



WEST VIRGINIA TUBERCULOSIS PROFILE

ANNUAL REPORT 2018

**WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES
BUREAU FOR PUBLIC HEALTH
DIVISION OF TUBERCULOSIS ELIMINATION**

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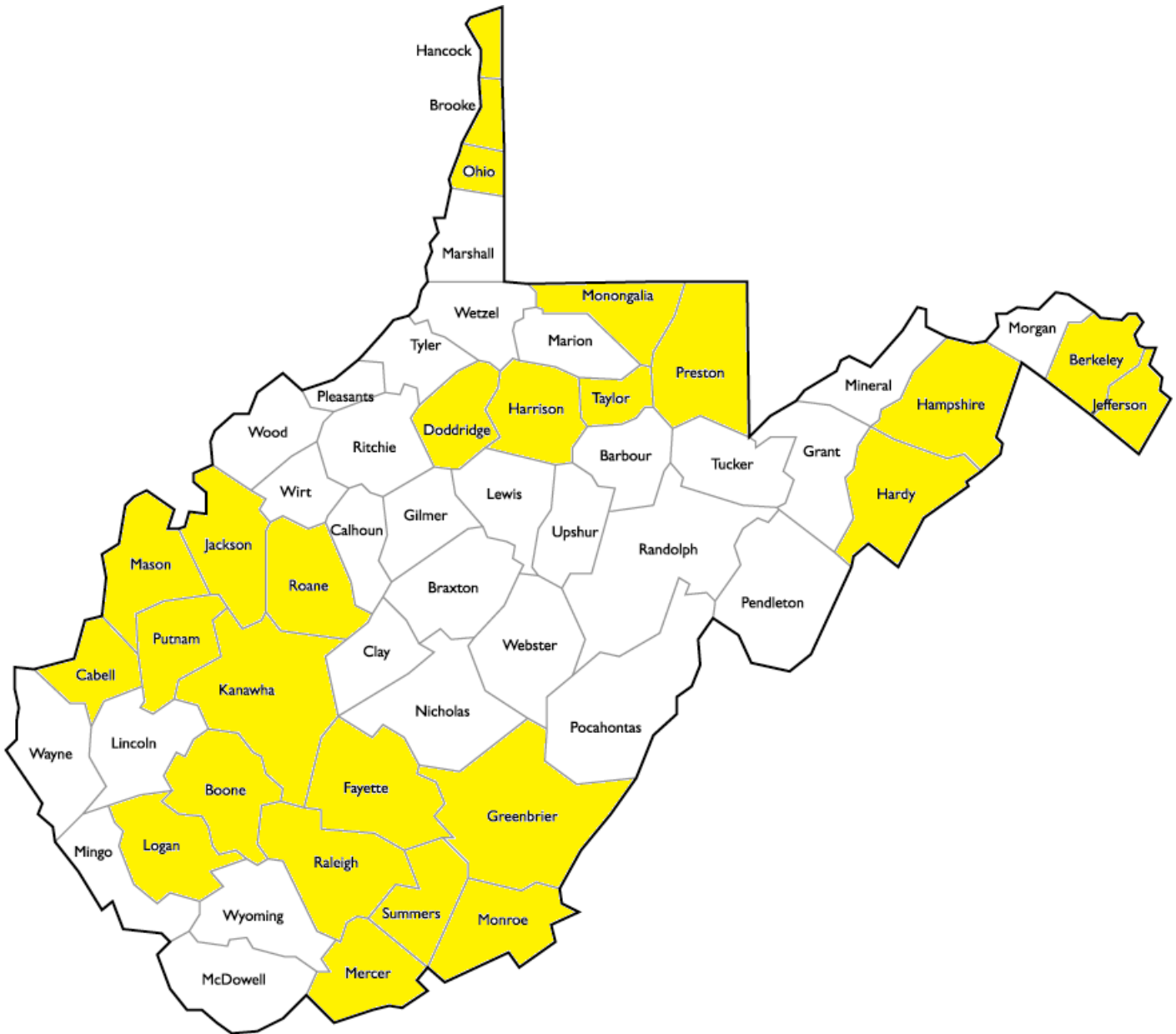
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2018 WV TB Advisory Committee

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Dr. Dominic Gaziano	Medical Consultant, WV Department of Health and Human Resources, Bureau for Public Health, Division of TB Elimination
Dr. Loretta Haddy	State Epidemiologist, WV Department of Health and Human Resources, Bureau for Public Health
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Chaste Barclay	American Lung Association
Dr. Melanie Fisher	West Virginia University
Rebecca King	WV Department of Education
Dr. Michael Kilkenny	Cabell-Huntington Health Department
Dr. Lee B. Smith	Monongalia County Health Department
Jordyn Reed	WV Higher Education Policy Commission
Angela Gray	Berkeley County Health Department
Peggy Lambert Fink	West Virginia University Tech Student Health - Nurse Practitioner

