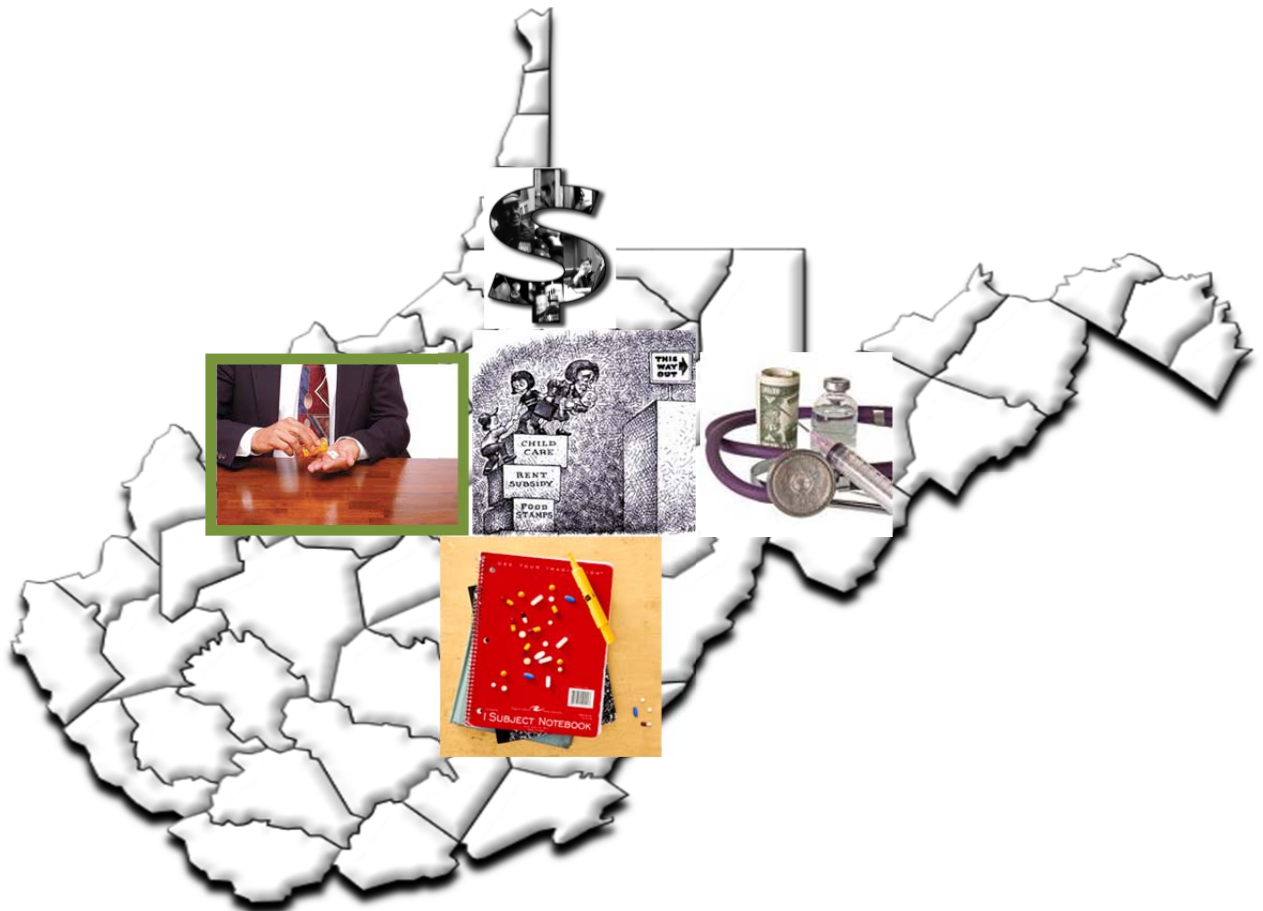

The Financial Burden of Substance Abuse in West Virginia:

Final Report in Series 1



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WV's Governor-Appointed Substance Abuse Prevention & Intervention Planning Body



