



WEST VIRGINIA VITAL STATISTICS 2021

SEVENTY-FIFTH ANNUAL REPORT

WEST VIRGINIA VITAL STATISTICS 2021



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TECHNICAL NOTES

The seventy-fifth annual vital statistics report includes the first in a series of updates to our data reporting procedures. This process is necessary to bring state reporting in line with national reporting standards and best practices. The 2021 report contains a brief overview of vital statistics; additional data visualizations, demographic-specific analysis, and topic-level reports will be published on our website: <https://dhhr.wv.gov/HSC/SS>.

A list of changes are as follows:

- Population: Although county and state population estimates are included within data tables available in this report and on the Health Statistics Center website, the population section has been removed.
- Births: Birth attendant title reporting has been adjusted to more accurately identify each health professional. Data reported prior to 2021 are not comparable to current data.
- Deaths: State-level age-adjusted mortality rates have been added to properly compare West Virginia mortality to that of the United States. ICD-10 level cause of death reporting has been removed due to the size of each data point.
- Infant and Fetal Deaths: ICD-10 level cause of death reporting has been removed due to the size of each data point.
- County-Level Data: County-level data has been removed from the vital statistics report. These data are located within the 2021 data tables on our website.
- City-Level Data: Data at this level have been removed from the report due to the size of each data point.

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Manager - Epidemiology Division
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2021 West Virginia and United States Vital Statistics Review

	West Virginia		United States***	
	Number	Rate*	Number	Rate*
Live Births	17,189	9.6	3,664,292	11.0
Deaths	29,402	16.5	3,464,231	10.4
Age-Adjusted Rate		12.2		8.8
Fetal Deaths	93	**5.4	N/A	N/A
Neonatal Deaths	74	**4.3	12,169	**3.3
Infant Deaths	121	**7.0	19,920	**5.4
Marriages	10,774	6.0	1,985,072	6.0
Divorces & Annulments	5,736	3.2	689,308	2.5
Population (2021 Census Estimate)	1,782,959		331,893,745	

*Rates based on the 2021 U.S. Census Estimate.

<http://census.gov/>

**Ratio/rate per 1,000 live births.

***CDC Wonder, National Center for Health Statistics and UNICEF Data Warehouse.

(Births) - <http://wonder.cdc.gov/>

(Deaths and Infant Deaths) - CDC Wonder <http://wonder.cdc.gov/>

<https://www.cdc.gov/nchs/nvss/vsrr/infant-mortality-dashboard.htm>

(Neonatal Deaths) - <https://data.unicef.org/topic/child-survival/neonatal-mortality/>

(Marriages and Divorces) *National Vital Statistics Report*.

<https://www.cdc.gov/nchs/data/dvs/marriage-divorce/national-marriage-divorce-rates-00-21.pdf>

<https://www.cdc.gov/nchs/fastats/marriage-divorce.htm>

Note: U.S. divorces exclude data from California, Hawaii, Indiana, Minnesota, and New Mexico.