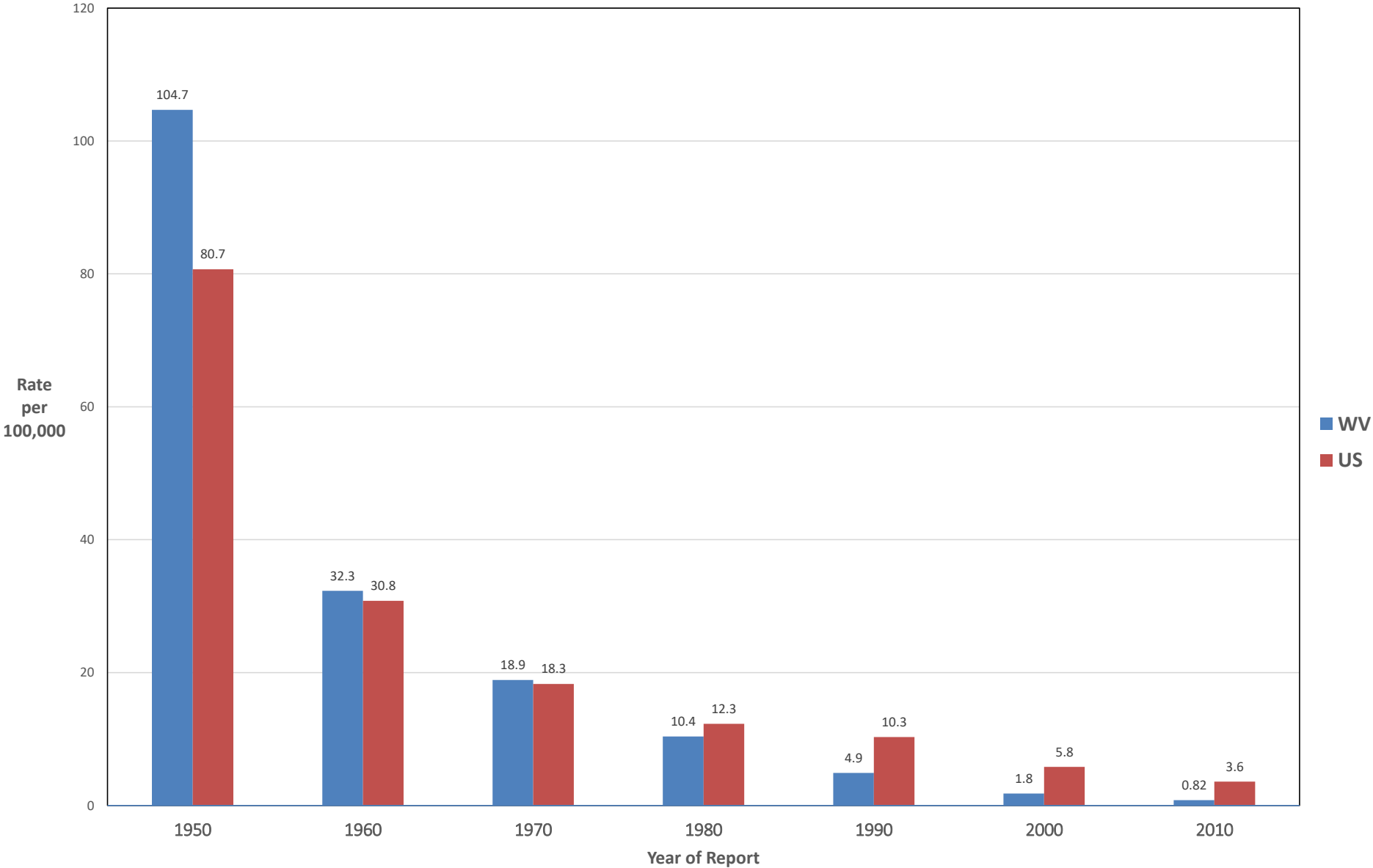
WV Active Tuberculosis Cases by County, 2014-2018



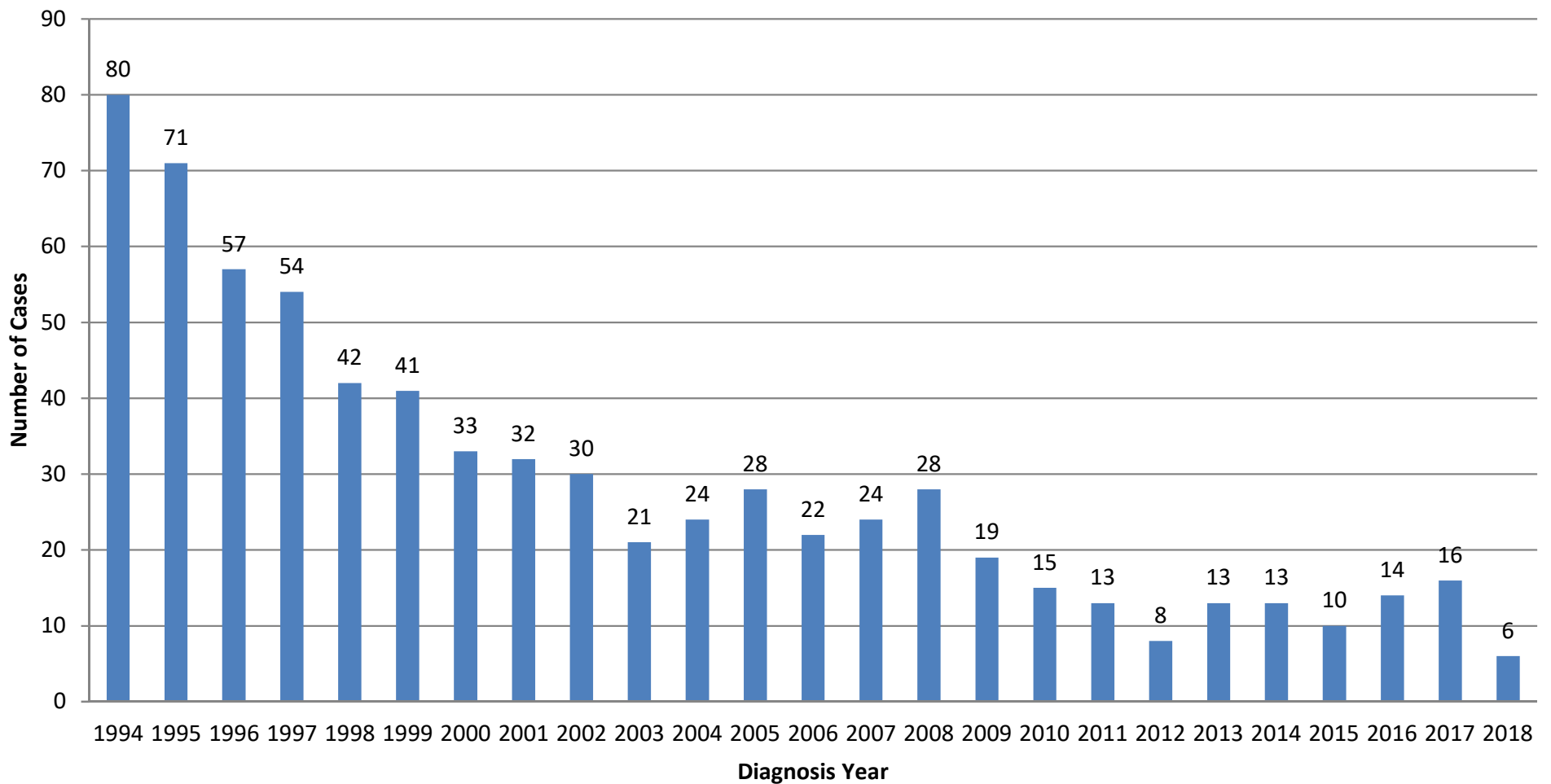
Each county may have had one or multiple cases for the period 2014-2018. This map is intended to show the geographic area of the cases only.

