



WEST VIRGINIA TUBERCULOSIS PROFILE

ANNUAL REPORT 2022

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

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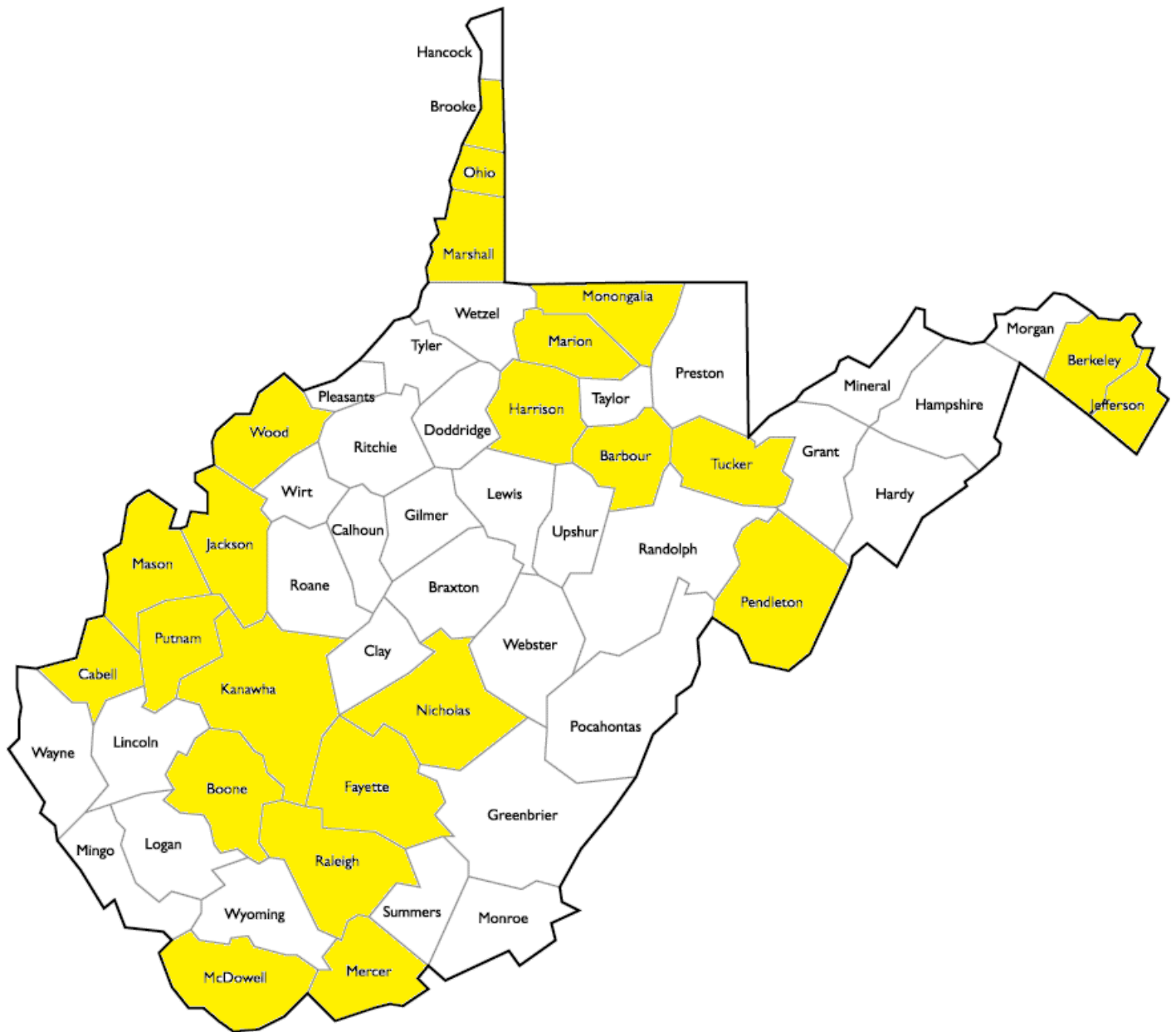
Website

oeeps.wv.gov/tuberculosis

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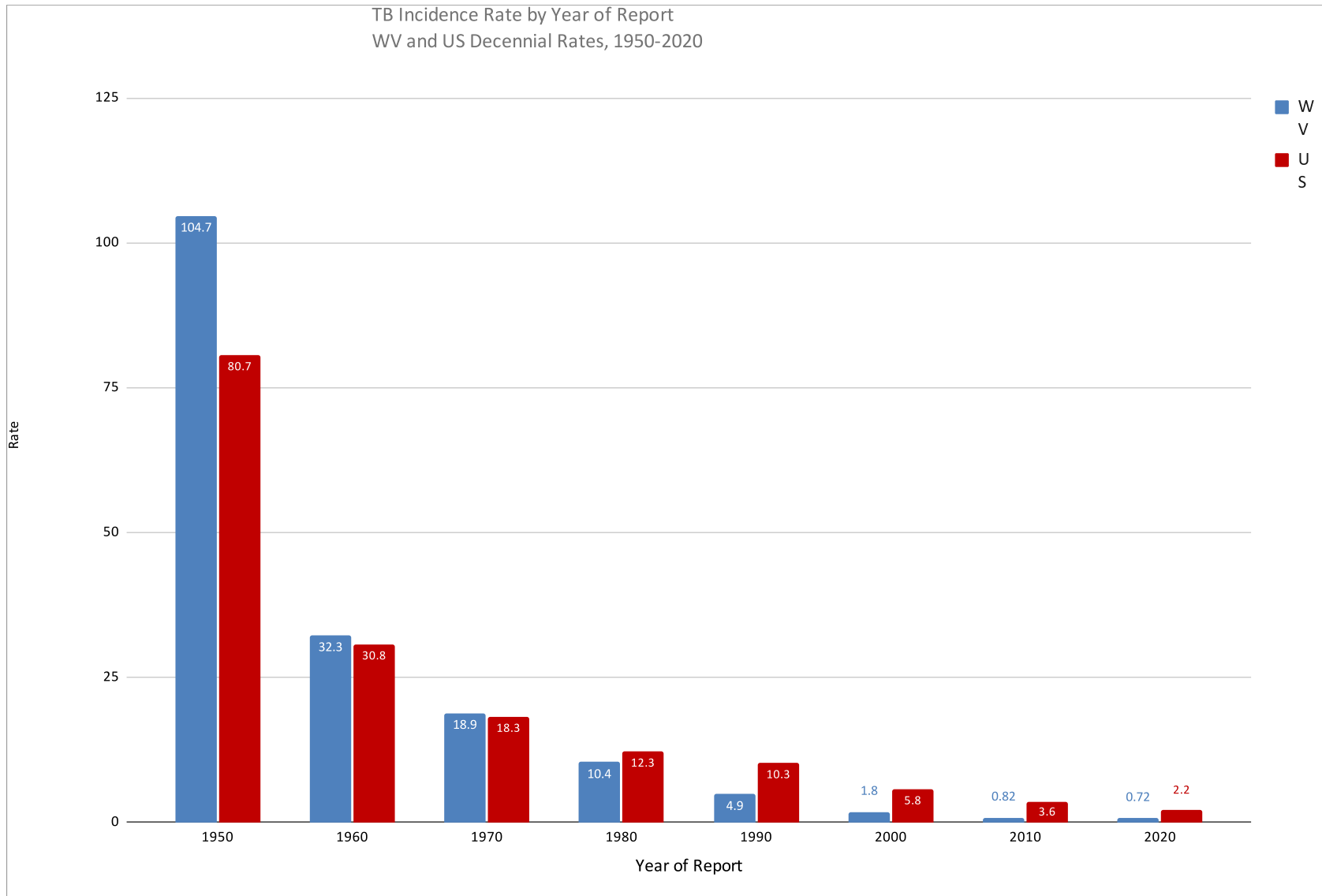
WV Active Tuberculosis Cases by County, 2018-2022



