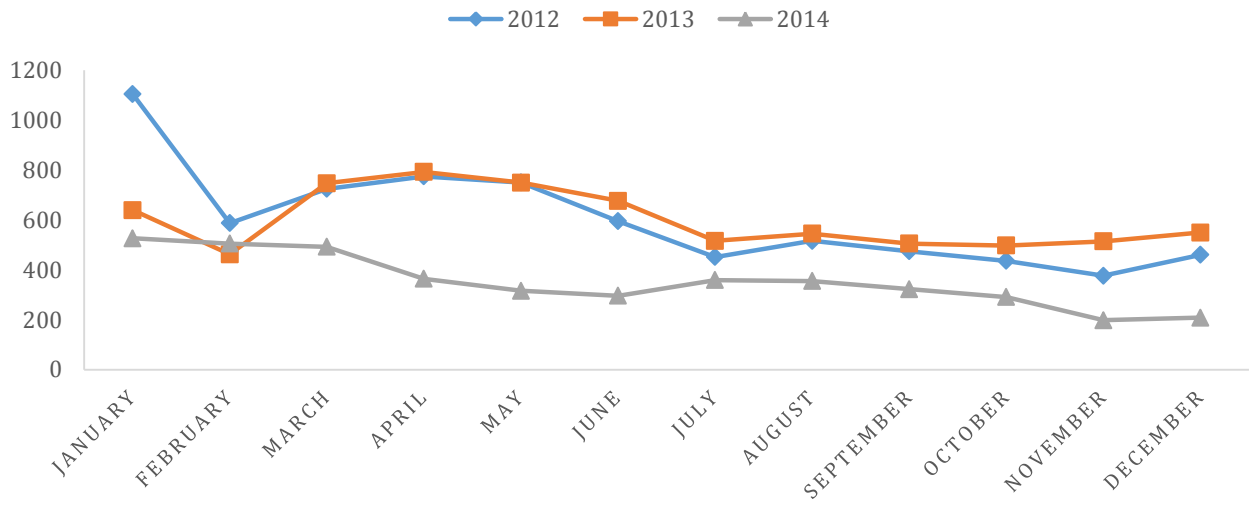


Table 2: Number of BPH Enrollments, 2012-2014, by Month

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
2012	1104	587	724	774	750	595	451	516	474	436	376	460	*7247*
2013	639	462	858	792	749	676	516	545	505	497	514	549	*7191*
2014	526	505	492	364	316	296	359	355	322	291	198	208	*4232*
	2269	*1554*	*1963*	*1930*	*1815*	*1567*	*1326*	*1416*	*1301*	*1224*	*1088*	*1217*	*18670*

Type of Tobacco Used

Participants were most likely to name cigarettes as their primary tobacco delivery source. Overall, 97.4% in 2012, 97.4% in 2013, and 97.5% in 2014 were cigarette smokers. Chewing tobacco, accounted for less than 1% of participants during the evaluation period, though 1.6%, 1.8%, and 2.7% of tobacco users claimed to be poly-users in 2012, 2013, and 2014, respectively, meaning that more than one type of tobacco was used regularly. Snuff consumption accounted for 2.7%, 3.1%, and 3.2% of tobacco use in 2012, 2013, and 2014, respectively.

Number Receiving NRT

The number of participants receiving NRT varied over the 2012-2014 enrollment periods. As a prerequisite to receiving no-cost NRT, Medicaid participants must first enroll in some form of tobacco cessation counseling and then obtain their NRT from a pharmacy. Therefore, Medicaid participants were excluded from this portion of the evaluation.

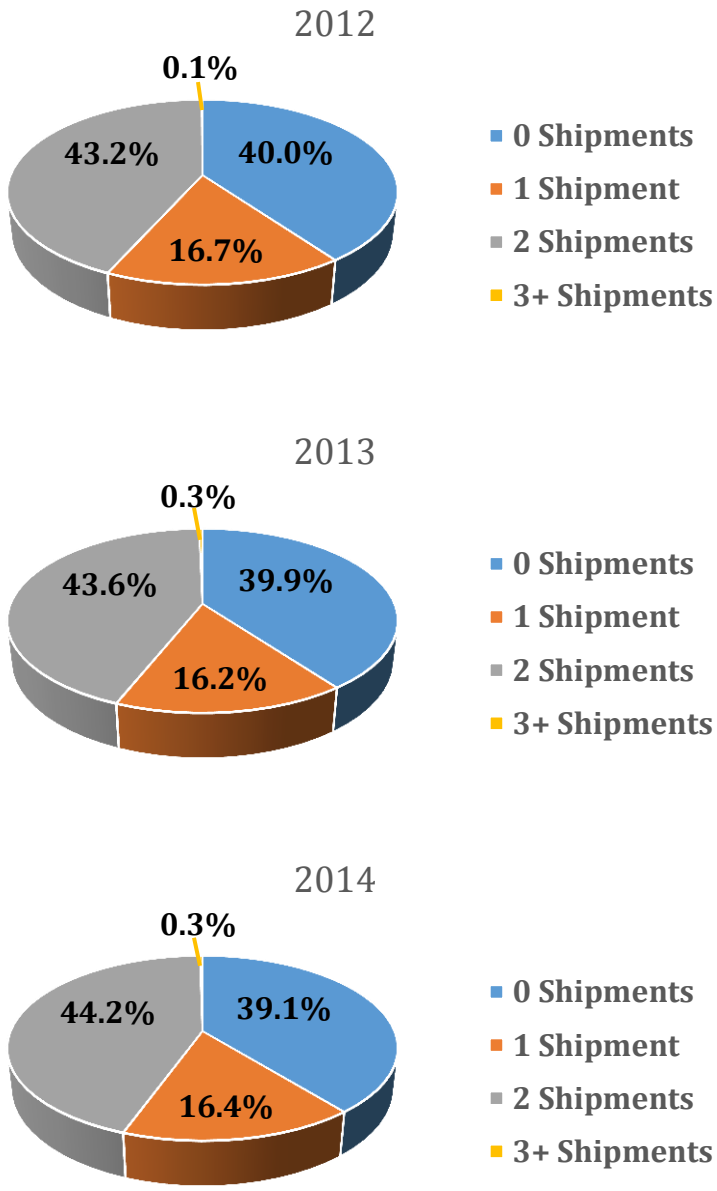
Among BPH enrollees, 40.0%, 39.9%, and 39.1% did not receive any type of NRT in 2012, 2013, and 2014, respectively (Table 3 and Figure 4). However, of those receiving NRT, 43.2%, 43.6%, and 44.2% received the full supply allowed (two shipments for four weeks of treatment each) in 2012, 2013, and 2014, respectively (Table 3 and Figure 4).