TB Incidence Rate by Year of Report

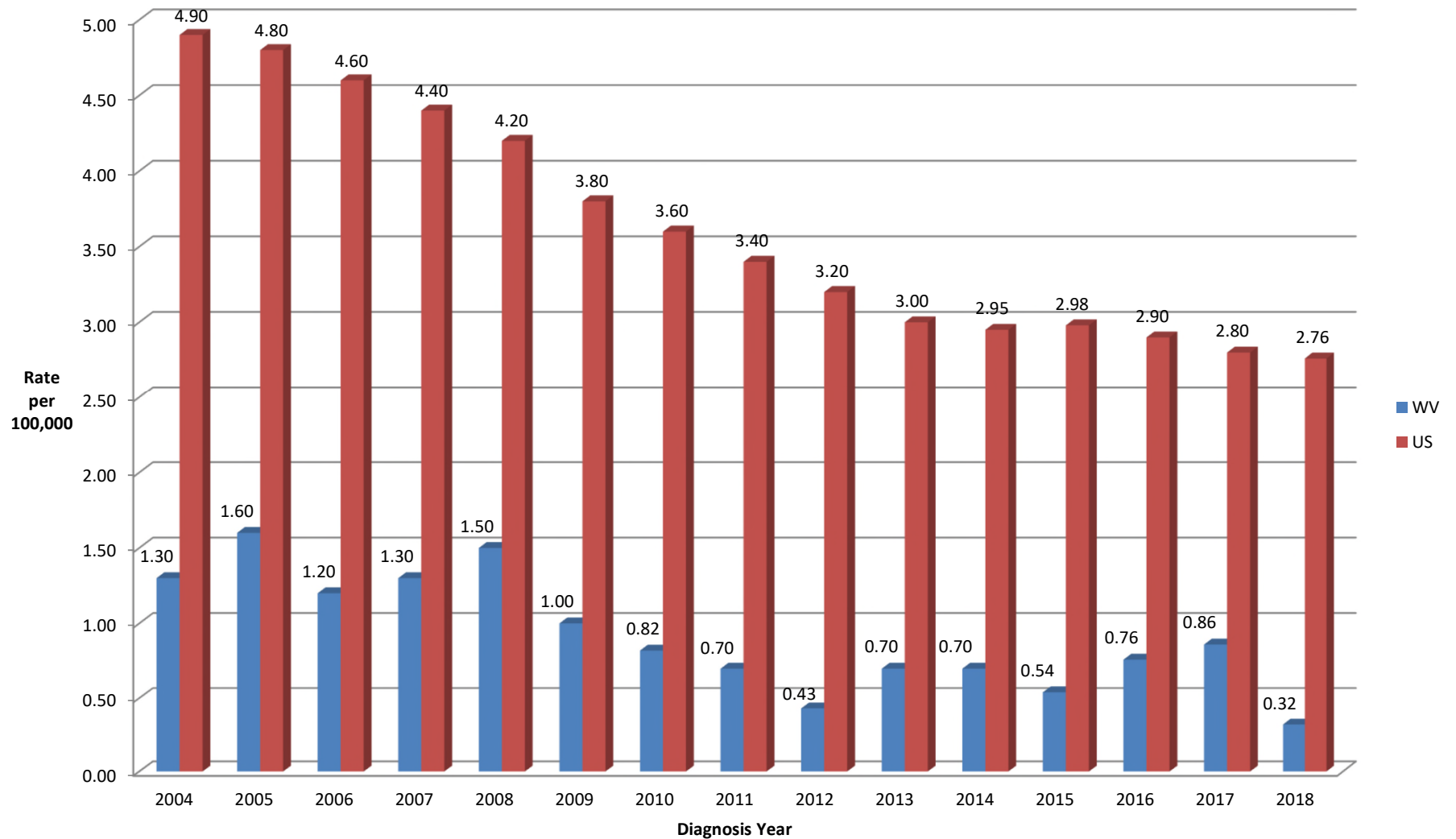
WV and US Decennial Rates, 1950-2010



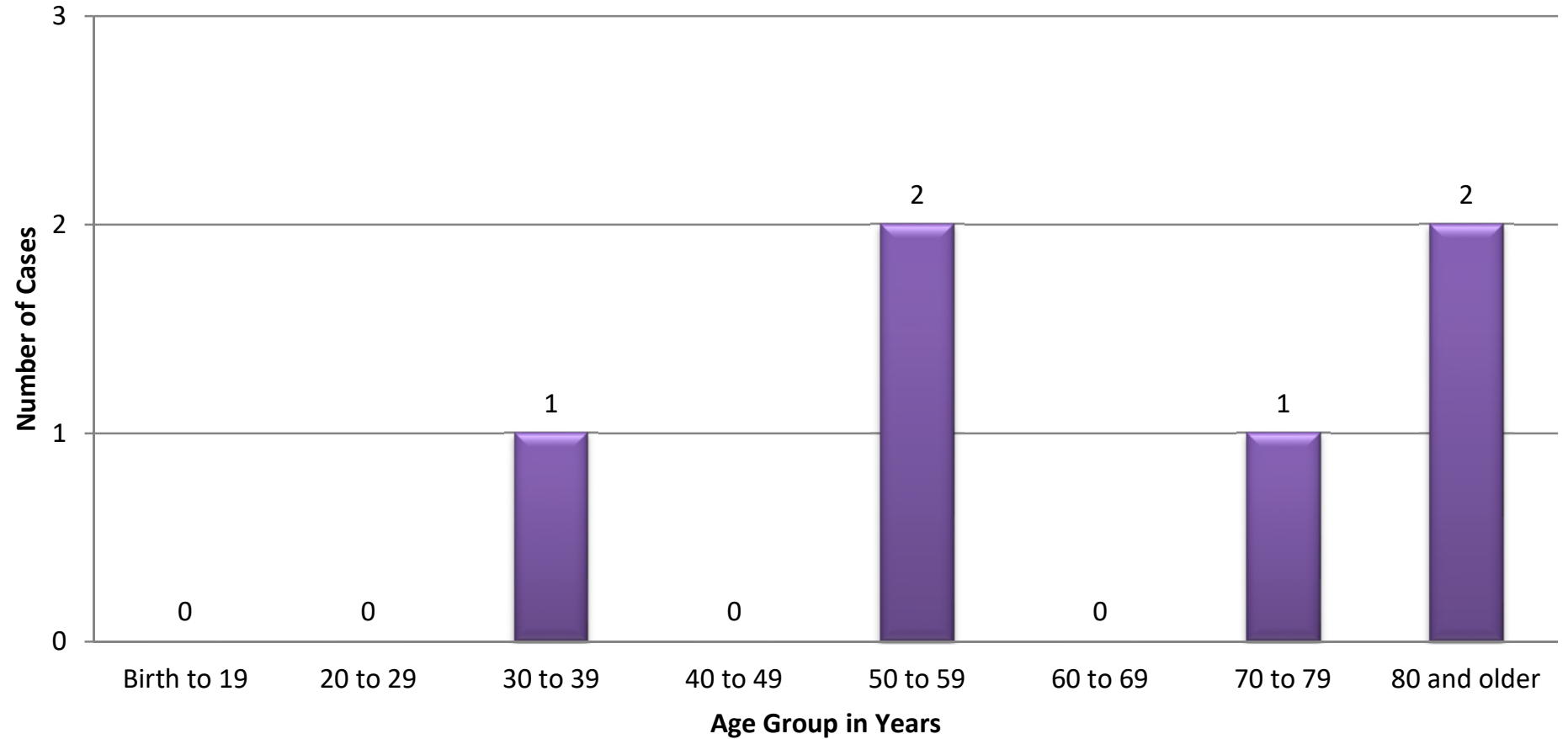
Newly Diagnosed Active TB Cases in WV by Year of Diagnosis 1994-2018