Each highlighted county may have one or multiple cases for the 2018-2022 period. This map is intended to show the geographic area of the cases only for the five-year period.

TB Incidence Rates per 100,000 by Diagnosis Year

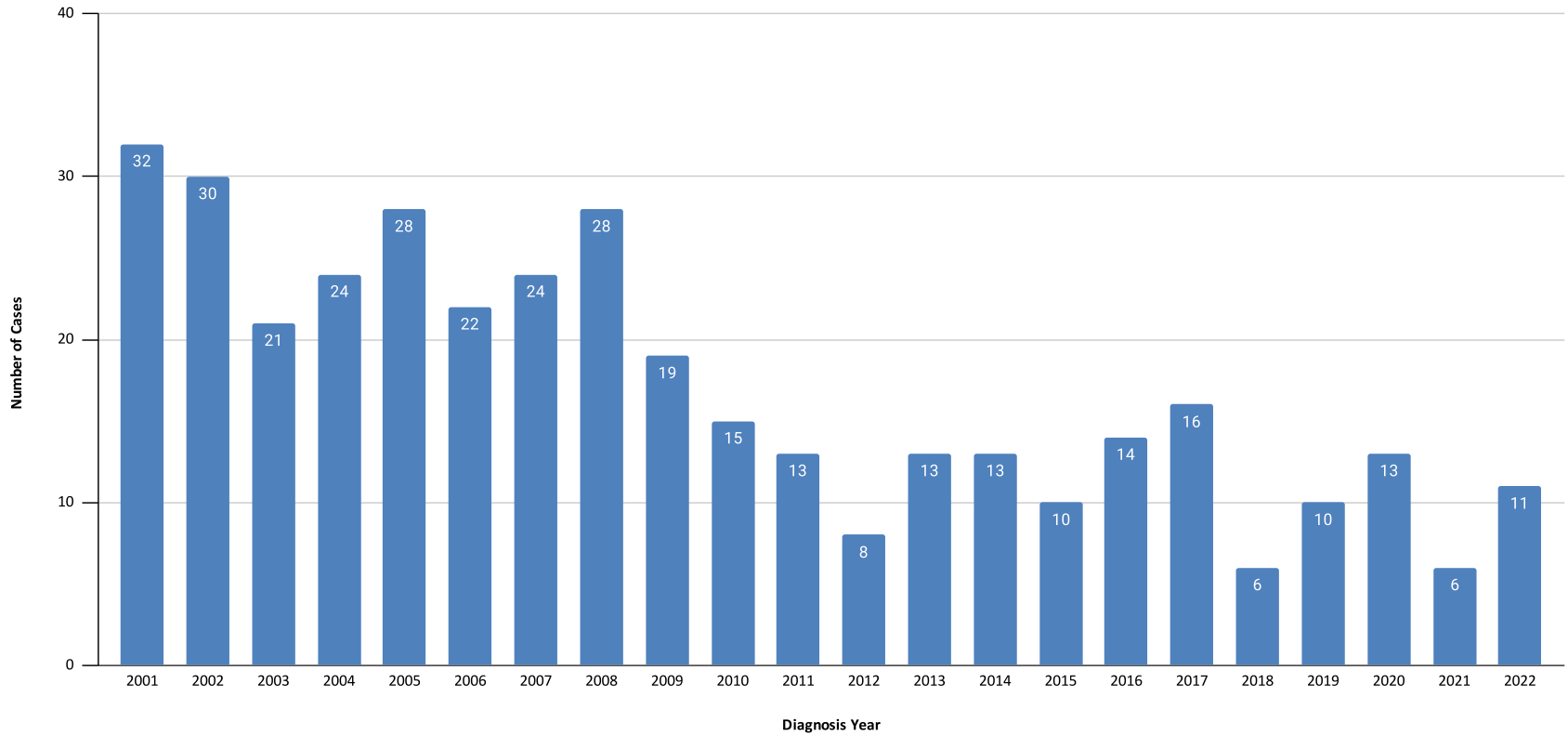
	1950	1960	1970	1980	1990	2000	2010	2020
WV	104.7	32.3	18.9	10.4	4.9	1.8	0.82	0.72
US	80.7	30.8	18.3	12.3	10.3	5.8	3.6	2.2