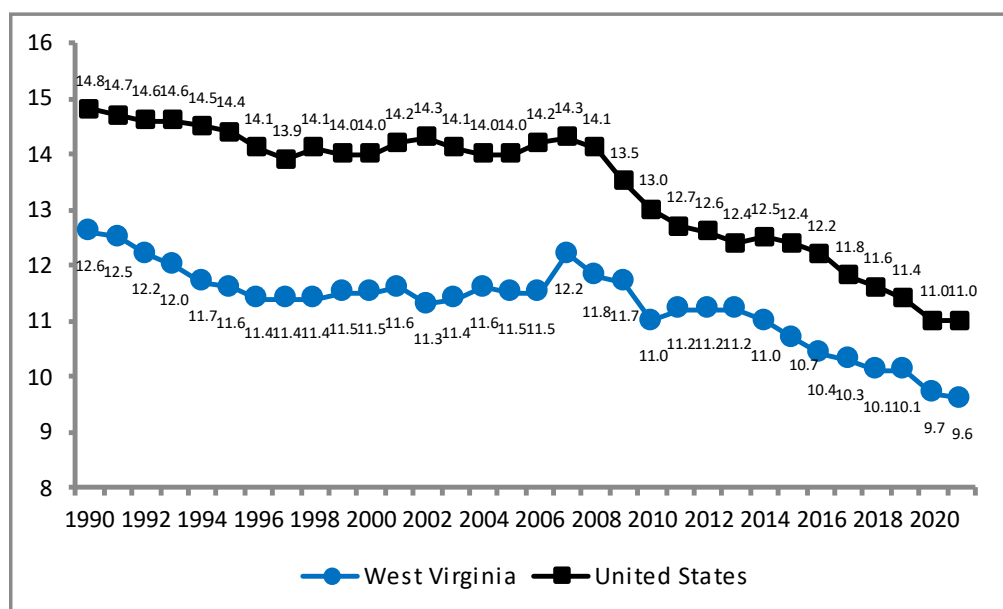
West Virginia Vital Statistics

Births

Birth Summary

West Virginia's resident live births decreased by 138, or 0.8%, from 17,327 in 2020 to 17,189 in 2021. This is the seventh consecutive year in which births are below 20,000. The 2021 birth rate decreased to 9.6 births per 1,000 population from 9.7 in 2020. The U.S. 2021 birth rate was 11.0 live births per 1,000 population the same as in 2020. As the graph below shows, West Virginia's birth rate has been well below the national rate since 1990. It continued its overall decline until 1996 and remained relatively stable from 1996 to 2006, decreased from 2008-2010 and 2012-2020 with a slight increase in 2007 and 2011.

West Virginia and United States Birth Rates, 1990-2021
Exhibit 1



* CDC Wonder - <http://wonder.cdc.gov>
West Virginia Bureau for Public Health
Health Statistics Center, Vital Statistics System, 2023

The 2021 U.S. fertility rate of 56.1 live births per 1,000 women aged 15-44 was higher than the 2020 rate (56.0). West Virginia's fertility rate decreased 1.6%, from 55.3 in 2020 to 54.4 in 2021. The fertility rate among women aged 15-19 years in West Virginia was 20.7 compared to the U.S. rate of 13.9, a difference of 39.3%. The fertility rate among women aged 20-44 years in West Virginia was 61.1 compared to the U.S. rate of 64.3, a difference of 5.1%. The fertility rate percentage difference among all women of childbearing ages (15-44) was 3.1% (54.4 vs. 56.1).

The number of births to adolescent and teen mothers (ages 10-19) decreased by 69 (6.0%), from 1,150 in 2020 to 1,081 in 2021. Adolescent and teen births have been below 2,000 for eight years consecutively. The percentage of total births represented by these births also decreased from 6.6% in 2020 to 6.3% in 2021. The lower fertility rate among older women, however, resulted in births with a

maternal age less than 20 continuing to constitute a higher proportion of total births than was found nationally (4.1% in 2021).

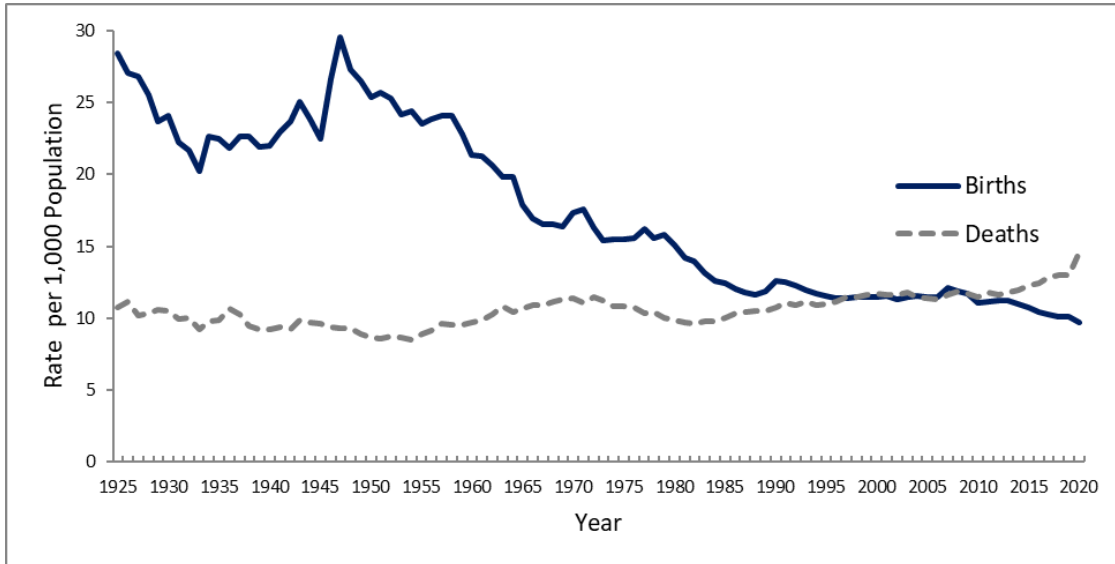
The percentage of births occurring out of wedlock decreased in 2021. Nearly 46% (45.5%) of West Virginia resident births were to unwed mothers compared to 46.6% in 2020. The percentages of white and black births that occurred out of wedlock in West Virginia in 2021 were 44.3% and 69.6%, respectively, compared to 45.4% and 71.8% in 2020. In the U.S. in 2021, 34.1% of births to white mothers and 69.9% of births to black mothers occurred out of wedlock.