Further research may be warranted on the effectiveness of only receiving one shipment of NRT, as 16.7%, 16.2%, and 16.4% did in 2012, 2013, and 2014, respectively. Zhang et al. (2014) suggested that using NRT for fewer than four weeks was associated with lower quit rates than if an individual had not used any NRT in a cessation attempt. Conversely, NRT use for longer periods of time increased the likelihood of a successful quit attempt.

Table 3: Enrollees Receiving NRT by Number of Shipments, BPH 2012-2014

NRT by Number of Shipments	2012		2013		2014	
	#	%	#	%	#	%
0 NRT Shipments	2902	40.0	2866	39.9	1656	39.1
1 NRT Shipment	1210	16.7	1164	16.2	694	16.4
2 NRT Shipments	3129	43.2	3137	43.6	1871	44.2
3+ NRT Shipments/Dual Therapy	6	0.1	24	0.3	11	0.3

Figure 4: Percent of Enrollees Receiving NRT by Number of Shipments, BPH 2012-2014



Barriers to Receiving NRT

Medical Precautions, Warnings, and Contraindications

The protocols regarding physician clearance requirements to receive NRT were reviewed during the course of the evaluation to determine whether obtaining physician consent was a significant barrier to receiving NRT. Additionally, Food and Drug Administration (FDA) product labeling and findings, Department of Health and Human Services (DHHS) Clinical Practice Guidelines, and National Quitline Consortium guidance were reviewed to determine whether comorbidities being treated as contraindications were consistent with the aforementioned guidelines.

During the period of evaluation, there were between 15 and 17 conditions asked about at intake. If the enrollee answered "yes" to having any of the conditions, beBetter, Inc.'s systems prompted a requirement of physician authorization before NRT could be shipped to the enrollee.

The original comorbidities requiring physician consent were based on FDA product labeling and prescription requirements in place in 1997. With the exception of anxiety and mental health medication, which were added as contraindications in 2013, all other contraindications had been in place since the Quitline's inception in 2000. The Quitline's medical director stated these two questions were added to investigate whether these behavioral health conditions affected quit success. Physician authorization was required by the Quitline for both precautions and warnings. For enrollees with established physicians, authorization is requested by Quitline staff on the client's behalf. Quitline staff cited follow-up from physicians as a barrier to some enrollees receiving NRT. Table 4 indicates the proportion of enrollees disclosing contraindications who did and did not receive NRT.

In 2012, 2,573 BPH participants indicated one or more contraindications. Of those participants, 56.2% (1,446) received at least one form of NRT, while 43.8% (1,127) were excluded from receiving NRT. In 2013, 2,324 BPH participants indicated one or more contraindications. Of those participants, 59.8% (1,391) received at least one form of NRT, while 40.2% (933) were excluded from receiving NRT. In 2014, 1,464 BPH participants indicated one or more contraindications. Of those participants, 61.8% (905) received at least one form of NRT, while 38.2% (559) were excluded from receiving NRT.

Table 4. NRT Distribution for BPH, 2012-2014, by Contraindication

2012 BPH					
Contraindications n (%)	Total (%)	Received NRT?			
2573 (35.50) indicated contraindication		Yes	%	No	%
Pregnant/Nursing	168 (2.3)	66	39.3	102	60.7
Heart Disease	483 (6.7)	292	60.5	191	39.5
Recent Heart Attack	60 (0.8)	40	66.7	20	33.3
Irregular Heartbeat	339 (4.7)	196	57.8	143	42.2
Allergic to Adhesive Tape	85 (1.2)	49	57.6	36	42.4
Skin Problems	87 (1.2)	56	64.4	31	35.6
Reaction to Nicotine	90 (1.2)	50	55.6	40	44.4
High Blood Pressure	113 (1.6)	71	62.8	42	37.2
Depression Medication	1512 (20.9)	900	59.5	612	40.5
Asthma Medication	625 (8.6)	361	57.8	264	42.2
Insulin Dependent	260 (3.6)	162	62.3	98	37.7
Dental Work	149 (2.1)	66	44.3	83	55.7
TMJ	38 (0.5)	18	47.4	20	52.6
Migraines	110 (1.6)	44	40.0	66	60.0
Acid Reflux	239 (3.4)	115	48.1	124	51.9

2013 BPH					
Contraindications n (%)	Total (%)	Received NRT?			
2324 (32.32) indicated contraindication		Yes	%	No	%
Pregnant/Nursing	122 (1.7)	44	36.1	78	63.9
Heart Disease	467 (6.5)	302	64.7	15	35.3
Recent Heart Attack	68 (1.0)	43	63.2	25	36.8
Irregular Heartbeat	334 (4.7)	203	60.8	131	39.2
Allergic to Adhesive Tape	81 (1.1)	56	69.1	25	30.9
Skin Problems	68 (1.0)	40	58.8	28	41.2
Reaction to Nicotine	60 (0.8)	34	56.7	26	43.3
High Blood Pressure	111 (1.5)	73	65.8	38	34.2
Depression Medication	1414 (19.7)	878	62.1	536	37.9
Asthma Medication	500 (7.0)	317	63.4	183	36.6
Insulin Dependent	270 (3.8)	169	62.6	101	37.4
Dental Work	85 (1.3)	52	61.2	33	38.8
TMJ	32 (0.5)	17	53.1	15	46.9
Migraines	58 (0.9)	34	58.6	24	41.4
Acid Reflux	166 (2.4)	82	49.4	84	50.6
Anxiety Medication	124 (7.9)	77	62.1	47	37.9
Mental Health Medication	95 (6.1)	53	55.8	42	44.2