Number of Cases by Year

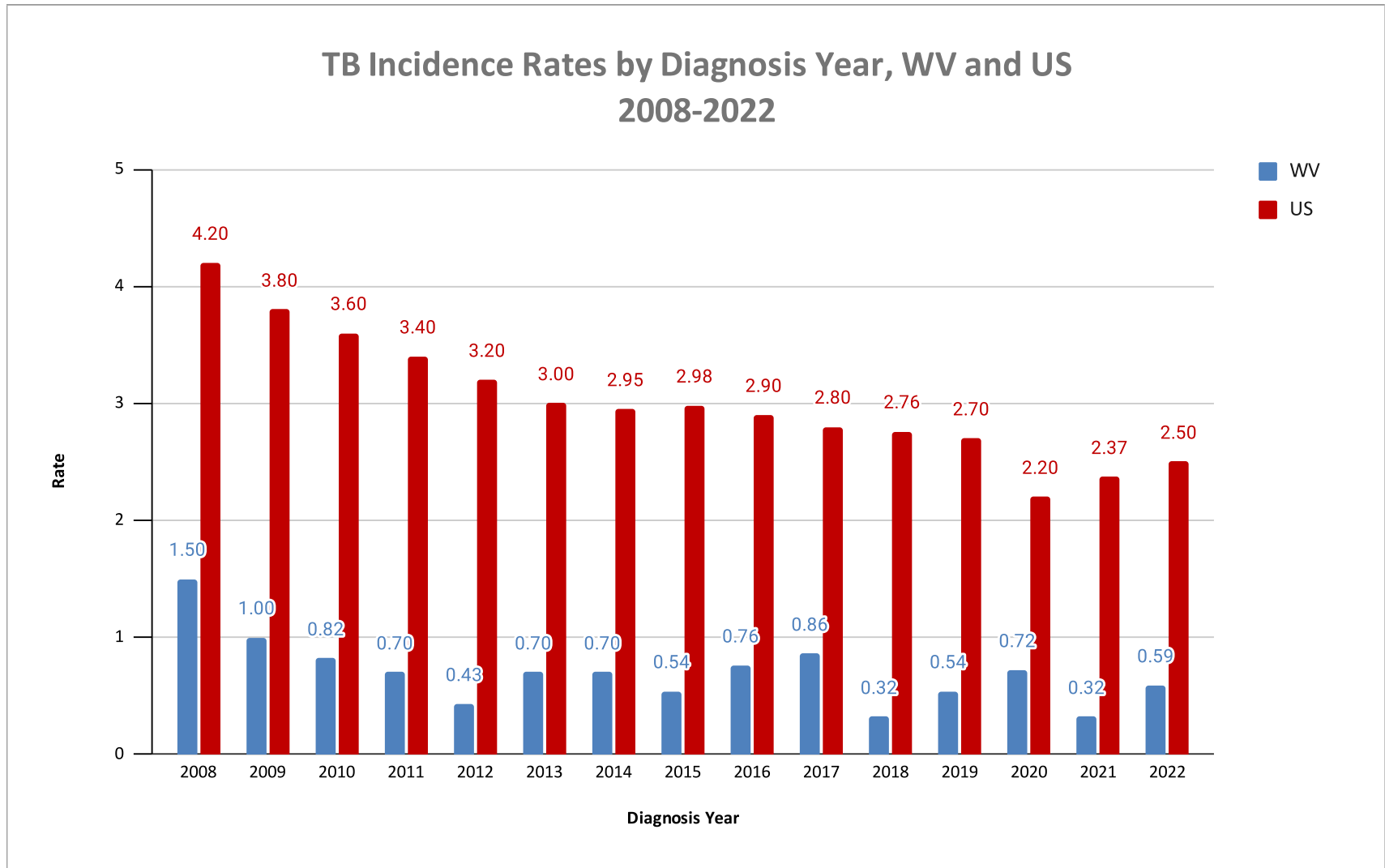
1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
42	41	33	32	30	21	24	28	22	24	28	19	15	13	8	13	13	10	14	16	6	10	13	6	11