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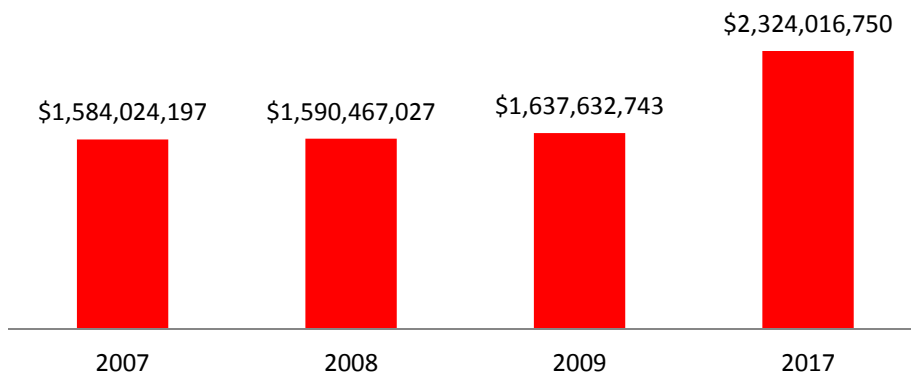


The growing financial cost of drug and alcohol abuse puts tremendous pressure on every social sector. The present report, part of a larger Family Funding Study project, is final in the series that examined the cost of drug and alcohol abuse to West Virginia’s criminal justice, healthcare, education, welfare, and workforce systems. This final summative report incorporates estimates from all these sectors as well as includes data from the Governor’s Highway Safety Program (GHSP) and the Commission on Drunk Driving prevention (CDDP).

The first part of this report examines the magnitude of substance abuse in West Virginia. Although the overall picture is useful, delving into regional and age group variations may lead to more targeted and effective efforts to combat substance abuse in the state. Hence, the first section also examines regional and age group differences in substance use and abuse. The second part of this report will present the total cost of substance abuse in the state based on findings from the previous five reports and financial data from the CDDP and GHSP database.

Chart 1 shows the result of estimating the cost of substance abuse in 6 governmental sectors in West Virginia. This result is presented in more detail later in the report. The chart confirms the cost of substance abuse is astronomical in the state; the problem needs to be addressed with a comprehensive and collaborative approach, and it needs to be addressed soon.

Chart 1: Total Cost of Substance Abuse in all Sectors



The Current Project to Estimate the Cost of Substance Abuse in West Virginia

Substance abuse is a serious problem in West Virginia. The Office of Applied Statistics at the Substance Abuse and Mental Health Services Administration [SAMHSA] (2011) provided estimates of the state's population that used, abused, or was dependent on drug or alcohol based on data from the 2006, 2007, and 2008 National Survey on Drug Use and Health, an annual survey of the civilian, non-institutionalized population aged 12 and over. SAMHSA (2009) also estimated annual averages of prevalence of drug and alcohol use, abuse, and dependence at the substate level (see Appendix) and also for different age groups. These disaggregated statistics present a more holistic portrait of important issues to address in the state. The statistics are presented and discussed in the following section.

Illicit Drug Use

Compared to the U.S. average, West Virginians reported higher than average illicit drug use, excluding marijuana, in the month before the survey. About 4.32% of respondents reported using an illicit drug other than marijuana in West Virginia in the month before the survey, compared to 3.71% nationally (The Office of Applied Studies [OAS] in the Substance Abuse and Mental Health Services Administration [SAMHSA], 2011a). When marijuana is included, however, West Virginia has a slightly lower illicit drug use rate, a prevalence rate of 7.72% compared to 8.14% nationally. This prevalence varies across the state (see Appendix for counties included in each substate region) and by age group.

Table 1 presents geographical and age variations in illicit drug use in West Virginia. Although the highest report of drug use was in the population 18-25, close to 10% of adolescents aged 12-17 years also reported illicit drug use (The Office of Applied Studies [OAS] in the Substance Abuse and Mental Health Services Administration [SAMHSA], 2011b). Thus, the rate of illicit drug use among adolescents is even higher than the rate for the population overall. Illicit drug use is extremely prevalent in Northern C and D and South Central II areas.

Table 1: Illicit Drug Use in Past Month among Persons Aged 12 or Older in West Virginia, by Substate Region and Age Group: Percentages, Annual Averages Based on 2006, 2007, and 2008 NSDUHs

Region**	12-17	18-25	26+	All
Eastern Highland	9.24	19.78	5.27	7.23
Northern	9.53	22.81	6.03	8.72
Northern A and B	9.23	*	5.34	7.44
Northern C and D	9.68	23.23	6.39	9.35
South Central	9.70	20.87	5.76	7.76
South Central I	9.23	19.97	5.06	6.97
South Central II	11.33	*	6.59	9.06
South Central III	8.98	20.02	5.65	7.39
Southern	8.78	18.86	5.12	6.87
Southern I and III	8.48	*	4.90	6.68
Southern II	9.38	18.79	5.55	7.25
State	9.39	20.92	5.60	7.72
U.S.	9.54	19.71	5.96	8.14

* Low precision; no estimate reported. ** See Appendix for counties included in each regional area.