2014 BPH					
Contraindications n (%)	Total (%)	Received NRT?			
1464 (34.59) indicated contraindication		Yes	%	No	%
Pregnant/Nursing	24 (0.6)	6	25.0	18	75.0
Heart Disease	243 (5.8)	162	66.7	81	33.3
Recent Heart Attack	57 (1.4)	37	64.9	20	35.1
Irregular Heartbeat	246 (5.8)	157	63.8	89	36.2
Allergic to Adhesive Tape	48 (1.2)	28	58.3	20	41.7
Skin Problems	42 (1.0)	30	71.4	12	28.6
Reaction to Nicotine	48 (1.1)	26	54.2	22	45.8
High Blood Pressure	60 (1.4)	29	48.3	31	51.7
Depression Medication	848 (20.1)	542	63.9	306	36.1
Asthma Medication	372 (8.8)	253	68.0	119	32.0
Insulin Dependent	176 (4.2)	116	65.9	60	34.1
Dental Work	62 (1.5)	32	51.6	30	48.4
TMJ	29 (0.7)	16	55.2	13	44.8
Migraines	46 (1.1)	20	43.5	26	56.5
Acid Reflux	106 (2.6)	66	62.3	40	37.7
Anxiety Medication	586 (14.0)	372	63.5	214	36.5
Mental Health Medication	251 (6.0)	166	66.1	85	33.9

During the evaluation period, pregnancy or nursing was the most common contraindication resulting in non-issuance of NRT. The Quitline medical director and staff stated that physicians were sometimes reluctant to approve nicotine replacement products for pregnant women. Over the three-year period, 1,454 enrollees who reported taking depression medication were excluded from receiving NRT. Additionally, TMJ, Acid Reflux, and Migraines had higher proportions of non-issuance.

Conditions identified by the Quitline requiring physician consent were compared with the 2008 Clinical Practice Guideline on Treating Tobacco Use and Dependence, current FDA Drug Facts labeling, and an Issue Paper by the North American Quitline Consortium (NAQC); *Integration of Tobacco Cessation Medications in State and Provincial Quitlines: A Review of the Evidence and the Practice with Recommendations (2014 Update).* It should be noted that the NRT products supplied to enrollees by the Quitline are over-the-counter (OTC) products and while there are some medical conditions that may warrant physician supervision, there are no absolute contraindications for OTC nicotine products for adults.

The strongest FDA precaution to consult a physician is limited to pregnancy and breastfeeding. Patients are also advised to ask a doctor or pharmacist if they have experienced myocardial infarction in past two weeks, unstable angina or severe arrhythmia, uncontrolled high blood pressure or allergic reactions to the NRT products. Patients suffering asthma and depression are encouraged to inform their physicians in case their medication dose may need to be adjusted. The NAQC recommends exclusion of the following callers from receiving NRT without consent of a physician:

- Callers under 18
- Pregnancy
- Myocardial Infarction or stroke within past 2 weeks
- Previous allergic reaction
- Unstable angina or severe arrhythmia

The list of comorbidities the Quitline had in place between 2012 and 2014 included several comorbidities that were not listed in guidelines in effect at the time. In addition to enrollees' failure to submit required documents, requiring physician consent for conditions outside those supported by current FDA product labeling and DHHS guidelines was a barrier to enrollees receiving NRT products from beBetter, Inc.

During the course of evaluation, beBetter, Inc. evaluated their list of contraindications requiring physician consent and reduced it only to those recommended by NAQC, therefore potentially increasing callers' access to NRT.

EQ 2. To what extent is the Quitline reaching targeted populations? Are enrollees representative of WV tobacco users?

This section observes the overall demographic information representing Quitline enrollees. The majority of enrollees were white, female, and between the ages of 44 and 48. Table 5 provides specific demographic information from the 2012-2014 enrollment periods.

A large proportion of participants in 2012 and 2013 indicated "Don't Know" or "Refused" as their answer for their race/ethnicity. The reason behind this is unclear. However, collection protocols improved and participants were more likely to include a response to the race/ethnicity question in 2014.

Enrollment by DTP-identified target populations, such as 18-24 year olds, African Americans, and Lesbian, Gay, Bisexual, and Transgendered (LGBT) was notably low during 2012-2014. Less than 1% of enrollees were ages 18-24 during each evaluation year (data not shown). Additionally, while race/ethnicity questions are specifically asked of participants, LGBT status is only recorded if specifically mentioned by the participant, leaving enrollment in this target population difficult to track. See "EQ3: How do WV residents learn about the Quitline?" for additional information specific to increasing target population enrollment.