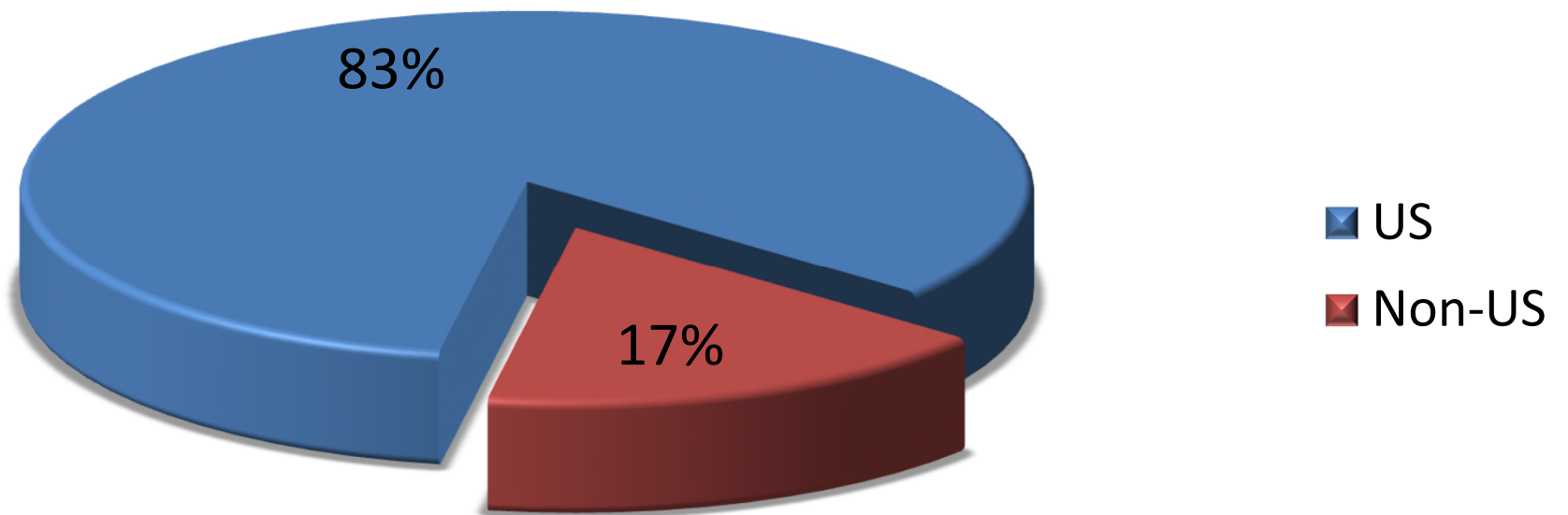
TB Incidence Rates by Diagnosis Year, WV and US 2004-2018



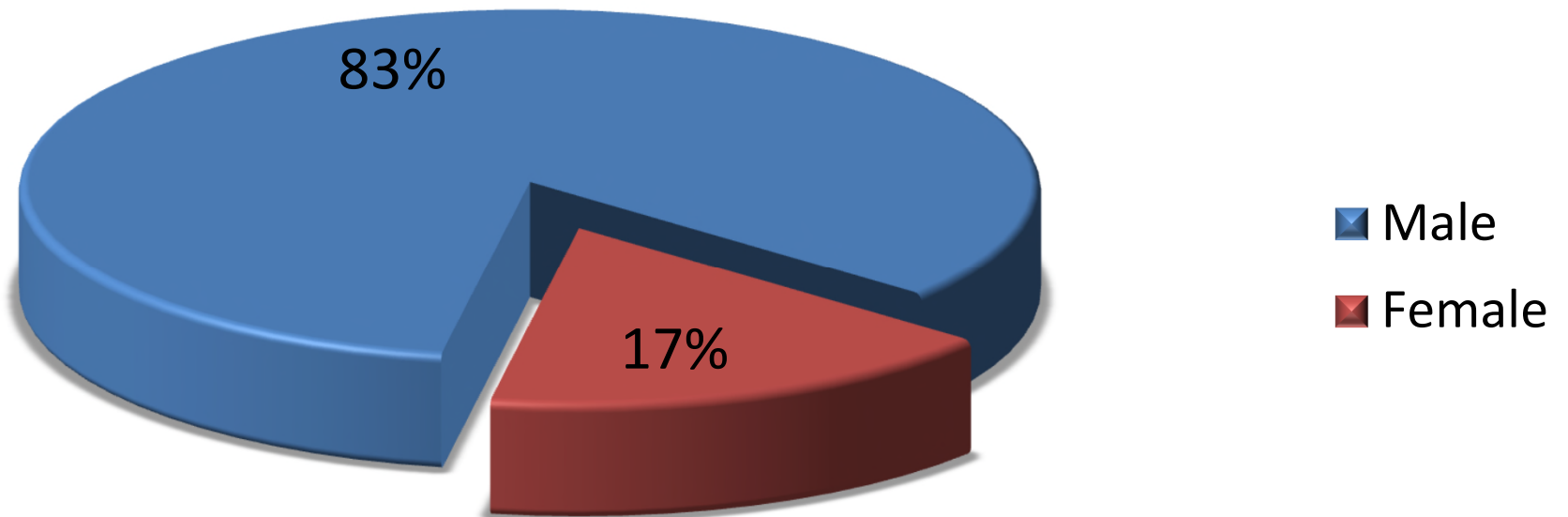
WV Cases of Active TB by Age Group - 2018