**Newly Diagnosed Active TB Cases in WV by Year of Diagnosis
1998-2022**

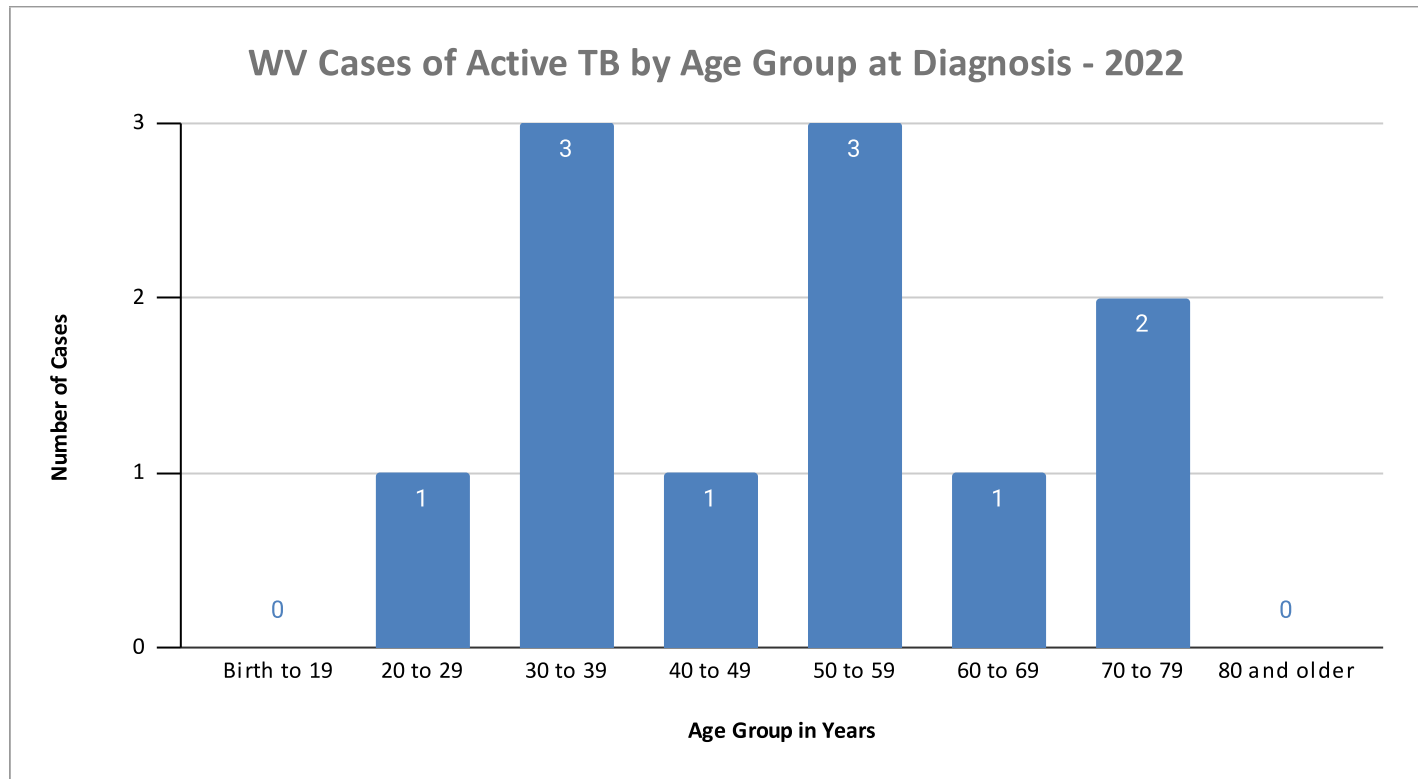


TB Incidence Rates per 100,000 by Diagnosis Year

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
WV	1.50	1.00	0.82	0.70	0.43	0.70	0.70	0.54	0.76	0.86	0.32	0.54	0.72	0.32	0.59
US	4.20	3.80	3.60	3.40	3.20	3.00	2.95	2.98	2.90	2.80	2.76	2.70	2.20	2.37	2.50

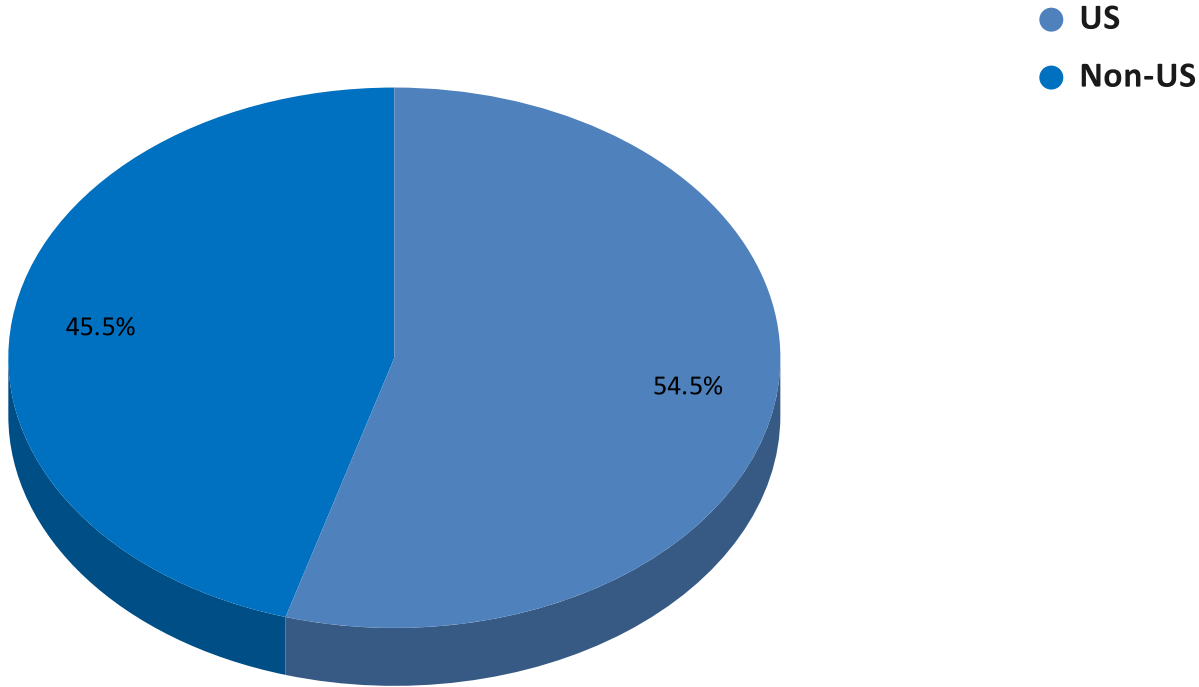


	Birth to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 and older
Cases	0	1	3	1	3	1	2	0