Table 5: Enrollee Demographic Information, Overall and BPH, 2012-2014

	OVERALL						BPH					
	2012		2013		2014		2012		2013		2014	
Mean Age	44.7		45.4		46.0		44.3		44.98		47.97	
Gender	#	%	#	%	#	%	#	%	#	%	#	%
Female	6925	66.9	6819	64.8	6584	62.7	4726	65.2	4484	62.4	2444	57.8
Male	3426	33.1	3713	35.2	3922	37.3	2519	34.8	2707	37.6	1787	42.2
Race/Ethnicity												
Am Indian/ Alaskan Native	16	0.2	7	0.07	57	0.5	13	0.2	2	0.03	25	0.6
Asian	3	0.03	1	0.01	6	0.06	3	0.04	0	0	2	0.05
Black/African American	129	1.3	204	1.9	359	3.4	91	1.3	135	1.9	137	3.2
Hispanic/ Latino	11	0.11	9	0.09	17	0.16	7	0.10	7	0.1	7	0.2
Nat Hawaiian	4	0.04	1	0.01	5	0.05	1	0.01	1	0.01	4	0.09
White	6305	60.9	8155	77.4	9922	94.4	4552	62.8	5594	77.8	3999	94.5
Other	61	0.6	24	0.2	42	0.4	37	0.5	14	0.2	22	0.5
Don't Know	1616	15.6	1936	18.4	6	0.06	1098	15.2	1322	18.4	3	0.07
Refused	2206	21.3	194	1.8	94	0.9	1442	19.9	116	1.6	33	0.8

County and Region of Residence

Participants were asked to provide information on their county of residence for verification purposes. Additionally, counties are divided into regions by Regional Tobacco Prevention

Coordinators for statewide tobacco prevention efforts. Figures 5 and 6 contain specific data pertaining to enrollment by Region. Appendix A includes county and region-specific data.

Figure 5: DTP Regional Tobacco Prevention Coalition Coordinator Regions

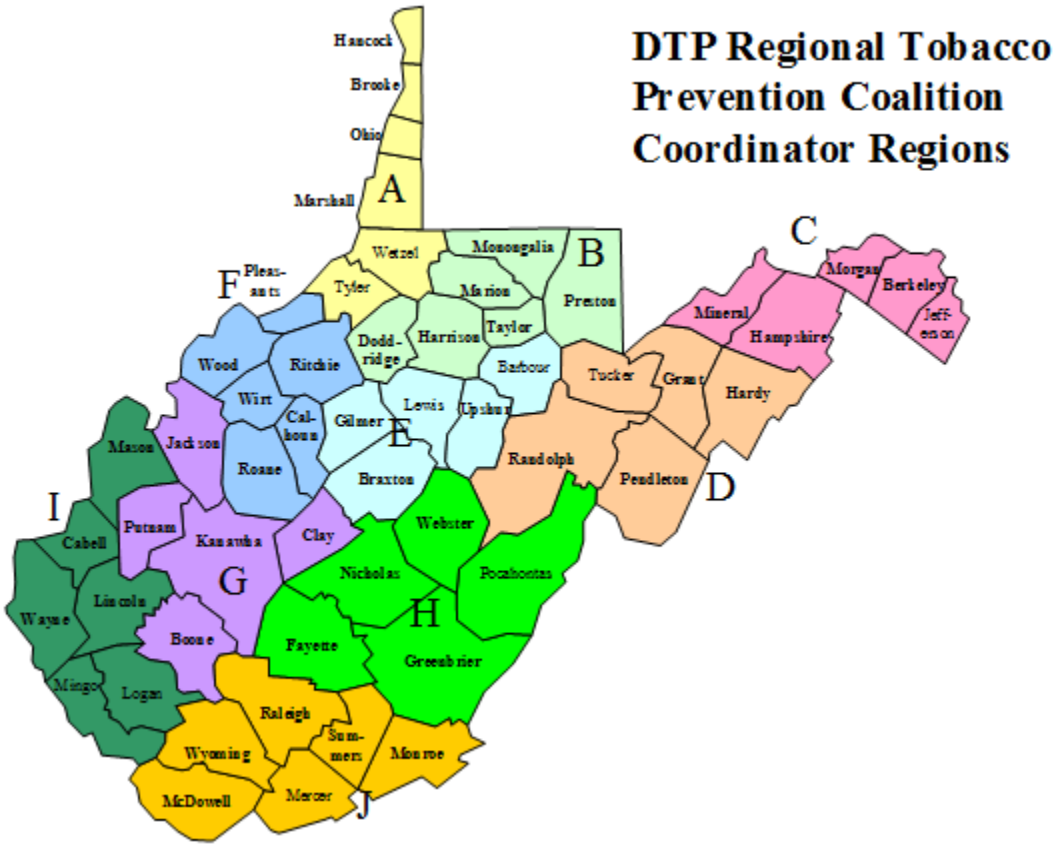
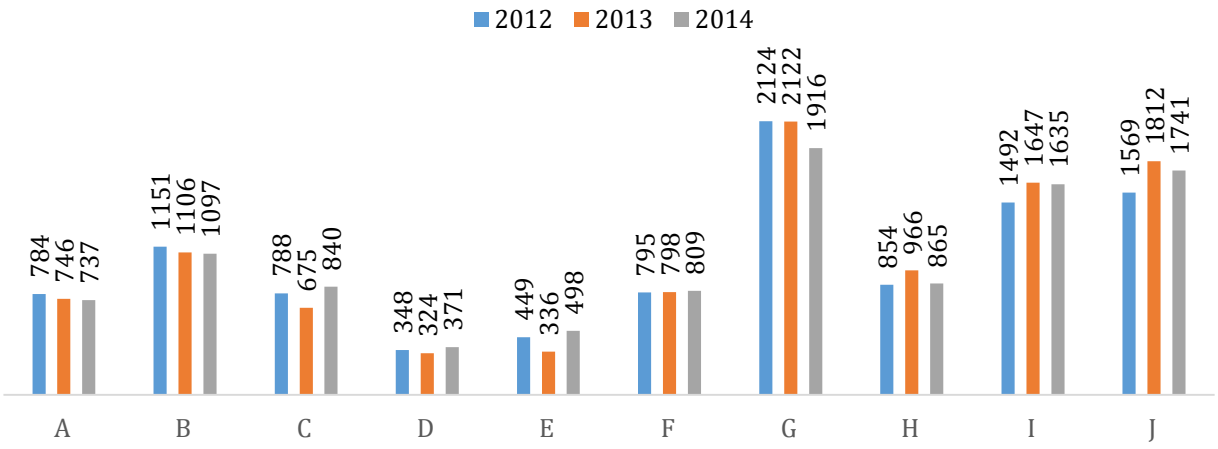


Figure 6: Overall Enrollment by Region, 2012-2014



Pregnancy Status

Female participants were asked if they were pregnant at the time of enrolling in the Quitline. The majority of females were not pregnant at the time of enrollment. The corresponding data for overall enrollment and BPH enrollment of female enrollees by pregnancy status are shown in Table 6.