A total of 1,682 low birthweight babies (those weighing less than 2,500 grams or 5½ pounds) were born to West Virginia residents in 2021, 9.8% of all births. Of the 1,682 low birthweight infants, 1,158 or 68.8% were preterm babies born before 37 weeks of gestation. Of all 2021 resident births with a known gestational age, 12.8% were preterm babies. In 2021, 9.4% of babies born to white mothers and 16.7% of babies born to black mothers were low birthweight. Nationally, 8.5% of all infants weighed less than 2,500 grams at birth in 2021: 7.2% of births to white mothers and 14.1% of births to black mothers.

In 2021, 80.0% of West Virginia mothers with known prenatal care began their care during the first trimester of pregnancy, compared with 78.3% of mothers nationwide. Among those with known prenatal care, 81.1% of white mothers began care during the first trimester and 75.2% of black mothers did so. U.S. figures show that 80.1% of white mothers and 69.7% of black mothers had first trimester care. No prenatal care was received by 2.0% of white mothers and 1.8% of black mothers in West Virginia.

Over one in six (18.3%) births in 2021 were to mothers who smoked during their pregnancy. National figures from 2021 show that 4.6% of women giving birth reported smoking during pregnancy. Among the West Virginia mothers who reported smoking during pregnancy, 17.0% of the babies born were low birthweight, compared with 8.2% among non-smoking mothers. More than one-third (34.0%) of 2021 state births were delivered by Cesarean section, compared with a national rate of 32.1%. One or more medical risk factors were reported in 46.5% of the state resident births in 2021 and one or more complications of labor and/or delivery were reported for 39.9% of the state resident births. Maternal drug use during pregnancy was reported in 8.1% of all resident births in 2021.

Number and Rate of Resident Births (Compared to Deaths)
West Virginia, 1925-2021
Exhibit 2



Year	Births		Deaths	
	Number of Live Births	Rate per 1,000 Population	Number of Deaths	Rate per 1,000 Population
1925	45,240	28.4	17,132	10.8
1930	41,614	24.1	18,220	10.5
1935	41,775	22.5	18,342	9.9
1940	41,900	22.0	17,577	9.2
1945	38,446	22.5	16,464	9.6
1950	50,850	25.4	17,459	8.7
1955	44,199	23.5	16,712	8.9
1960	39,696	21.3	18,040	9.7
1965	31,958	17.9	19,121	10.7
1970	30,194	17.3	19,924	11.4
1975	27,960	15.5	19,479	10.8
1980	29,438	15.1	19,178	9.8
1985	24,108	12.5	19,425	10.0
1990	22,582	12.6	19,360	10.8
1995	21,158	11.6	20,128	11.0
2000	20,860	11.5	21,127	11.7
2005	20,834	11.5	20,773	11.4
2010	20,471	11.0	21,278	11.5
2015	19,778	10.7	22,643	12.3
2016	19,070	10.4	22,721	12.4
2017	18,679	10.3	23,290	12.8
2018	18,243	10.1	23,462	13.0
2019	18,090	10.1	23,291	13.0
2020	17,327	9.7	26,108	14.6
2021	17,189	9.6	29,402	16.5

West Virginia Bureau for Public Health
Health Statistics Center, Vital Statistics System 2023