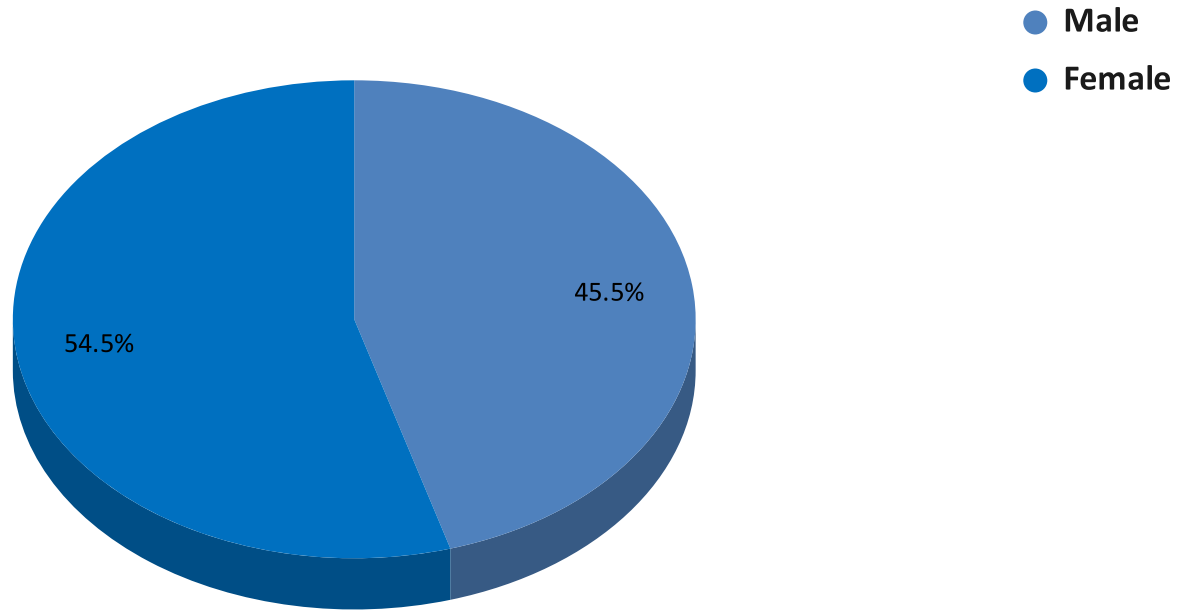
US	6
Non-US	5

WV TB Active Cases by Country of Origin - 2022

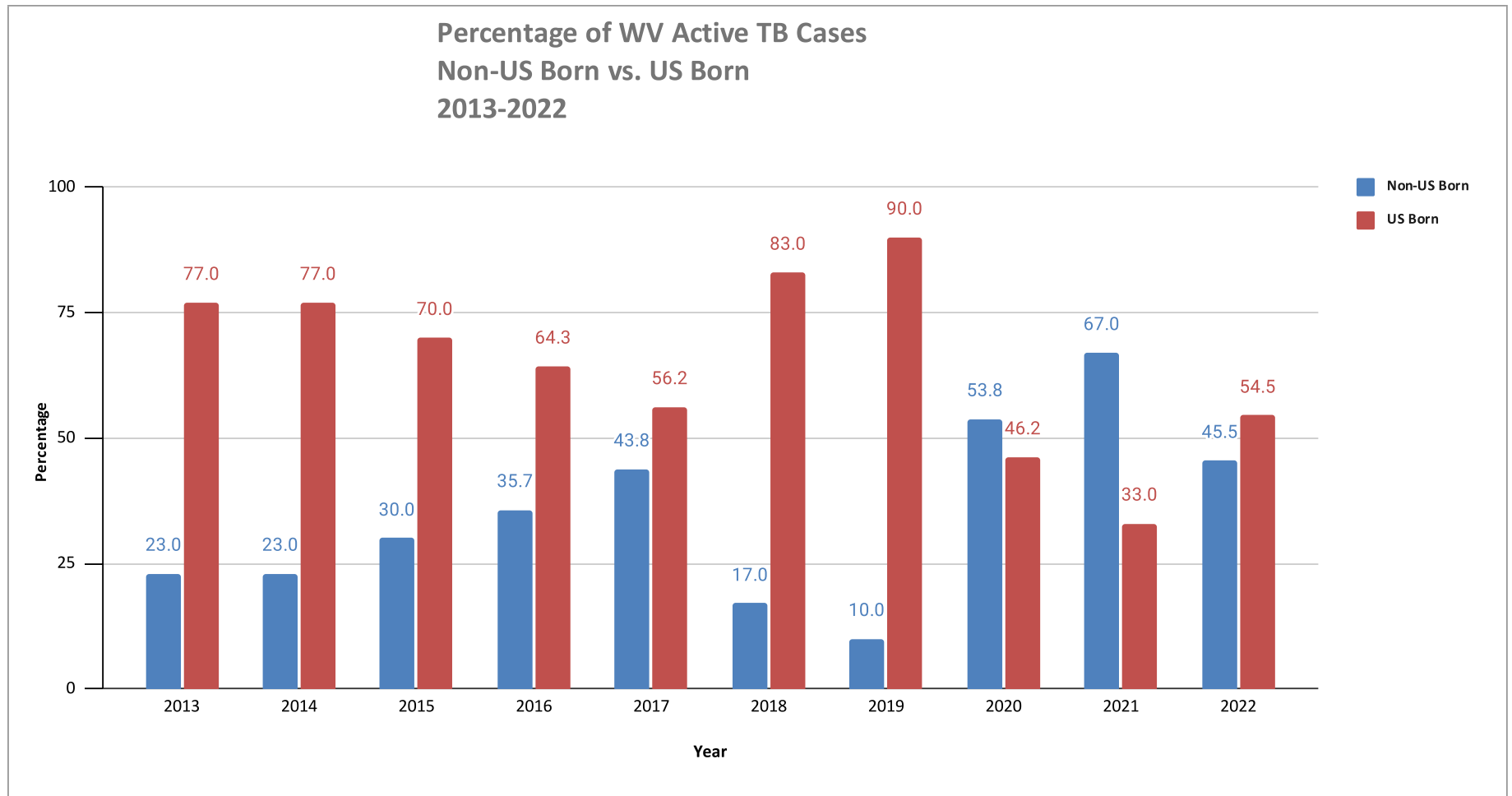


Male	5
Female	6

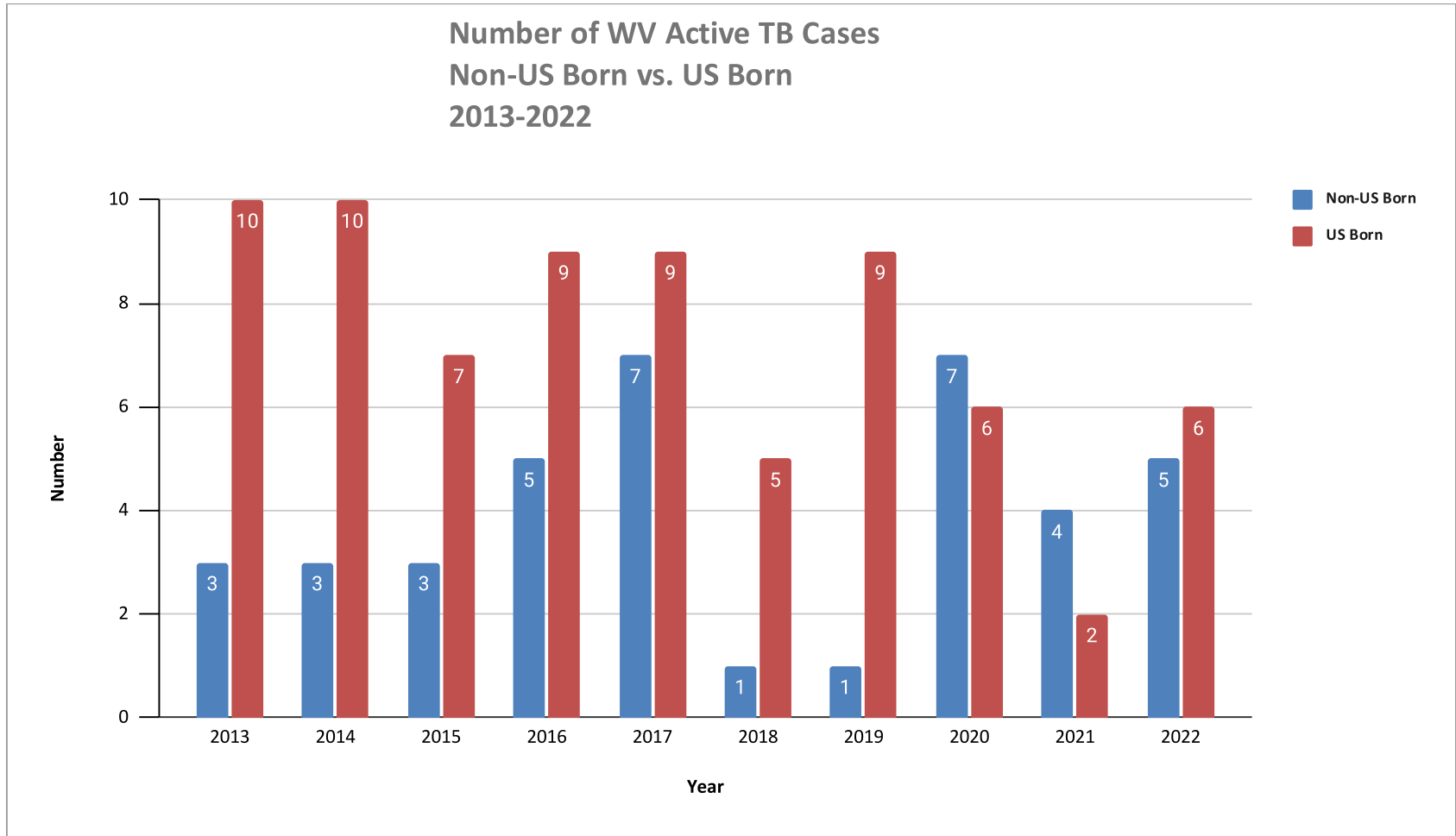
Gender of WV Active TB Cases - 2022



Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Non-US Born	23.0	23.0	30.0	35.7	43.8	17.0	10.0	53.8	67.0	45.5
US Born	77.0	77.0	70.0	64.3	56.2	83.0	90.0	46.2	33.0	54.5