Marijuana Use in Past Year

Although West Virginians reported lower marijuana use in the year before the survey, compared to the national average, marijuana use is still high in the state. About 9.22% of respondents reported having used marijuana in the past year (Table 2). This rate is slightly lower than the national average of 10.29%. However, rates of use in certain areas of the state are higher than the national average. For example, between 14.68% of respondents in counties in Northern C and D reported marijuana use in the year before the survey.

Table 2 shows that adolescents aged 12-17 use marijuana at a higher rate than individuals above age 25 years. Rate of use is highest among individuals aged 18-25 years. Close to a third of this population reported using marijuana in the past year. Marijuana use is particularly a serious problem in Northern C and D area for all age groups.

Table 2: Marijuana Use in Past Year among Persons Aged 12 or Older in West Virginia, by Substate Region and Age Group: Percentages, Annual Averages Based on 2006, 2007, and 2008 NSDUHs

Region	12-17	18-25	26+	All
Eastern Highland	13.20	26.44	6.18	9.04
Northern	14.08	32.33	7.25	11.42
Northern A and B	12.91	*	5.72	8.73
Northern C and D	14.68	33.87	8.05	12.74
South Central	12.30	24.78	5.73	8.38
South Central I	10.76	*	4.92	7.17
South Central II	12.31	*	5.86	9.13
South Central III	13.28	24.89	6.14	8.63
Southern	12.00	21.83	5.79	7.98
Southern I and III	11.91		5.69	7.88
Southern II	12.18	22.31	5.98	8.19
State	12.90	26.97	6.21	9.22
U.S.	12.93	27.62	6.95	10.29

* Low precision; no estimate reported.

Non-Medical Use of Pain Relievers

Although not considered an illicit drug, prescription pain relievers are commonly abused today, and the consequences of that abuse are as deadly as those of illicit drugs (Knezevich, 2011). Prescription drug abuse, otherwise known as non-medical use of pain relievers, is a major problem in West Virginia. Nearly 5.50% of the state's population reported non-medical use of pain relievers the year before the survey; this compares with a national average of 5.00%. As seen in Map 4, respondents in Northern C and D and those in South Central II reported some of the highest prevalence, 6.45% and 6.31%, respectively. However, respondents in other areas of the state were not far behind, reporting rates between 4.83% and 6.10% (Table 3).

The situation is even worse among individuals aged 12-17 years and 18-25 years. About 16% of 18-25 year olds in the state reported non-medical use of pain relievers in the year before the survey. For

adolescents, aged 12-17 years, the percentage reporting non-medical use of pain relievers was 7.33% statewide (Table 3). Significant geographical variation exists in these estimates although the South Central II area has the highest percentage reporting for all age groups presented.

Table 3: Non-Medical Use of Pain Relievers in Past Year among Persons Aged 12 or Older in West Virginia, by Substate Region and Age Group: Percentages, Annual Averages Based on 2006, 2007, and 2008 NSDUHs

Region	12-17	18-25	26+	All
Eastern Highland	7.21	15.11	3.56	5.15
Northern	7.38	16.69	4.00	6.10
Northern A and B	7.37	17.59	3.54	5.40
Northern C and D	7.39	16.39	4.24	6.45
South Central	7.50	16.45	3.79	5.50
South Central I	7.51	14.87	3.54	5.06
South Central II	8.23	18.01	4.17	6.31
South Central III	7.03	16.13	3.70	5.23
Southern	7.11	14.45	3.40	4.87
Southern I and III	6.93	14.31	3.38	4.83
Southern II	7.47	14.74	3.44	4.95
State	7.33	15.93	3.72	5.46
U.S.	6.75	12.21	3.53	5.00

* Low precision; no estimate reported.

Alcohol Use

Alcohol use is also a serious problem in West Virginia, although the state alcohol use rates actually compare slightly favorably with the rest of nation. Although alcohol use is legal and accepted doe adults, it is alarming to see high proportions of adolescents reporting alcohol use.