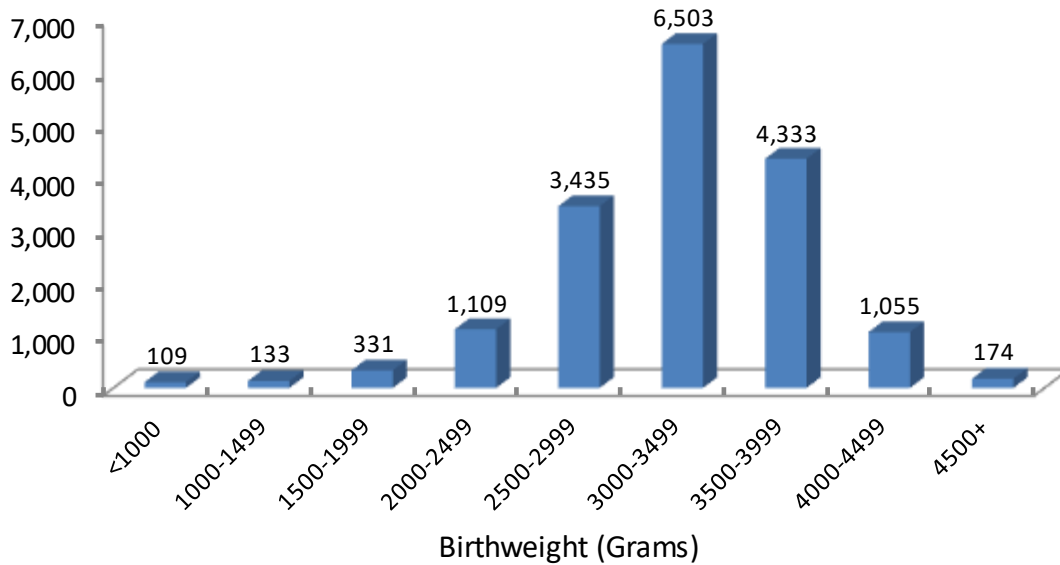
Summary Totals
West Virginia Resident Births, 2021
Table 1

Characteristic	Number	Percent	Characteristic	Number	Percent
Total	17,189	100.0%			
Gender			Mother's Marital Status		
Male	8,811	51.3%	White or Caucasian	8,780	55.7%
Female	8,378	48.7%	Married	6,995	44.3%
Unknown	0		Not Married		
			Unknown	1	
Race of Mother			Black or African American		
White or Caucasian	15,776	91.8%	Married	167	30.4%
Black or African American	550	3.2%	Not Married	383	69.6%
Asian, Hawaiian or Pacific Islander	195	1.1%	Unknown	0	
Native American or Aleutian	26	0.2%			
Two or More Races	429	2.5%	All Other Races		
All Other Races	22	0.1%	Married	338	50.3%
Unknown	191		Not Married	334	49.7%
Attendant at Birth			Unknown	0	
Physician	14,548	84.6%	Unknown		
Certified Nurse Midwife	2,331	13.6%	Married	19	26.8%
Direct Entry Midwife	60	0.3%	Not Married	52	73.2%
Lay Midwife	151	0.9%	Unknown	120	
EMT/Paramedic	0	0.0%			
Other	94	0.5%	Method of Delivery		
Unknown	1		Vaginal	11,055	64.3%
Place of Birth			Vaginal after Previous Cesarean Section	287	1.7%
Hospital	16,912	98.4%	Cesarean Section	5,845	34.0%
Home	202	1.2%	Primary	3,459	20.1%
Freestanding Birthing Center	37	0.2%	Repeat	2,386	13.9%
En Route to Hospital	0	0.0%	Unknown	2	
Clinic or Center	1	0.0%			
Other Specified Address (Not	37	0.2%	One or More Reported Factors		
Unknown	0		Medical Risk Factors	7,993	46.5%
Mother's Smoking Status			Complications of Labor and/or Delivery	6,855	39.9%
Smoked During Pregnancy	3,136	18.3%	Congenital Malformations	288	1.7%
			Abnormal Conditions of the Newborn	2,575	15.0%