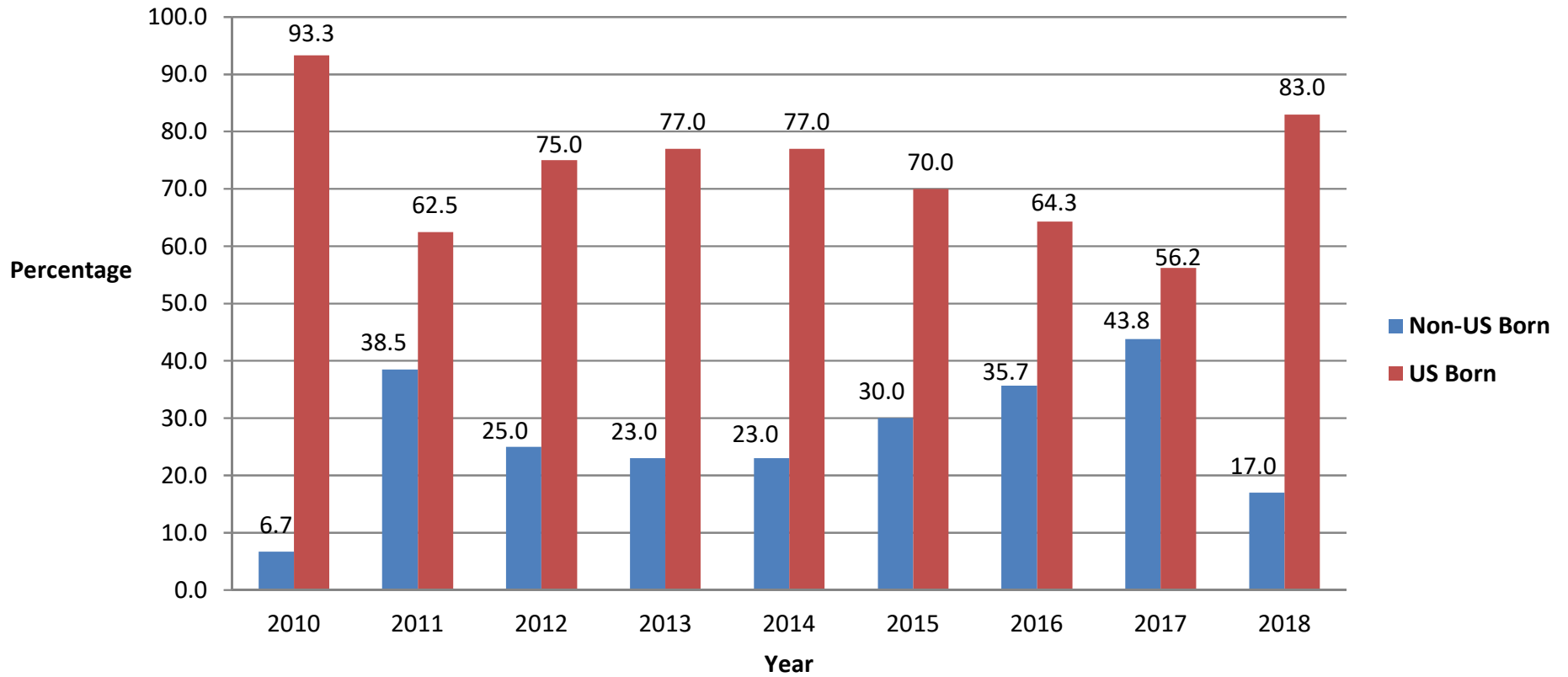
WV TB Active Cases by Country of Origin - 2018