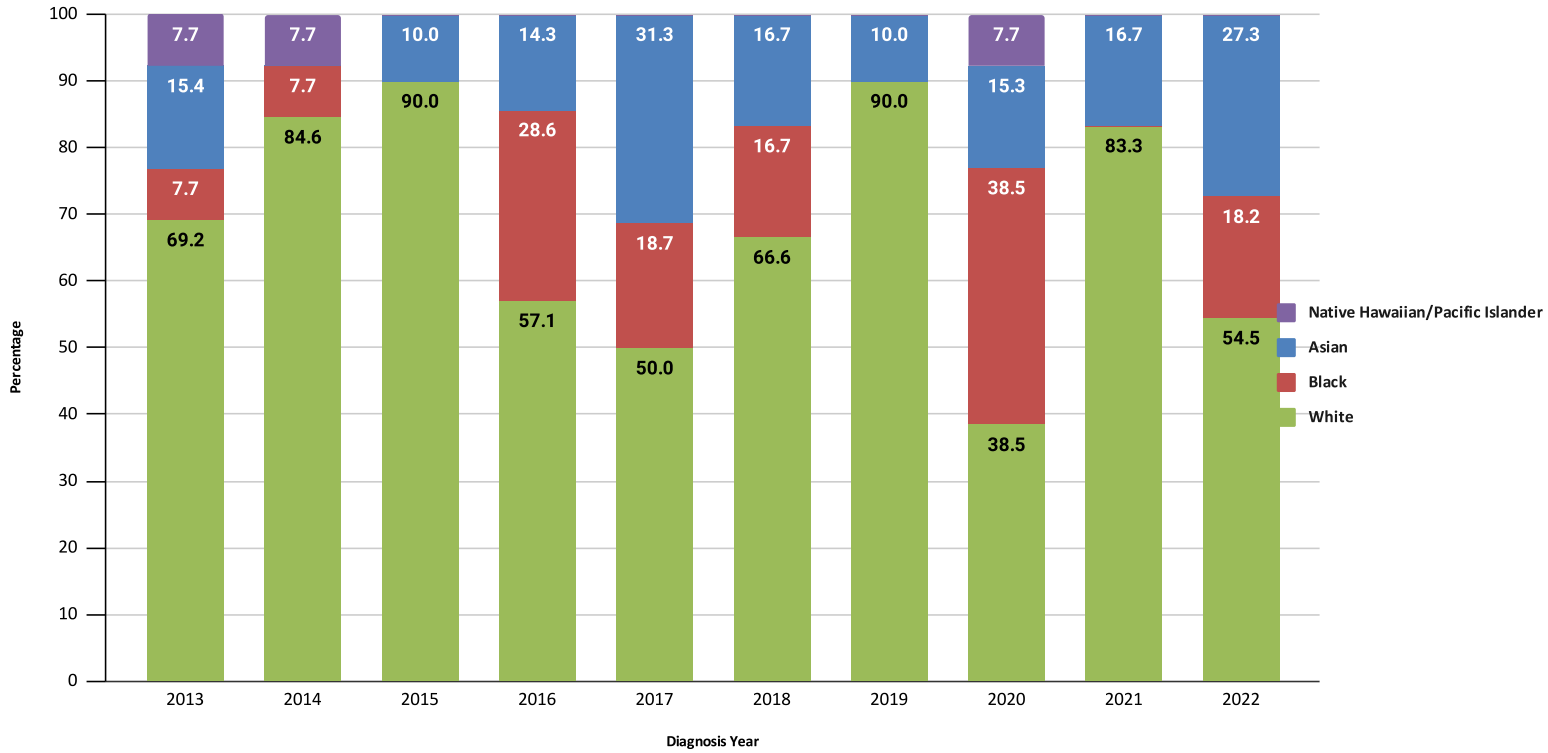


Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Non-US Born	3	3	3	5	7	1	1	7	4	5
US Born	10	10	7	9	9	5	9	6	2	6



Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
White	69.2	84.6	90.0	57.1	50.0	66.6	90.0	38.5	83.3	54.5
Black	7.7	7.7		28.6	18.7	16.7		38.5		18.2
Asian	15.4		10.0	14.3	31.3	16.7	10.0	15.3	16.7	27.3
Native Hawaiian/Pacific Islander	7.7	7.7						7.7		