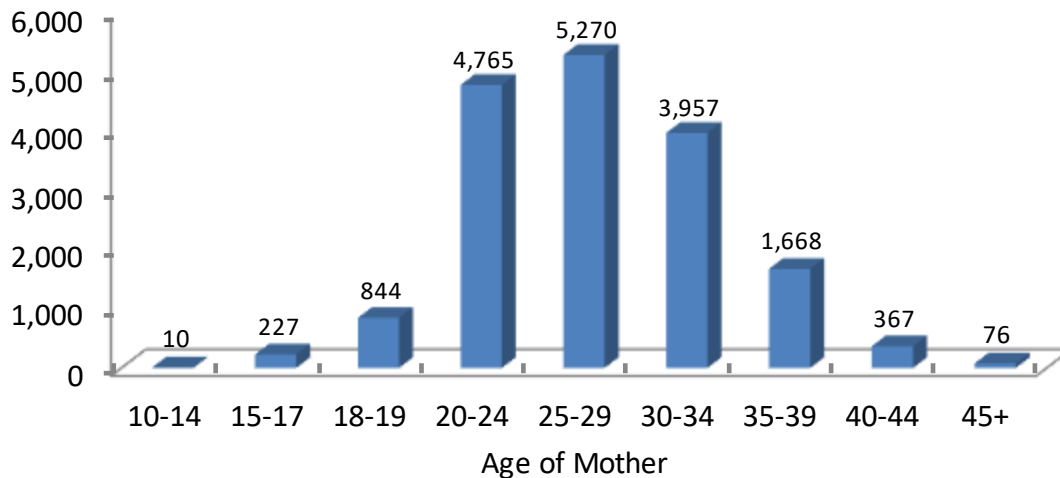
West Virginia Bureau for Public Health
Health Statistics Center, Vital Statistics System, 2023

Percentages are calculated excluding unknown.

Birthweight in Grams*
West Virginia Resident Births, 2021
Exhibit 3

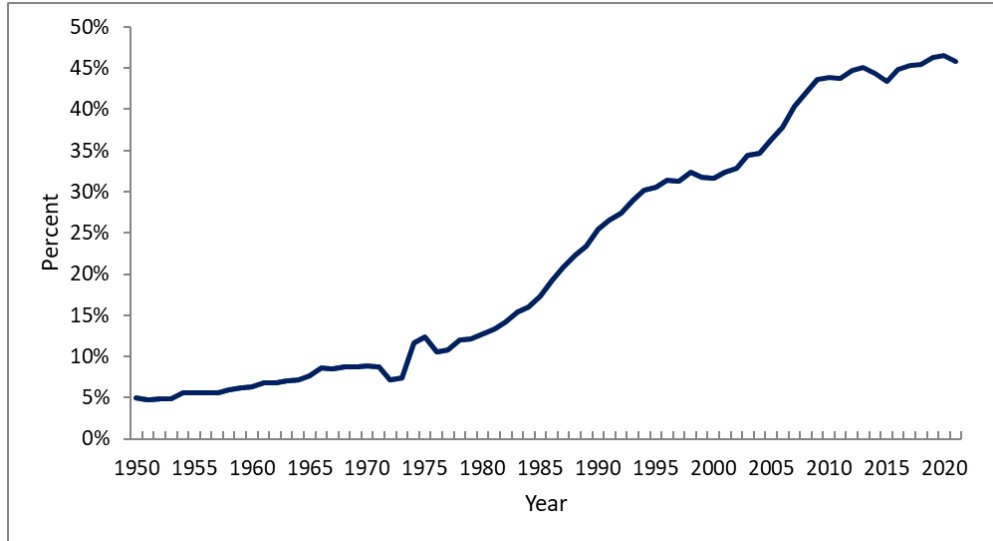


Age of Mother
West Virginia Resident Births, 2021
Exhibit 4



*See Appendix C, page 49 for grams/pounds conversion.
 West Virginia Bureau for Public Health
 Health Statistics Center, Vital Statistics System, 2023

Percent of Births to Unmarried Mothers
West Virginia Residents, 1950-2021
Exhibit 5



Year	Resident Births to Unmarried Mothers	
	Number	Percent of Total Births
1950	2,519	5.0%
1955	2,472	5.6%
1960	2,485	6.3%
1965	2,464	7.7%
1970	2,699	8.9%
1975	3,471	12.4%
1980	3,743	12.7%
1985	4,159	17.3%
1990	5,739	25.4%
1995	6,462	30.5%
2000	6,595	31.6%
2005	7,589	36.4%
2010	8,970	43.9%
2015	8,576	43.4%
2016	8,533	44.9%
2017	8,472	45.4%
2018	8,276	45.4%
2019	8,383	46.3%
2020	8,059	46.6%
2021	7,764	45.5%

West Virginia Bureau for Public Health
Health Statistics Center, Vital Statistics System, 2023