Close to 40% of the state’s population reported alcohol use in the month before the survey. Nationwide, 51.23% reported the same. However, by age groups, 14.25%, 54.19%, and 38.74% of individuals ages 12-17 years, 18-25 years, and above 26 years reported alcohol use. The Northern A and B, the Northern C and D, and the South Central III regions had the highest prevalence, rates ranging between 41.88% and 42.75%. The Southern I, II, and III regions reported the lowest prevalence rates in the state, although those rates were still above 30%.

The picture is even more alarming when broken down by both region and age. Over 50% of individuals aged 18-25 years in all regions apart from the Southern region reported alcohol use in past month. For adolescents aged 12-17 years, more than 12% reported using alcohol in the month prior to the survey in all regions, with over 15% adolescents reporting alcohol use in Northern A and B region.

Table 4: Alcohol Use in Past Month among Persons Aged 12 or Older in West Virginia, by Substate Region and Age Group: Percentages, Annual Averages Based on 2006, 2007, and 2008 NSDUHs

Region	12-17	18-25	26+	All
Eastern Highland	13.98	52.16	37.73	37.08
Northern	14.50	62.43	42.07	42.59
Northern A and B	15.26	*	*	42.75
Northern C and D	14.12	63.25	41.34	42.51
South Central	14.69	52.42	39.95	39.10
South Central I	14.76	*	*	35.41
South Central II	14.97	*	*	38.24
South Central III	14.46	54.33	43.28	41.88
Southern	13.29	44.57	33.19	32.72
Southern I and III	13.46	*	*	33.60
Southern II	12.93	*	*	30.97
State	14.24	54.19	38.74	38.39
U.S.	15.70	61.42	54.18	51.23

* Low precision; no estimate reported.

Illicit Drugs and Alcohol Abuse or Dependence

Based on the preceding statistics, it is not surprising that illicit drug or alcohol abuse and dependence is a significant problem in the state. About 8.26% of the state's population reported illicit drug or alcohol abuse and dependence in the year before the survey. Nationwide, 9.07% reported the same.

Disaggregated by age groups, over a fifth of 18-25 year olds abuse or are dependent on illicit drug or alcohol. The Northern C and D region had the highest rate in this age group. Among 12-17 year olds, the Northern A and B region had the highest rate; their rate of 8.62% is even higher than the state average overall of 8.26%.

Table 5: Dependence on or Abuse of Illicit Drugs or Alcohol in Past Year among Persons Aged 12 or Older, by Substate Region and Age Group: Percentages, Annual Averages Based on 2006, 2007, and 2008 NSDUHs

Region	12-17	18-25	25+	All
Eastern Highland	6.52	20.22	5.97	7.57
Northern	7.85	25.05	7.56	10.08
Northern A and B	8.62	*	7.41	9.53
Northern C and D	7.46	24.74	7.63	10.35
South Central	6.88	19.15	6.08	7.58
South Central I	6.98	18.69	5.75	7.18
South Central II	6.69	19.84	6.45	8.21
South Central III	6.93	18.86	6.04	7.40
Southern	6.45	20.28	6.42	7.88
Southern I and III	6.28	20.70	6.51	7.98
Southern II	6.79	19.46	6.25	7.67
State	6.96	21.37	6.48	8.26
U.S.	7.78	20.91	7.20	9.07

* Low precision; no estimate reported.

Crash Statistics and Cost

It is important also to understand the role that substance abuse plays in crash statistics and the accompanying economic losses. The West Virginia Department of transportation report presented accident statistics for 2000 to 2003. More recently, the West Virginia GHSP also presented accident statistics in its 2009 and 2010 annual reports which provided accident statistics for 2008 and 2009, respectively. In the most recent year, 2009, there were 42,021 total crashes resulting in 17,807 injuries (Table 6). About 356 fatalities resulted from the crashes and 32% or 115 of these fatalities were alcohol-related.

Below are some of the data obtained from these two sources. The reports also included the economic costs of the crashes. The costs were calculated using the Federal Highway Administration methodology and included cost associated with injuries, fatalities, and property damages. With the lack of data in 2004 to 2006, it was necessary to project what the economic costs are in those years. Further, the two most recent reports did not include the economic loss related to alcohol crashes. Linear projections of the economic loss related to alcohol crashes were also obtained for these years. In 2009, alcohol-related crashes resulted in an economic loss of \$1.1 billion in West Virginia (Table 6).