**Race of WV Active TB Cases by Diagnosis Year
2013-2022**



**Reported Risk Factors and Occupations
WV TB Cases, 2022**

<u>RISK FACTOR</u>	<u>Percentage of 2022 Cases</u>
Injected Drug Use	9.10%
Non-Injected Drug Use	9.10%
Excessive Alcohol Use	9.10%
Homeless in Past Year	9.10%
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	6	54.55%
Retired	2	18.18%
Not Seeking Employment (e.g., student, etc.)	0	0.00%
Not Employed Within Past 12 Months	3	27.27%
Unknown/Missing	0	0.00%
TOTAL	11	100.00%

SURVEILLANCE CLINICAL DATA
 For the Month - Year Counted
 Beginning 1/2022 and Ending 12/2022

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	11	100.00%
Dead	0	0.00%
Unknown/Missing	0	0.00%
TOTAL	11	100.00%

PREVIOUS DIAGNOSIS OF TB

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
No	11	100.00%
Yes	0	0.00%
Unknown/Missing	0	0.00%
TOTAL	11	100.00%

SITE OF DISEASE

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Pulmonary	7	63.64%
Extrapulmonary	3	27.27%
Both	1	9.09%
Site Not Stated/Missing	0	0.00%
TOTAL	11	100.00%

SPUTUM SMEAR

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	4	36.36%
Negative	4	36.36%
Not Done	3	27.27%
Unknown/Missing	0	0.00%
TOTAL	11	100.00%

SURVEILLANCE CLINICAL DATA
 For the Month - Year Counted
 Beginning 1/2022 and Ending 12/2022
 (cont'd)

SPUTUM CULTURE

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	6	54.55%
Negative	2	18.18%
Not Done	3	27.27%
Unknown/Missing	0	0.00%
TOTAL	11	100.00%

MICROSCOPIC EXAM OF TISSUE AND OTHER BODY FLUIDS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	4	36.36%
Negative	0	0.00%
Not Done	7	63.64%
Unknown/Missing	0	0.00%
TOTAL	11	100.00%

CULTURE OF TISSUE AND OTHER BODY FLUIDS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	4	36.36%
Negative	0	0.00%
Not Done	7	63.64%
Unknown/Missing	0	0.00%
TOTAL	11	100.00%

CHEST X-RAY

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Normal	3	27.27%
Abnormal	8	72.73%
Not Done/Unknown/Missing	0	0.00%
TOTAL	11	100.00%

SURVEILLANCE CLINICAL DATA
 For the Month - Year Counted
 Beginning 1/2022 and Ending 12/2022
 (cont'd)

TUBERCULIN (MANTOUX) SKIN TEST AT DIAGNOSIS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Positive	0	0.00%
Negative	0	0.00%
Not Done	11	100.00%
Unknown	0	0.00%
Missing	0	0.00%
TOTAL	11	100.00%

HIV STATUS

CLASSIFICATION	NUMBER OF RECORDS	PERCENT
Negative	9	81.82%
Positive	2	18.18%
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	11	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	11	100.00%
INH, RIF, and PZA	0	0.00%
INH and RIF	0	0.00%
Any other Multiple Drug Combination	0	0.00%
Unknown	0	0.00%
TOTAL	11	100.00%

NEWLY REPORTED VERIFIED CASES OF TUBERCULOSIS IN WEST VIRGINIA, 2016-2022

INCIDENCE RATES * (I-RATE) ARE SHOWN PER 100,000 RESIDENTS

COUNTY	POPULATION 2020 CENSUS	2016 I-RATE	2017 I-RATE	2018 I-RATE	2019 I-RATE	2020 I-RATE	2021 I-RATE	2022 I-RATE
Barbour	15,465	0.00	0.00	0.00	0.00	0.00	0.00	6.47
Berkeley	122,076	2.46	0.82	0.00	0.00	1.64	0.82	1.64
Boone	21,809	0.00	4.59	0.00	0.00	4.59	0.00	0.00
Braxton	12,447	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brooke	22,559	0.00	0.00	4.43	0.00	0.00	0.00	0.00
Cabell	94,350	6.36	1.06	0.00	1.06	2.12	0.00	0.00
Calhoun	6,229	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clay	8,051	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Doddridge	7,808	12.81	0.00	0.00	0.00	0.00	0.00	0.00
Fayette	40,488	0.00	0.00	2.47	0.00	0.00	0.00	0.00
Gilmer	7,408	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grant	10,976	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Greenbrier	32,977	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hampshire	23,093	0.00	4.33	0.00	0.00	0.00	0.00	0.00
Hancock	29,095	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hardy	14,299	0.00	6.99	0.00	0.00	0.00	0.00	0.00
Harrison	65,921	0.00	0.00	1.52	0.00	0.00	0.00	1.52
Jackson	27,791	0.00	0.00	3.60	0.00	0.00	3.60	0.00
Jefferson	57,701	1.73	0.00	0.00	0.00	1.73	0.00	0.00
Kanawha	180,745	0.00	0.55	0.00	0.55	1.11	0.55	0.00
Lewis	17,033	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lincoln	20,463	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Logan	32,567	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marion	19,111	0.00	0.00	0.00	5.23	0.00	0.00	0.00
Marshall	56,205	0.00	0.00	0.00	0.00	0.00	1.78	0.00
Mason	30,591	0.00	0.00	3.27	0.00	0.00	0.00	3.27
McDowell	25,453	0.00	0.00	0.00	7.86	0.00	0.00	0.00
Mercer	59,664	0.00	0.00	1.68	0.00	0.00	0.00	0.00
Mineral	26,938	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mingo	23,568	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monongalia	105,822	0.94	1.89	0.00	1.89	3.78	0.00	1.89
Monroe	12,376	0.00	8.08	0.00	0.00	0.00	0.00	0.00
Morgan	17,063	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nicholas	24,604	0.00	0.00	0.00	0.00	4.06	4.06	0.00
Ohio	42,425	0.00	2.36	0.00	2.36	0.00	0.00	2.36
Pendleton	6,143	0.00	0.00	0.00	16.28	0.00	0.00	0.00
Pleasants	7,653	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pocahontas	7,869	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Preston	34,216	0.00	2.92	0.00	0.00	0.00	0.00	0.00

* Incidence rates must be interpreted with caution due to the smaller population of some counties.