Out-of-State Occurrences
West Virginia Resident Births, 2017-2021

Table 2

State	2017 Births	2018 Births	2019 Births	2020 Births	2021 Births
Virginia	933	901	937	941	897
Maryland	626	612	576	597	602
Ohio	465	461	441	425	444
Kentucky	167	141	138	160	128
Pennsylvania	106	106	90	103	97
North Carolina	6	4	5	3	2
District of Columbia	2	6	5	6	3
Tennessee	1	2	4	5	4
Florida	1	6	4	5	1
Texas	0	3	1	4	1
South Carolina	1	1	4	0	1
Utah	1	2	0	1	0
California	2	0	2	3	1
Georgia	2	0	1	0	1
Michigan	1	2	0	0	1
New Jersey	2	1	0	0	0
All Other States/Countries	6	5	4	4	4
Total	2,322	2,253	2,212	2,257	2,187

Out-of-State Resident Births Born in West Virginia
West Virginia Occurrence Births, 2017-2021

Table 3

State	2017 Births	2018 Births	2019 Births	2020 Births	2021 Births
Ohio	1,728	1,788	1,837	1,745	1,705
Pennsylvania	329	370	477	759	879
Kentucky	419	465	384	404	363
Virginia	262	249	248	240	212
Maryland	105	102	100	119	135
North Carolina	5	8	4	6	4
Florida	2	8	7	2	2
Tennessee	6	7	5	2	3
Texas	6	7	7	1	2
New York	2	3	5	6	4
South Carolina	4	4	1	3	0
Georgia	3	4	5	3	4
Louisiana	2	4	3	0	0
Alabama	2	5	4	1	1
Michigan	1	3	1	3	1
Missouri	1	3	5	0	0
All Other States/Countries	21	21	37	16	17
Total	2,898	3,051	3,130	3,310	3,332

West Virginia Bureau for Public Health
Health Statistics Center, Vital Statistics System, 2023



West Virginia Vital Statistics

Deaths

Death Summary

The number of West Virginia resident deaths increased by 3,294, from 26,108 in 2020 to 29,402 in 2021. The crude death rate also increased: 14.6 deaths per 1,000 population in 2020 to 16.5 in 2021. The average age at death for West Virginians was 71.2 years: 68.5 for men and 74.1 for women. In 2020, the average age at death was 71.8 (69.0 for men and 74.9 for women). One-hundred and sixty-four West Virginia decedents were 100 years-of-age or older. The oldest man was 107 and the oldest women (4) were 108 years old at their time of death.

Heart disease, cancer, and COVID-19 were the three leading causes of death, accounting for 47.4% of West Virginia resident deaths in 2021. Heart disease was the leading cause of death in West Virginia for the sixth straight year. Compared with 2020, the number of state deaths due to heart disease increased by 407, or 7.9%, while cancer deaths increased by 81, or 1.7%. Deaths due to COVID-19 increased by 142.2% (2,105 additional deaths). Deaths attributed to the 5th leading cause of death, Chronic Lower Respiratory Disease, decreased by 45, or 2.8%. Diabetes mellitus deaths increased by 125, or 11.6%, while deaths due to cerebrovascular diseases, or stroke, increased by 7.4% (70). The number of deaths caused by Alzheimer's Disease, the eighth leading cause of death in 2021, decreased by 80, or 8.6%. Deaths due to chronic liver disease and cirrhosis increased by 26, or 6.7%. Nephritis, nephrotic syndrome, and nephrosis deaths also increased with 90 additional deaths (16.2%).

Accidental deaths were the fourth leading cause of death in West Virginia. The number of accidental deaths rose by 240 (10.7%), from 2,250 in 2020 to 2,490 in 2021. Accidents were the leading cause of death for ages one through 54 years. Motor vehicle accidents and accidental poisoning fatalities were the two leading causes of death for young adults aged 15 through 24, accounting for nearly half (47.3%) of all deaths for this age group in 2021. Motor vehicle accident deaths decreased by 5 or 1.7%, from 302 in 2020 to 297 in 2021. West Virginia's 2021 motor vehicle fatalities included three children under five years of age, one more than 2020. Accidental poisoning deaths were still a major concern in West Virginia, as they increased by 180 (13.7%) from 1,310 in 2020 to 1,490 in 2021. Accidental poisoning accounted for nearly sixty percent (57.0%) of all deaths in the age group of 25-34.

Suicides increased by 21, from 333 to 354 between 2019 and 2020. Male suicides increased by 31 or 11.9%, from 260 in 2019 to 291 in 2020. The number of female suicides (63) was ten less or 13.7% than the 73 in 2019. Over sixty percent (62.1%) of all suicide deaths were firearm related; 66.3% of male suicides and 42.9% of female suicides. The average age of death for suicide in 2020 was 47 years. While suicide was the 13th leading cause of death overall, it was the second leading cause of death for ages 15-34. The number of suicides among persons aged 19 and under was 11 in 2020, 8 fewer than in 2019.