A significant decrease in pregnant enrollees was observed during 2013-2014 for overall and BPH enrollment, despite a consistent number of female enrollees. The decrease in BPH pregnant enrollees may again be attributable to the ACA expansion of Medicaid services. However, the cause of the decrease in overall pregnant enrollment is undetermined and warrants future investigation.

Table 6: Pregnancy Status of Female Enrollees, Overall and BPH, 2012-2014

	Overall						BPH					
	2012		2013		2014		2012		2013		2014	
Pregnant	#	%	#	%	#	%	#	%	#	%	#	%
No	6116	95.0	6245	95.9	6424	97.7	4273	96.1	4141	97.2	2420	99.1
Yes	319	5.0	265	4.0	149	2.3	173	3.9	121	2.8	22	0.9

Pregnancy status was further broken into region for both overall and BPH enrollees to demonstrate where pregnant enrollees were more likely to call the Quitline. It is unclear whether these areas with increased call volume from pregnant enrollees is attributable to overall rates of pregnancy in that region or whether outreach activities aimed at pregnant smokers influenced enrollment rates.

Figures 7 and 8 reflect the proportion of female enrollees and the region in which they reside. As previously mentioned, a decrease in overall number of pregnant enrollees was seen through 2012-2014. However, as evidenced by Figure 7, a decrease in BPH-funded pregnant enrollees can be seen in 2014 with the implementation of the ACA Medicaid expansion.

Figure 7: Pregnant Enrollees by Region, Overall 2012-2014

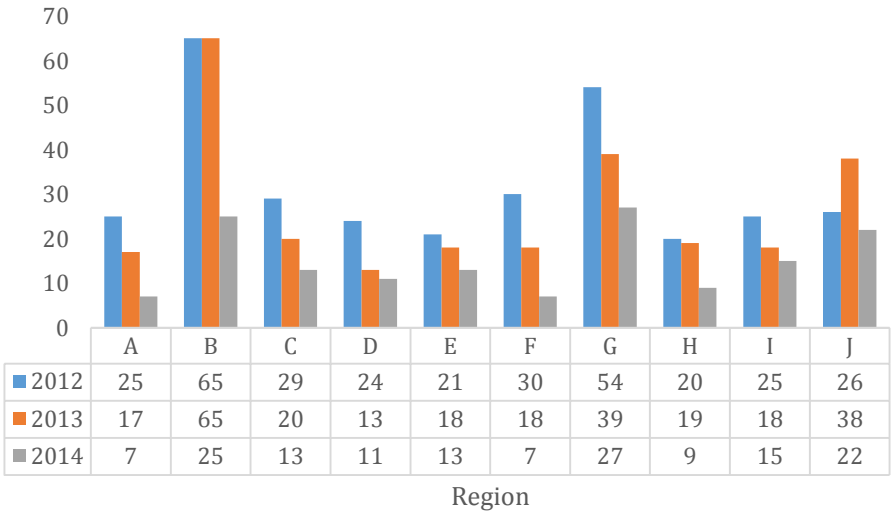
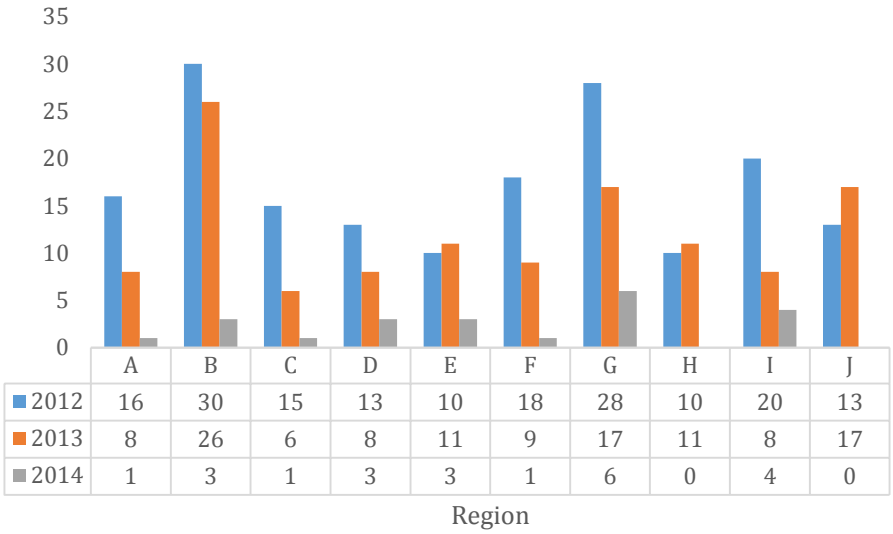


Figure 8: Pregnant Enrollees by Region, BPH 2012-2014



	A	B	C	D	E	F	G	H	I	J
2012	16	30	15	13	10	18	28	10	20	13
2013	8	26	6	8	11	9	17	11	8	17
2014	1	3	1	3	3	1	6	0	4	0

Socioeconomic Status

Socioeconomic status can be determined in terms of both education and household income. Although beBetter, Inc. does not collect data regarding household income, information is collected regarding educational attainment and therefore served as the primary marker for socioeconomic status.