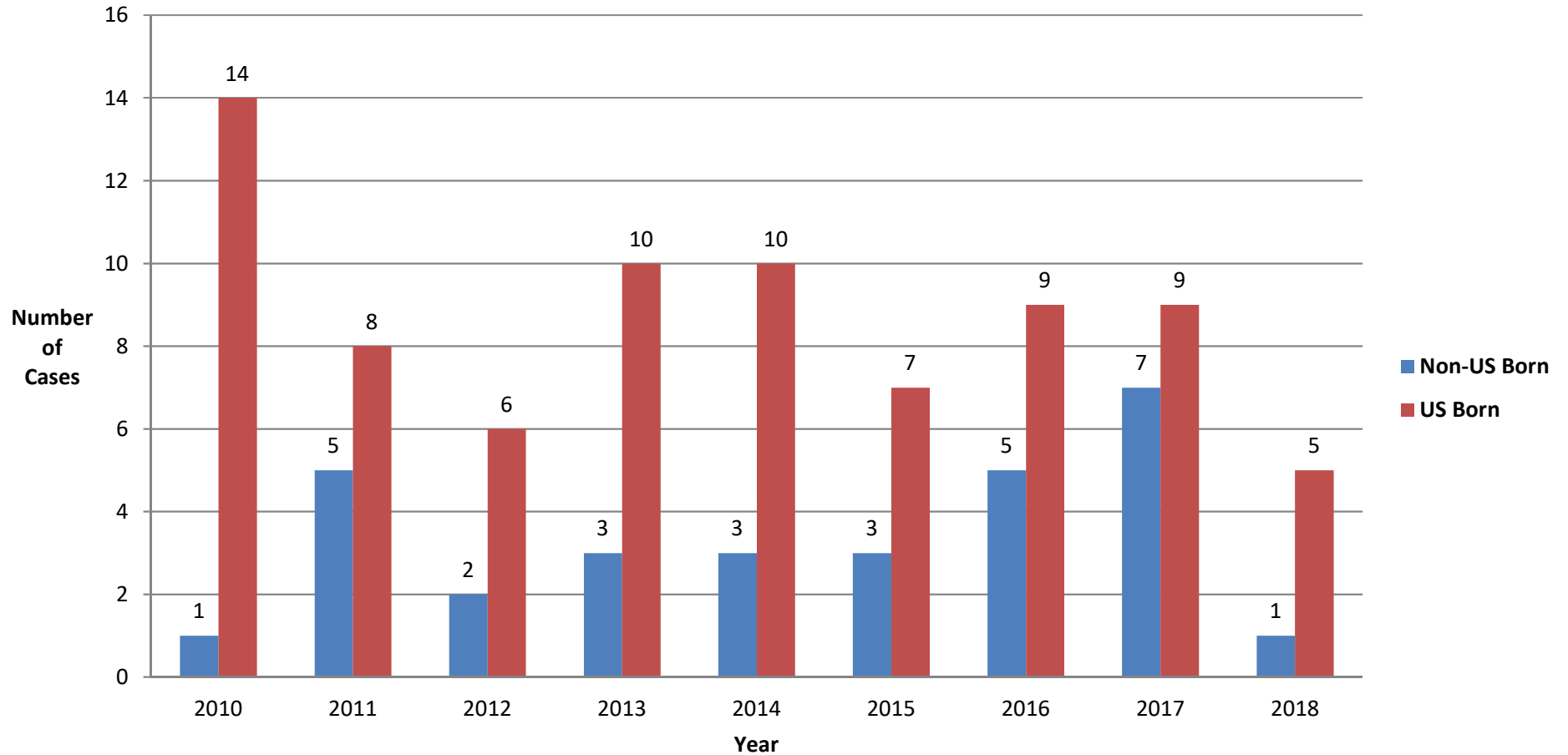
Gender of WV Active TB Cases - 2018



Percentage of WV Active TB Cases Non-US Born vs. US Born 2010-2018



Number of WV Active TB Cases Non-US born vs. US Born 2010-2018



Race of WV Active TB Cases by Diagnosis Year 2010-2018



**Reported Risk Factors and Occupations
WV TB Cases, 2018**

<u>RISK FACTOR</u>	<u>Percentage of 2018 Cases</u>
Injected Drug Use	16.67%
Non-Injected Drug Use	0.00%
Excessive Alcohol Use	0.00%
Homeless in Past Year	0.00%
Resident of Long Term Care Facility at Diagnosis	0.00%
Resident of Correctional Facility at Diagnosis	0.00%

OCCUPATION

<u>CLASSIFICATION</u>	<u>NUMBER</u>	<u>PERCENT</u>
Healthcare Worker	0	0.00%
Correctional Employee	0	0.00%
Migratory Agricultural Worker	0	0.00%
Other Occupation	2	33.33%
Retired	3	50.00%
Not Seeking Employment (e.g., student, etc.)	1	16.67%
Not Employed Within Past 24 Months	0	0.00%
Unknown/Missing	0	0.00%
TOTAL	6	100.00%

SURVEILLANCE CLINICAL DATA
 For the Month - Year Counted
 Beginning 1/2018 and Ending 12/2018

Reporting Area: West Virginia Department of Health and Human Resources,
 Bureau for Public Health - All Counties

STATUS AT DIAGNOSIS OF TB

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Alive	6	100.00%
Dead	0	0.00%
Unknown/Missing	0	0.00%
TOTAL	6	100.00%

PREVIOUS DIAGNOSIS OF TB

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
No	6	100.00%
Yes	0	0.00%
Unknown/Missing	0	0.00%
TOTAL	6	100.00%

SITE OF DISEASE

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Pulmonary	3	50.00%
Extrapulmonary	3	50.00%
Both	0	0.00%
Site Not Stated/Missing	0	0.00%
TOTAL	6	100.00%

SPUTUM SMEAR

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	1	16.67%
Negative	0	0.00%
Not Done	5	83.33%
Unknown/Missing	0	0.00%
TOTAL	6	100.00%

SURVEILLANCE CLINICAL DATA
 For the Month - Year Counted
 Beginning 1/2018 and Ending 12/2018
 (continued)

SPUTUM CULTURE

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	1	16.67%
Negative	0	0.00%
Not Done	5	83.33%
Unknown/Missing	0	0.00%
TOTAL	6	100.00%

MICROSCOPIC EXAM OF TISSUE AND OTHER BODY FLUIDS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	3	50.00%
Negative	0	0.00%
Not Done	3	50.00%
Unknown/Missing	0	0.00%
TOTAL	6	100.00%

CULTURE OF TISSUE AND OTHER BODY FLUIDS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	2	33.33%
Negative	1	16.67%
Not Done	3	50.00%
Unknown/Missing	0	0.00%
TOTAL	6	100.00%

CHEST X-RAY

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Normal	1	16.67%
Abnormal	3	50.00%
Not Done/Unknown/Missing	2	33.33%
TOTAL	6	100.00%

SURVEILLANCE CLINICAL DATA
 For the Month - Year Counted
 Beginning 1/2018 and Ending 12/2018
 (continued)

TUBERCULIN (MANTOUX) SKIN TEST AT DIAGNOSIS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	1	16.67%
Negative	0	0.00%
Not Done	4	66.67%
Unknown	1	16.67%
Missing	0	0.00%
TOTAL	6	100.00%

HIV STATUS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Negative	6	100.00%
Positive	0	0.00%
Indeterminate	0	0.00%
Refused	0	0.00%
Not Offered	0	0.00%
Test Done, Results Unknown	0	0.00%
Unknown	0	0.00%
Missing	0	0.00%
TOTAL	6	100.00%

INITIAL DRUG REGIMEN

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
No Drugs	0	0.00%
One Drug	0	0.00%
INH, RIF, PZA, and EMB or SM	5	83.33%
INH, RIF, and PZA	0	0.00%
INH and RIF	0	0.00%
Any Other Multiple Drug Combination	1	16.67%
Unknown	0	0.00%
TOTAL	6	100.00%