NEWLY REPORTED VERIFIED CASES OF TUBERCULOSIS IN WEST VIRGINIA, 2016-2022
INCIDENCE RATES * (I-RATE) ARE SHOWN PER 100,000 RESIDENTS

COUNTY	POPULATION 2020 CENSUS	2016 I-RATE	2017 I-RATE	2018 I-RATE	2019 I-RATE	2020 I-RATE	2021 I-RATE	2022 I-RATE
Putnam	57,440	0.00	5.22	0.00	0.00	0.00	1.74	1.74
Raleigh	74,591	1.34	1.34	0.00	1.34	0.00	0.00	0.00
Randolph	27,932	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ritchie	8,444	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roane	14,028	0.00	7.13	0.00	0.00	0.00	0.00	0.00
Summers	11,959	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taylor	16,705	5.99	0.00	0.00	0.00	0.00	0.00	0.00
Tucker	6,762	0.00	0.00	0.00	0.00	0.00	0.00	14.79
Tyler	8,313	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upshur	23,816	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wayne	38,982	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Webster	8,378	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wetzel	14,442	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wirt	5,194	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wood	84,296	0.00	0.00	0.00	0.00	0.00	0.00	1.19
Wyoming	21,382	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1,793,716							
I-Rate for WV		0.76	0.86	0.32	0.54	0.70	0.32	0.59

* Incidence rates must be interpreted with caution due to the smaller population of some counties.

Latent Tuberculosis Infection (LTBI) Incidence/100,000 Population * by County, 2018-2022

COUNTY	POPULATION 2020 CENSUS	2018 Rate	2019 Rate	2020 Rate	2021 Rate	2022 Rate
Barbour	15,465	19.40	32.33	0.00	0.00	6.47
Berkeley	122,076	18.84	21.30	1.64	2.46	36.86
Boone	21,809	13.76	13.76	0.00	4.59	123.80
Braxton	12,447	16.07	0.00	0.00	0.00	8.03
Brooke	22,559	13.30	31.03	0.00	4.43	17.73
Cabell	94,350	22.26	57.23	7.42	1.06	52.99
Calhoun	6,229	0.00	32.11	0.00	0.00	0.00
Clay	8,051	0.00	12.42	0.00	0.00	0.00
Doddridge	7,808	25.61	12.81	0.00	0.00	38.42
Fayette	40,488	0.00	17.29	0.00	9.88	34.58
Gilmer	7,408	0.00	13.50	0.00	0.00	13.50
Grant	10,976	9.11	9.11	0.00	0.00	18.22
Greenbrier	32,977	18.19	12.13	66.71	0.00	48.52
Hampshire	23,093	8.66	0.00	0.00	0.00	17.32
Hancock	29,095	6.87	10.31	0.00	6.87	6.87
Hardy	14,299	62.94	27.97	48.95	0.00	6.99
Harrison	65,921	13.65	12.14	1.52	13.65	18.20
Jackson	27,791	3.60	10.79	0.00	0.00	0.00
Jefferson	57,701	8.67	19.06	0.00	0.00	36.39
Kanawha	180,745	18.26	23.79	10.51	9.96	60.86
Lewis	17,033	23.48	29.35	0.00	5.87	17.61
Lincoln	20,463	0.00	4.89	0.00	9.77	24.43
Logan	32,567	21.49	15.35	3.07	15.35	12.28
Marion	19,111	31.40	26.16	5.23	0.00	52.33
Marshall	56,205	1.78	10.68	0.00	0.00	1.78
Mason	30,591	6.54	9.81	0.00	9.81	9.81
McDowell	25,453	3.93	27.50	3.93	3.93	39.29
Mercer	59,664	18.44	13.41	0.00	20.11	43.58
Mineral	26,938	11.14	7.42	0.00	11.14	11.14
Mingo	23,568	8.49	4.24	4.24	4.24	16.97
Monongalia	105,822	38.74	20.79	16.06	15.12	31.18
Monroe	12,376	8.08	0.00	0.00	8.08	40.40
Morgan	17,063	0.00	0.00	0.00	0.00	17.58
Nicholas	24,604	16.26	4.06	0.00	8.13	8.13
Ohio	42,425	4.71	11.79	0.00	0.00	9.43
Pendleton	6,143	16.28	0.00	0.00	0.00	65.11
Pleasants	7,653	0.00	13.07	0.00	0.00	0.00
Pocahontas	7,869	0.00	0.00	0.00	25.42	12.71
Preston	34,216	8.77	8.77	0.00	8.77	8.77
Putnam	57,440	8.70	5.22	0.00	8.70	33.08
Raleigh	74,591	21.45	33.52	8.04	2.68	95.19
Randolph	27,932	7.16	3.58	0.00	25.06	17.90
Ritchie	8,444	11.84	11.84	11.84	0.00	23.69
Roane	14,028	0.00	7.13	0.00	21.39	49.90
Summers	11,959	16.72	8.36	0.00	0.00	50.17
Taylor	16,705	23.94	17.96	0.00	0.00	29.93
Tucker	6,762	14.79	0.00	0.00	0.00	14.79
Upshur	23,816	4.20	4.20	4.20	0.00	16.80
Wayne	38,982	5.13	5.13	0.00	2.57	17.96
Webster	8,378	11.94	0.00	0.00	0.00	23.87
Wetzel-Tyler**	22,755	13.18	17.58	0.00	4.39	13.18
Wirt	5,194	0.00	0.00	0.00	0.00	38.51
Wood	84,296	9.49	9.49	0.00	9.49	13.05
Wyoming	21,382	4.68	4.68	0.00	23.38	18.71
TOTAL	1,793,716	14.55	17.28	4.85	6.86	32.73

* Incidence rates must be interpreted with caution due to the small population of most counties.

**Wetzel-Tyler is a combined Health Department and their county populations are combined for this table.

**TUBERCULOSIS IN WEST VIRGINIA AND THE US
1982-2022**

<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>
2022	11	.54	8,300	2.5
2021	6	.32	7,860	2.37
2020	13	.70	7,163	2.2
2019	10	.54	8,920	2.7
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

**TUBERCULOSIS IN WEST VIRGINIA AND THE US
1982-2022
(cont'd)**

<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>
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
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

**TUBERCULOSIS DRUG RESISTANCE IN WV
2002 TO 2022**

<u>YEAR</u>	<u>MONO</u>	<u>MDR</u>	<u>2 OR MORE</u>
2022	0	0	0
2021	0	0	0
2020	0	0	0
2019	0	0	0
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