According to the 2014 West Virginia Adult Tobacco Survey, those with less educational attainment, for example, a high school degree or less, are considered more likely to be smokers than those with greater than a high school degree. The majority of enrollees (72.4%, 75.1%, and 70.5% in 2012, 2013, and 2014, respectively) had a high school degree or less. This included achievement of a high school diploma or GED, having attended grades 9 through 11 without achieving a degree, or having an education that did not go beyond grade 8 (data not shown).

EQ 3. How do WV residents learn about the Quitline?

Participants were asked to recall how they came to find out about the Quitline and self-reported information about their referral source. The majority of participants were referred to the Quitline by a physician or member of their friend group or family. Additionally, participants named television as another primary source of referral. Because participants could select more than one referral source, it is difficult to ascertain how participants were referred to the Quitline at an individual referral level. Table 7 provides specific data pertaining to how participants heard about the Quitline.

One service that may be mutually beneficial for potential enrollees, coaches, and medical providers is the Fax-to-Quit program, which allows providers to submit a fax referral directly to the Quitline on behalf of their patient. After receipt of the Fax-to-Quit form,

coaches will attempt to contact the patient for enrollment. The Fax-to-Quit service accounted for only 5.2%, 6.4%, and 5.1% of referrals in 2012, 2013, and 2014, respectively. As previously noted, lack of physician consent was a significant barrier to receiving NRT. Coaches expressed frustration with needing to utilize part or all of a participant's first coaching call to contact their physician for consent and that this service facilitated the process of enrolling patients.

A service offered by the Arizona Quitline involved site visits to physician offices to train providers how to use their Fax-to-Quit program. This allowed greater physician understanding of Quitline services for their patients and eased the process for participants.

Increasing enrollment among the target population of 18-24 year olds, which, as previously mentioned, was less than 1% for each evaluation year, may lie in increasing a social media presence. A study by Baskerville et al. (2015) suggested that participants utilizing a social media-based cessation service were 32.4% more likely to quit and 91% more likely to have made a quit attempt than those who used a "smokers' helpline."

Table 7: Overall Enrollment by Referral Source, 2012-2014

Enrollment by Referral Source, n (%)	2012	2013	2014
Media			
Newspaper	95 (0.9)	185 (1.8)	149 (1.4)
TV	1619 (15.6)	2616 (24.8)	1914 (18.2)
Radio	43 (0.4)	32 (0.3)	135 (1.3)
Internet	190 (1.8)	234 (2.2)	284 (2.7)
Social networking	4 (0.04)	10 (0.09)	11 (0.1)
Other Advertising Source			
Mail letter	27 (0.3)	11 (0.1)	9 (0.09)
Postcard	3 (0.03)	11 (0.1)	17 (0.2)
Newsletter	38 (0.4)	24 (0.2)	24 (0.2)
Brochure/Flyer	244 (2.4)	236 (2.2)	292 (2.8)
Special Promotion	131 (1.3)	552 (5.2)	516 (4.9)
Referral			
Physician	3912 (37.8)	3960 (37.6)	4993 (47.5)
Pharmacist	892 (8.6)	666 (6.3)	1514 (14.4)
Dentist	49 (0.5)	31 (0.3)	39 (0.4)
Dental Hygienist	0	0	1 (0.01)
Fax referral	535 (5.2)	677 (6.4)	535 (5.1)
Employer	51 (0.5)	51 (0.5)	54 (0.5)
Coworker	109 (1.1)	122 (1.2)	171 (1.6)
Family/Friend	2561 (24.7)	1828 (17.4)	1644 (15.6)
Insurance provider	86 (0.8)	83 (0.8)	110 (1.1)
Community organization	539 (5.2)	476 (4.5)	457 (4.4)
WVU School of Dentistry	0	1 (0.01)	1 (0.01)

EQ 4. To what extent do the Quitline vendor's protocols ensure the quality of services?

Key informant interviews were conducted with beBetter, Inc. staff to discuss challenges faced when enrolling and coaching participants, protocols used when distributing NRT, and coaching protocols for special populations.

Standard operating hours for the Quitline are Monday through Friday, 8:00AM to 8:00PM, and Saturday through Sunday, 8:00AM to 5:00PM. Phone coaches indicated that their busiest hours for outgoing coaching calls (proactive) were after 5:00PM Monday through Friday and that weekend hours were generally not busy.

Regarding phone coaches qualifications', many of the coaches possess the title of Certified Tobacco Treatment Specialist. This certification is offered through the Mayo Clinic Nicotine Dependence Center (and other facilities) and involves undergoing an extensive course to learn tools specific to treating tobacco addiction.

Callers are enrolled via a customer service representative who collects information such as proof of in-state residence, phone number, best time to be reached by a coach, etc. Upon successful enrollment, coaches use motivational interviewing to determine the participant's best course of treatment.

Inability to reach participants for coaching calls was indicated as a cause for concern among most members of the beBetter, Inc. staff interviewed. Phone coaches noted that this may be the result of caller identification services (caller ID), which shows up as "beBetter, Inc." or "Unavailable" when coaches make outgoing calls, leading participants to possibly be less likely to pick up the phone.

EQ 5. What are the cessation outcomes for the Quitline?

Response Rates

Only data for 2012-2013 enrollment periods had corresponding follow-up data at the time of analysis. The NAQC recommends a follow-up rate of at least 50% to gauge an adequate representation of the Quitline population. According to beBetter, Inc. representatives, approximately 2,000 participants are called for both six and twelve-month follow up surveys, which complies with NAQC recommendations. Customer service representatives (not Quitline coaches) attempt to contact participants for a follow-up survey six times before considering that participant "lost to follow-up."

The overall six-month follow-up rates for 2012 and 2013 were approximately 15.2% and 14.4%, respectively and are considerably lower than the NAQC-recommended response rate of 50%. Potential contributions to these low response rates may include survey sample selection, lack of an online option for selected enrollees to receive and participate in the survey, inadequate dedicated personnel for follow-up calls, and/or improper time of day selected to complete follow-up calls.