Table 6: Economic Loss from Alcohol-Related Crashes in West Virginia

	Total Crashes	Total Injuries	Total Crash Fatalities	Alcohol-Related Fatalities	Total Economic Loss	Economic Loss for Alcohol-Related Crashes
2000	51305	26144	416	165	\$3,051,914,000	N/A
2001	48881	25534	376	153	\$3,387,502,300	\$815,114,300
2002	49913	25788	444	174	\$3,961,777,400	\$943,472,600
2003	51376	25329	396	157	\$3,717,882,600	\$865,100,600
2004	49949	24702	404	108	\$4,172,814,300*	\$924,548,800*
2005	47119	23385	374	110	\$4,430,032,390*	\$949,541,950*
2006	46632	22951	410	105	\$4,687,250,480*	\$974,535,100*
2007	45670	21443	432	138	\$4,944,468,570*	\$999,528,250*
2008	42561	18744	378	126	\$3,809,079,200	\$1,024,521,400*
2009	42021	17807	356	115	\$2,519,880,942	\$1,049,514,550*

*Estimated using linear projections.

Total Cost of Substance Abuse

Substance abuse places an enormous burden on the state of West Virginia. The present report and others in its series have only focused on the financial burden. Table 6 displays results from the five reports in the first series. The series examined the cost of substance abuse in the criminal justice, healthcare, education, welfare, and workforce sectors. The present report also adds the cost of substance abuse, specifically in regard to drunk driving, in the highway safety sector.

In 2009, substance abuse cost \$334, \$133, \$13, \$95, and \$11 million in the criminal justice, healthcare, education, welfare, and workforce sectors, respectively. These estimates were either calculated or

estimated from 2008 data in the previous reports in this series. None of the report focused on the cost of substance abuse in the highway sector.

The data on the highway sector were obtained from the GHSP and CCDP database, with most focusing on alcohol-related expenses. The data base was developed in 2008 but did not start full operations until 2009. Hence, the data obtained were only \$585,392 and \$1,111,031 in 2009 and 2010, respectively. The estimate for 2009 was assumed for 2007 and 2008. And the estimate for 2010, combined with those of 2007, 2008, and 2009, were used in projecting the cost for 2017 which was \$2,057,181.

The West Virginia Department of Transportation (2000) and the West Virginia Governor’s Highway Safety Program (2010) also provides accident data for some years. The most recent report indicated that 99,906 individuals were involved in motor vehicle accidents in 42,021 crashes. In these crashes, 17807 persons were injured, 356 were killed in 2009. These crashes resulted in an estimated economic loss of \$2,519,880,942 using methodology developed by the Federal Highway Administration.

Table 6: Total Financial Cost of Substance Abuse in West Virginia

Sectors	2007	2008	2009	2017
Criminal Justice	\$307,163,007	\$332,846,151	\$334,136,264	\$496,490,535
Healthcare	\$116,090,804	\$125,742,942	\$133,282,408	\$201,186,882
Education	\$12,583,980	\$13,121,804	\$13,204,818	\$16,226,955
Welfare	\$137,161,855	\$82,522,420	\$95,219,972	\$346,238,688
Workforce	\$10,910,909	\$11,126,918	\$11,689,339	\$12,356,759
Highway Safety*				
Personnel and Programmatic	\$585,392	\$585,392	\$585,392	\$2,057,181
Economic Loss of Alcohol-Related	\$999,528,250	\$1,024,521,400	\$1,049,514,550	\$1,249,459,750
Total for All Sectors	\$1,584,024,197	\$1,590,467,027	\$1,637,632,743	\$2,324,016,750

Conclusion

The picture of the financial burden of substance abuse to all governmental sectors in West Virginia is indeed quite grim. This report estimates that substance abuse costs the state \$1.6 billion in 2009. If urgent actions are not taken, the cost could easily increase to over \$2.3 billion in 2017. These estimated costs are quite conservative because this report focuses only on direct cost. Indirect cost of injuries to innocent parties by substance users and illness not directly due to substance use but that are complicated or extended due to substance use were not estimated. In addition, the cost of tobacco use and abuse is not included in any of the reports because that has been adequately examined in various studies. Thus, the costs reported in this first series paint a very conservative picture of the financial burden of substance abuse in the state.