NEWLY REPORTED VERIFIED CASES OF TUBERCULOSIS IN WEST VIRGINIA, 2012-2018
INCIDENCE RATES ARE SHOWN PER 100,000 RESIDENTS

COUNTY	POPULATION 2010 CENSUS	2012 I-RATE	2013 I-RATE	2014 I-RATE	2015 I-RATE	2016 I-RATE	2017 I-RATE	2018 I-RATE
Barbour	16,589	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Berkeley	104,169	0.00	0.96	0.96	0.00	2.88	0.96	0.00
Boone	24,629	0.00	0.00	4.06	4.06	0.00	4.06	0.00
Braxton	14,523	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brooke	24,069	0.00	0.00	0.00	0.00	0.00	0.00	4.15
Cabell	96,319	2.08	3.11	2.08	0.00	6.23	1.04	0.00
Calhoun	7,627	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clay	9,386	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Doddridge	8,202	0.00	12.19	24.38	0.00	12.19	0.00	0.00
Fayette	46,039	0.00	0.00	0.00	0.00	0.00	0.00	2.17
Gilmer	8,693	11.50	0.00	0.00	0.00	0.00	0.00	0.00
Grant	11,937	0.00	8.38	0.00	0.00	0.00	0.00	0.00
Greenbrier	35,480	0.00	0.00	2.82	0.00	0.00	0.00	0.00
Hampshire	23,964	0.00	0.00	0.00	0.00	0.00	4.17	0.00
Hancock	30,676	0.00	0.00	0.00	3.26	0.00	0.00	0.00
Hardy	14,025	0.00	0.00	0.00	0.00	0.00	7.13	0.00
Harrison	69,099	0.00	1.45	0.00	1.45	0.00	0.00	1.45
Jackson	29,211	0.00	0.00	0.00	0.00	0.00	0.00	3.42
Jefferson	53,498	0.00	1.87	0.00	0.00	1.87	0.00	0.00
Kanawha	193,063	0.52	0.00	1.04	1.55	0.00	0.52	0.00
Lewis	16,372	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lincoln	21,270	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Logan	36,743	2.72	0.00	2.72	0.00	0.00	0.00	0.00
Marion	56,418	0.00	1.77	0.00	0.00	0.00	0.00	0.00
Marshall	33,107	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mason	27,324	0.00	0.00	3.66	0.00	0.00	0.00	3.66
McDowell	22,113	4.52	0.00	0.00	0.00	0.00	0.00	0.00
Mercer	62,264	0.00	1.61	1.61	0.00	0.00	0.00	1.61
Mineral	28,212	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mingo	26,839	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monongalia	96,189	0.00	2.08	0.00	1.04	1.04	2.08	0.00
Monroe	13,502	0.00	0.00	0.00	0.00	0.00	7.41	0.00
Morgan	17,541	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nicholas	26,233	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ohio	44,443	0.00	0.00	0.00	0.00	0.00	2.25	0.00
Pendleton	7,695	0.00	13.00	0.00	0.00	0.00	0.00	0.00
Pleasants	7,605	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pocahontas	8,719	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Preston	33,520	0.00	0.00	0.00	0.00	0.00	2.98	0.00

NEWLY REPORTED VERIFIED CASES OF TUBERCULOSIS IN WEST VIRGINIA, 2012-2018 (continued)
INCIDENCE RATES ARE SHOWN PER 100,000 RESIDENTS

COUNTY	POPULATION 2010 CENSUS	2012 I-RATE	2013 I-RATE	2014 I-RATE	2015 I-RATE	2016 I-RATE	2017 I-RATE	2018 I-RATE
Putnam	55,486	0.00	0.00	0.00	3.60	0.00	5.41	0.00
Raleigh	78,859	1.27	0.00	0.00	0.00	1.27	1.27	0.00
Randolph	29,405	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ritchie	10,449	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roane	14,926	0.00	0.00	0.00	0.00	0.00	6.70	0.00
Summers	13,927	0.00	0.00	0.00	7.18	0.00	0.00	0.00
Taylor	16,895	0.00	0.00	0.00	0.00	5.92	0.00	0.00
Tucker	7,141	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tyler	9,208	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upshur	24,254	0.00	0.00	4.12	0.00	0.00	0.00	0.00
Wayne	42,481	2.35	0.00	0.00	0.00	0.00	0.00	0.00
Webster	7,154	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wetzel	16,583	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wirt	5,717	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wood	86,956	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wyoming	23,796	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1,852,994							
I-Rate for WV		0.43	0.70	0.70	0.54	0.76	0.86	0.32

Latent Tuberculosis Infection and LTBI Incidence/100,000 Population by County, 2014-2018