Cessation Rates

Participants included in follow-up survey efforts were asked to disclose their quit status. In 2012 and 2013, 32.7% and 33.1%, respectively, were considered "quit" at six-month follow-up. However, because response rates were lower than NAQC recommendations, quit rates may not reflect a truly representative sample of participants completing the program.

Intent-to-Treat Cessation Rates

In an effort to account for low response rates, the evaluation also employed the "intent-to-treat" approach. This NAQC-recommended method assumes that all selected participants who did not respond to follow-up surveys, otherwise known as lost to follow-up, are considered to be "not quit."

Based on the low response rates of 15.2% in 2012 and 14.4% in 2013, the corresponding cessation rates were 4.3% and 4.7%, respectively. The intent-to-treat quit rate puts further emphasis on the need to increase follow-up efforts in the future.

Limitations

Several limitations were encountered through the course of evaluation.

The procedures in place to distribute NRT vary drastically depending on the payor. This evaluation effort focused largely on BPH enrollees. As previously mentioned, Medicaid participants receive NRT through a pharmacy rather than through direct shipment from the Quitline. Because the number of Medicaid prescriptions was not made available at the time of analysis, only NRT distribution for BPH participants was documented. Similarly, because the NRT offered by the Quitline can also be purchased over-the-counter at the pharmacy, participants may have obtained NRT at their own cost during the evaluation period.

Additionally, the data made available did not differentiate between a BPH participant who did not obtain physician consent and a Medicaid participant. Both were considered "waiting response" in the beBetter, Inc. operating system. Therefore, the total number excluded from receiving NRT based on lack of physician consent was not attainable. Cessation coaches noted that lack of physician consent was a significant barrier to receiving NRT and there was no way to determine the number affected by this for Medicaid participants.

The low response rate at follow-up limited the evaluation's data analysis options. Another barrier included participants' resistance to offer email addresses. It is possible that email may be an alternative method through which participants can interact with coaches when phone service is questionable, or an alternative method through which coaches can reach participants for follow-up survey measures.

Finally, although the participants are consistent with the overall demographic population of West Virginia in terms of race and ethnicity, this limited the ability to draw conclusive results regarding the Quitline's utility for underserved populations such as African Americans or Lesbian, Gay, Bisexual, Transgendered, or Questioning (LGBTQ).

Conclusions and Recommendations

This report reflects the first time in many years that an external evaluation has been conducted for the West Virginia Tobacco Quitline. West Virginia is fortunate to be able to support a Tobacco Quitline that provides a generous NRT benefit to residents that qualify. The Quitline assisted over 30,000 residents during the evaluation period, which represents a significant achievement in smoking cessation efforts.

Throughout the course of the evaluation, several barriers have been identified and reduced to better assist participants in quitting tobacco use. For example, following preliminary recommendations to reduce physician consent barriers, beBetter, Inc. expressed an intent to implement substantial changes to the physician consent protocols to reduce barriers to enrollees receiving NRT and reduce administrative time for staff.

The evaluation was conducted to identify methods to improve the Quitline's services to further help West Virginia residents quit tobacco. Following a review of Quitline protocols, line of questioning, and corresponding enrollment and follow-up data, the following recommendations are offered to the Quitline vendor and DTP:

Quitline Vendor Recommendations

- The Quitline vendor should review NRT protocols annually to ensure they reflect current FDA and Clinical Practice Guidelines.
- In addition to the minimal data set standard intake and follow-up questions offered by the NAQC, the Quitline may benefit from incorporation of all available optional intake and follow-up questions, particularly those relating to disparate populations served.
- Document the number of callers who are turned away or referred to the cessation benefit provided by their insurance.
- Explore options to substantially increase follow-up response rates.
    - Emphasize the importance of collecting email addresses from participants at enrollment. Consider implementing follow-up email surveys using NAQC online-approved questionnaires. This may allow the Quitline to achieve the NAQC-recommended 50% response rate.
    - Change phone number collection procedures to include the following series of questions: "What is your primary phone number? Is this a cell phone? (if no) Do you have a cell phone?" to facilitate the implementation of text messaging alerts regarding follow-up contact.
- Revamp referral source data collection procedures to better reflect DTP's current priorities. Additionally, adjust procedures to allow the selection of one primary referral source per participant.
- Track the total number and source of Fax-to-Quit referrals received by the Quitline in addition to those resulting in enrollment.

DTP Recommendations

- Consider transitioning follow-up data collection responsibilities to an outside vendor to allow Quitline staff to focus on tobacco cessation treatment efforts.

- Update social media presence and utilize more frequently as a potentially cost-effective (generally free to use) way to promote the Quitline and expand reach to a younger demographic.
- Implement on-site training at provider offices to promote utilization of the Quitline and the Fax-to-Quit program.
- Continue to share enrollment statistics with Regional Tobacco Prevention Coordinators and other DTP grant recipients who are charged with promoting the Quitline.

Future Evaluation Initiatives

Further analysis of the WV Tobacco Quitline will be conducted following the submission of the July 2015 edition of this report. Future efforts will focus on revamping follow-up call procedures to achieve response rates in line with the NAQC-recommended 50%. Recommendations already stated in this report included increased email address and cell phone number collection to allow for an alternative medium through which to distribute surveys. Additional points of observation may include things such as offering incentives to enrollees to complete follow-up surveys.

One initiative identified as a DTP priority is conducting a cost analysis for Quitline expenditures. This will include a critical examination of the inputs and outputs associated with helping West Virginia residents quit tobacco through the Quitline.

Additional exploration of Fax-to-Quit enrollments is warranted, and efforts to document fax referral sources will be explored in future evaluation initiatives. In addition to analyzing the source of referrals, geographic distribution of fax referrals, provider types, fax referrals resulting in enrollment, and participant cessation outcomes by source may also be included in future analyses.