The pervasive nature and accompanying consequences of drug and alcohol use and abuse are readily evident in West Virginia. The magnitude of these costs and their rates of increase suggest that the state needs to take urgent actions to address drug and alcohol use. The prevalence estimates provided by the present report also suggest that West Virginia cannot afford to adopt a “wait and see” approach. Rather, the state should direct urgent attention at preventing drug and alcohol use at all ages. The comprehensive approach to the problem of substance abuse advocated by the *Governor’s Comprehensive Strategic Plan to Address Substance Abuse in West Virginia* is one of the most viable options to stemming this tide (West Virginia Partnership to Promote Community Well-being, 2008). The Plan’s approach will lessen the financial burden facing the education system and free up resources for other much-needed programs.

References

- Knezevich, A. (2011, January 15). Prescription drug abuse takes deadly toll in W.Va.: Mountain State leads U.S. in rate of overdose deaths, *The Charleston Gazette*. Retrieved from <http://www.wvgazette.com/News/pillage/201101151175>
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2009). Substance abuse treatment facility locator Retrieved September 9, 2009, from <http://dasis3.samhsa.gov/PrxInput.aspx?STATE=West%20Virginia>
- The Office of Applied Studies (OAS) in the Substance Abuse and Mental Health Services Administration (SAMHSA) (2011). Section C: Tables and maps of model-based estimates for substate regions Retrieved January 13, 2011, from <http://www.drugabusestatistics.samhsa.gov/substate2k10/StateFiles/WV.htm>
- The Office of Applied Studies [OAS] in the Substance Abuse and Mental Health Services Administration [SAMHSA]. (2011a). Section C: Tables and maps of model-based estimates for substate regions Retrieved January 14, 2011, from <http://www.drugabusestatistics.samhsa.gov/substate2k10/SecC.htm>
- The Office of Applied Studies [OAS] in the Substance Abuse and Mental Health Services Administration [SAMHSA]. (2011b). Suppression criterion for substate region by age group tables from the 2006-2008 National Surveys on Drug Use and Health Retrieved April 1, 2011, from <http://www.drugabusestatistics.samhsa.gov/substate2k10/AgeGroupSpecificTbIs/AgeTabs.htm>
- The West Virginia Department of Transportation. (2000). 2000 accident data Retrieved March 18, 2011, from <http://www.transportation.wv.gov/dmv/HighwaySafety/Documents/2002CrashData.pdf>
- The West Virginia Governor's Highway Safety Program. (2010). Annual report Retrieved March 24, 2011, from <http://www.transportation.wv.gov/dmv/HighwaySafety/Documents/2009%20Highway%20Safety%20Report.pdf>
- West Virginia Partnership to Promote Community Well-being. (2008). The West Virginia comprehensive statewide prevention plan. In W. Coombs (Ed.). Charleston, WV: West Virginia Prevention Resource Center.

Appendix

WEST VIRGINIA – Substate Regions (defined in terms of counties)

The substate regions defined here were provided by the West Virginia Department of Health and Human Services and are defined in terms of the State's 55 counties. Because of sample size constraints, certain regions were combined to form substate regions. As per the State's request, estimates for eight substate regions along with three aggregate planning areas (Northern, South Central, and Southern) and maps showing all eight regions are being produced. The substate region definitions include nonadjacent counties being combined to form the Southern I and III region.

	Northern		South Central			Southern	
Eastern Highland	Northern A and B	Northern C and D	South Central I	South Central II	South Central III	Southern I and III	Southern II

Note: The substate regions defined for West Virginia in this table are the same as the substate regions defined in Section D of the *Substate Estimates from the 2004-2006 National Surveys on Drug Use and Health*.

Barbour	Northern A	Northern C	Calhoun	Cabell	Boone	Southern I	McDowell
Berkeley	Brooke	Marion	Jackson	Lincoln	Clay	Fayette	Mercer
Grant	Hancock	Monongalia	Pleasants	Mason	Kanawha	Monroe	Wyoming
Greenbrier		Preston	Ritchie	Wayne	Putnam	Raleigh	
Hampshire	Northern B	Taylor	Roane			Summers	
Hardy	Marshall		Tyler				
Jefferson	Ohio	Northern D	Wirt			Southern III	
Mineral	Wetzel	Braxton	Wood			Logan	
Morgan		Doddridge				Mingo	
Nicholas		Gilmer					
Pendleton		Harrison					
Pocahontas		Lewis					
Randolph							
Tucker							
Upshur							
Webster							