COUNTY	POPULATION 2010 CENSUS	2014 LTBI	2014 Rate	2015 LTBI	2015 Rate	2016 LTBI	2016 Rate	2017 LTBI	2017 Rate	2018 LTBI	2018 Rate
Barbour	16,589	3	18.08	1	6.03	0	0.00	2	12.06	3	18.08
Berkeley	104,169	4	3.84	8	7.68	8	7.68	9	8.64	23	22.08
Boone	24,629	1	4.06	0	0.00	0	0.00	2	8.12	3	12.18
Braxton	14,523	0	0.00	0	0.00	0	0.00	2	13.77	2	13.77
Brooke	24,069	0	0.00	0	0.00	0	0.00	0	0.00	3	12.46
Cabell	96,319	18	18.69	55	57.10	68	70.60	32	33.22	21	21.80
Calhoun	7,627	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Clay	9,386	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Doddridge	8,202	6	73.15	2	24.38	0	0.00	0	0.00	2	24.38
Fayette	46,039	0	0.00	0	0.00	0	0.00	2	4.34	0	0.00
Gilmer	8,693	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Grant	11,937	0	0.00	0	0.00	0	0.00	1	8.38	1	8.38
Greenbrier	35,480	3	8.46	3	8.46	1	2.82	3	8.46	6	16.91
Hampshire	23,964	2	8.35	0	0.00	0	0.00	2	8.35	2	8.35
Hancock	30,676	0	0.00	1	3.26	1	3.26	2	6.52	2	6.52
Hardy	14,025	51	363.64	10	71.30	16	114.08	24	171.12	9	64.17
Harrison	69,099	8	11.58	8	11.58	2	2.89	5	7.24	9	13.02
Jackson	29,211	0	0.00	0	0.00	0	0.00	1	3.42	1	3.42
Jefferson	53,498	4	7.48	2	3.74	11	20.56	3	5.61	5	9.35
Kanawha	193,063	26	13.47	10	5.18	16	8.29	24	12.43	33	17.09
Lewis	16,372	2	12.22	3	18.32	1	6.11	1	6.11	4	24.43
Lincoln	21,720	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Logan	36,743	2	5.44	15	40.82	7	19.05	3	8.16	7	19.05
Marion	56,418	2	3.54	1	1.77	2	3.54	0	0.00	6	10.63
Marshall	33,107	1	3.02	1	3.02	0	0.00	0	0.00	1	3.02
Mason	27,324	2	7.32	0	0.00	0	0.00	0	0.00	2	7.32
McDowell	22,113	0	0.00	0	0.00	0	0.00	0	0.00	1	4.52
Mercer	62,264	9	14.45	1	1.61	0	0.00	0	0.00	11	17.67
Mineral	28,212	0	0.00	0	0.00	0	0.00	0	0.00	3	10.63
Mingo	26,839	1	3.73	0	0.00	1	3.73	1	3.73	2	7.45
Monongalia	96,189	15	15.59	9	9.36	21	21.83	33	34.31	41	42.62
Monroe	13,502	0	0.00	1	7.41	1	7.41	0	0.00	1	7.41
Morgan	17,541	0	0.00	0	0.00	0	0.00	1	5.70	0	0.00
Nicholas	26,233	1	3.81	0	0.00	0	0.00	1	3.81	4	15.25
Ohio	44,443	1	2.25	1	2.25	1	2.25	1	2.25	2	4.50
Pendleton	7,695	1	13.00	0	0.00	0	0.00	0	0.00	1	13.00
Pleasants	7,605	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Pocahontas	8,719	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Preston	33,520	1	2.98	0	0.00	0	0.00	0	0.00	3	8.95
Putnam	55,486	3	5.41	1	1.80	1	1.80	0	0.00	5	9.01
Raleigh	78,859	9	11.41	9	11.41	23	29.17	11	13.95	16	20.29
Randolph	29,405	1	3.40	0	0.00	3	10.20	1	3.40	2	6.80
Ritchie	10,449	0	0.00	0	0.00	0	0.00	2	19.14	1	9.57
Roane	14,926	1	6.70	0	0.00	0	0.00	1	6.70	0	0.00
Summers	13,927	0	0.00	0	0.00	0	0.00	0	0.00	2	14.36
Taylor	16,895	0	0.00	0	0.00	0	0.00	0	0.00	4	23.68
Tucker	7,141	0	0.00	0	0.00	0	0.00	0	0.00	1	14.00
Upshur	24,254	0	0.00	0	0.00	2	8.25	1	4.12	1	4.12
Wayne	42,481	2	4.71	0	0.00	0	0.00	0	0.00	2	4.71
Webster	7,154	0	0.00	0	0.00	0	0.00	0	0.00	1	13.98
Wetzel-Tyler	25,791	0	0.00	1	3.88	0	0.00	0	0.00	3	11.63
Wirt	5,717	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Wood	86,956	2	2.30	1	1.15	3	3.45	1	1.15	8	9.20
Wyoming	23,796	0	0.00	2	8.40	0	0.00	3	12.61	1	4.20
TOTAL	1,852,994	182	9.82	146	7.88	189	10.20	175	9.44	261	14.09

**TUBERCULOSIS IN WEST VIRGINIA AND THE US
1978-2018**

<u>YEAR</u>	<u># WV CASES</u>	<u>WV CASE RATE Per 100,000</u>	<u># US CASES</u>	<u>US CASE RATE Per 100,000</u>
2018	6	.32	9,029	2.76
2017	16	.86	9,093	2.8
2016	14	.76	9,287	2.9
2015	10	.54	9,563	2.98
2014	13	.70	9,412	2.95
2013	13	.70	9,588	3.0
2012	8	.43	9,951	3.2
2011	13	.70	10,521	3.4
2010	15	.82	11,181	3.6
2009	19	1.0	11,540	3.8
2008	28	1.5	12,898	4.2
2007	24	1.3	13,293	4.4
2006	22	1.2	13,779	4.6
2005	28	1.6	14,093	4.8
2004	24	1.3	14,511	4.9
2003	21	1.2	14,874	5.1
2002	30	1.7	15,075	5.2
2001	32	1.8	15,989	5.6
2000	33	1.8	16,377	5.8
1999	41	2.3	17,531	6.4
1998	42	2.3	18,361	6.8

**TUBERCULOSIS IN WEST VIRGINIA AND THE US
1978-2018
(Continued)**

<u>YEAR</u>	<u># WV CASES</u>	<u>WV CASE RATE Per 100,000</u>	<u># US CASES</u>	<u>US CASE RATE Per 100,000</u>
1997	54	3.0	19,851	7.4
1996	57	3.2	21,337	8.0
1995	71	3.9	22,860	8.7
1994	80	4.4	24,361	9.4
1993	75	4.1	25,287	9.8
1992	92	5.1	26,673	10.5
1991	64	3.6	26,283	10.4
1990	87	4.9	25,701	10.3
1989	77	4.1	23,495	9.5
1988	68	3.6	22,436	9.2
1987	99	5.2	22,517	9.3
1986	124	6.5	22,768	9.5
1985	108	5.6	22,201	9.3
1984	133	6.8	22,255	9.4
1983	133	6.8	23,846	10.2
1982	162	8.3	25,520	11.0
1981	181	9.3	27,373	11.9
1980	203	10.4	27,749	12.2
1979	221	11.8	27,669	12.3
1978	216	11.6	28,521	12.8

**TB DRUG RESISTANCE IN WV
1998 TO 2018**

<u>YEAR</u>	<u>MONO</u>	<u>MDR</u>	<u>2 OTHER</u>
2018	0	0	0
2017	2	0	0
2016	1	0	0
2015	1	0	0
2014	2	0	0
2013	4	0	0
2012	2	0	0
2011	1	0	0
2010	1	0	1
2009	3	0	0
2008	0	0	0
2007	1	0	1
2006	2	0	0
2005	3	0	0
2004	3	0	0
2003	0	0	1
2002	2	0	1
2001	5	0	0
2000	4	0	2
1999	2	0	2
1998	3	0	0