Appendix A: Enrollment by Region and County, 2012-2014

	2012	2013	2014
Region A	**784 (7.57)**	**746 (7.08)**	**737 (7.01)**
Brooke	*96 (0.93)*	*100 (0.95)*	*103 (0.98)*
Hancock	*146 (1.41)*	*143 (1.36)*	*154 (1.47)*
Marshall	*178 (1.72)*	*168 (1.60)*	*129 (1.23)*
Ohio	*241 (2.33)*	*228 (2.16)*	*251 (2.39)*
Tyler	*45 (0.43)*	*40 (0.38)*	*27 (0.26)*
Wetzel	*78 (0.75)*	*67 (0.64)*	*73 (0.69)*
Region B	**1151 (11.12)**	**1106 (10.50)**	**1097 (10.44)**
Doddridge	*36 (0.35)*	*40 (0.38)*	*38 (0.36)*
Harrison	*396 (3.82)*	*378 (3.59)*	*344 (3.27)*
Marion	*269 (2.60)*	*253 (2.40)*	*259 (2.46)*
Monongalia	*257 (2.48)*	*239 (2.27)*	*251 (2.39)*
Preston	*113 (1.09)*	*120 (1.14)*	*148 (1.41)*
Taylor	*80 (0.77)*	*76 (0.72)*	*57 (0.54)*
Region C	**788 (7.61)**	**675 (6.41)**	**840 (7.99)**
Berkeley	*410 (3.96)*	*347 (3.29)*	*421 (4.01)*
Hampshire	*98 (0.95)*	*105 (1.00)*	*108 (1.03)*
Jefferson	*171 (1.65)*	*120 (1.14)*	*143 (1.36)*
Mineral	*80 (0.77)*	*64 (0.61)*	*103 (0.98)*
Morgan	*29 (0.28)*	*39 (0.37)*	*65 (0.62)*
Region D	**348 (3.36)**	**324 (3.08)**	**371 (3.53)**
Grant	*63 (0.61)*	*43 (0.41)*	*42 (0.40)*
Hardy	*61 (0.59)*	*62 (0.59)*	*69 (0.66)*
Pendleton	*37 (0.36)*	*40 (0.38)*	*34 (0.32)*
Randolph	*166 (1.60)*	*155 (1.47)*	*198 (1.88)*
Tucker	*21 (0.20)*	*24 (0.23)*	*28 (0.27)*
Region E	**449 (4.34)**	**336 (3.19)**	**498 (4.74)**
Barbour	*89 (0.86)*	*98 (0.93)*	*129 (1.23)*
Braxton	*86 (0.83)*	*59 (0.56)*	*98 (0.93)*
Gilmer	*34 (0.33)*	*17 (0.16)*	*42 (0.40)*
Lewis	*105 (1.01)*	*78 (0.74)*	*96 (0.91)*
Upshur	*135 (1.30)*	*84 (0.80)*	*133 (1.27)*
Region F	**795 (7.68)**	**798 (7.58)**	**809 (7.70)**
Calhoun	*58 (0.56)*	*40 (0.38)*	*47 (0.45)*
Pleasants	*48 (0.46)*	*43 (0.41)*	*25 (0.24)*
Ritchie	*63 (0.61)*	*50 (0.47)*	*60 (0.57)*
Roane	*102 (0.99)*	*86 (0.82)*	*100 (0.95)*
Wirt	*35 (0.34)*	*43 (0.41)*	*62 (0.59)*
Wood	*489 (4.72)*	*536 (5.09)*	*515 (4.90)*
Region G	**2124 (20.51)**	**2122 (20.15)**	**1916 (18.23)**
Boone	*187 (1.81)*	*180 (1.71)*	*184 (1.75)*
Clay	*63 (0.61)*	*73 (0.69)*	*56 (0.53)*
Jackson	*162 (1.56)*	*159 (1.51)*	*136 (1.29)*
Kanawha	*1479 (14.28)*	*1434 (13.62)*	*1290 (12.28)*
Putnam	*233 (2.25)*	*276 (2.62)*	*250 (2.38)*

Region H	**854 (8.25)**	**966 (9.17)**	**865 (8.23)**
Fayette	*336 (3.25)*	*395 (3.75)*	*297 (2.83)*
Greenbrier	*232 (2.24)*	*309 (2.93)*	*261 (2.48)*
Nicholas	*155 (1.50)*	*149 (1.41)*	*188 (1.79)*
Pocahontas	*61 (0.59)*	*43 (0.41)*	*47 (0.45)*
Webster	*70 (0.68)*	*70 (0.66)*	*72 (0.69)*
Region I	**1492 (14.41)**	**1647 (15.64)**	**1635 (15.56)**
Cabell	*626 (6.05)*	*710 (6.74)*	*590 (5.61)*
Lincoln	*159 (1.54)*	*166 (1.58)*	*183 (1.74)*
Logan	*215 (2.08)*	*233 (2.21)*	*266 (2.53)*
Mason	*115 (1.11)*	*136 (1.29)*	*144 (1.37)*
Mingo	*132 (1.27)*	*157 (1.49)*	*205 (1.95)*
Wayne	*245 (2.37)*	*245 (2.33)*	*247 (2.35)*
Region J	**1569 (15.15)**	**1812 (17.20)**	**1741 (16.57)**
McDowell	*243 (2.35)*	*312 (2.96)*	*243 (2.31)*
Mercer	*466 (4.50)*	*558 (5.30)*	*445 (4.23)*
Monroe	*69 (0.67)*	*68 (0.65)*	*81 (0.77)*
Raleigh	*528 (5.10)*	*583 (5.54)*	*615 (5.85)*
Summers	*91 (0.88)*	*104 (0.99)*	*159 (1.51)*
Wyoming	*172 (1.66)*	*187 (1.78)*	*198 (1.88)*

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