The number of homicides remained the same at 116 for 2020 and 2021. Eighty-six of the homicide victims were male, 30 were female. The average age at death for a homicide victim in 2021 was 45 years. There were three homicide victims under the age of five in 2021, the same as in 2020. Over seventy percent (74.1%) of 2020 homicide deaths were due to firearms.

Whether or not tobacco was a contributory factor was not reported for over half of 2021 resident deaths. Where it was reported, tobacco was either a definite or a probable contributing factor, in 27.3% of deaths. There were 720 resident deaths among women of childbearing age, 15-44, with 26 (9.7%) of those women reported as either being pregnant at the time or within one year of their death. However, 452 of the deaths had an unknown or no listing. Under half (47.0%) of the 306 motor vehicle accident deaths reported whether a seatbelt was worn. Only 36.1% of those deaths reported a seatbelt was worn at the time of death. The transportation role was more accurately reported with 120 (39.2%) of the 306 motor vehicle deaths. Over four out of ten (40.8%) of the motor vehicle fatalities were the driver and 22.5% were the passenger. The remaining 36.7% involved a pedestrian or some other role.

The statistics presented in this publication refer to resident data unless otherwise indicated. A resident death is determined by where the decedent last lived at the time of death. An occurrence death is determined by where the decedent died. If a person lived in West Virginia but died in Wisconsin, that is defined as a West Virginia resident death and will be included as part of West Virginia's resident statistics; however, it is considered a Wisconsin occurrence.

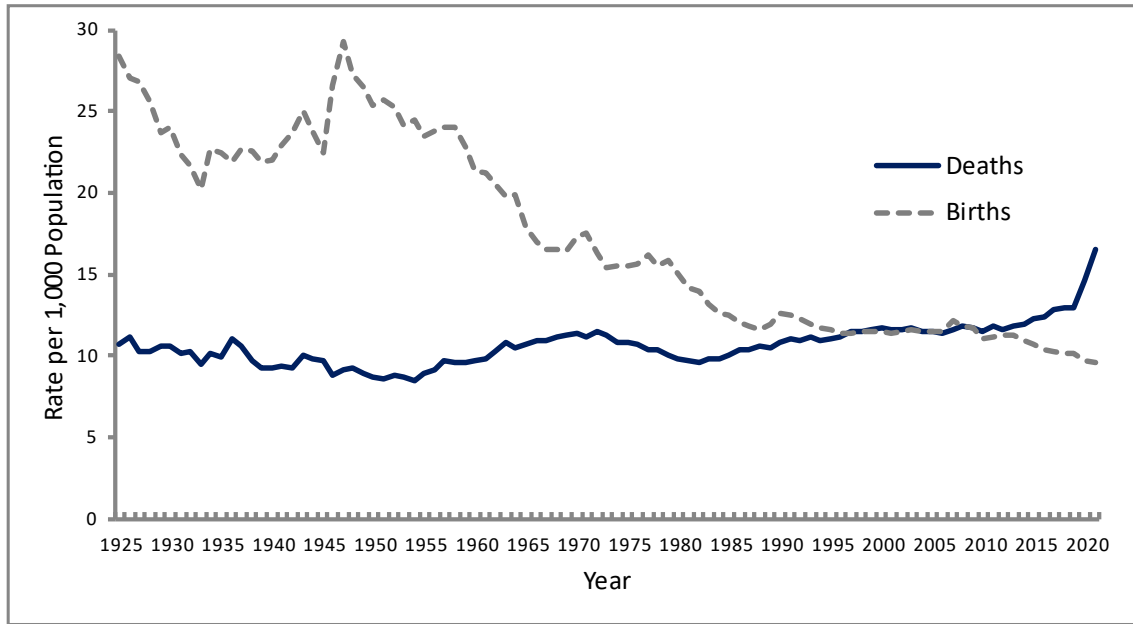
Years of Potential Life Lost (YPLL)

The YPLL is a measure of mortality calculated as the difference between age 75 (an average life span) and the age at death. Using YPLL before age 75, the sum of YPLL across all causes of death represents the total YPLL for all persons dying before the age of 75. A person dying at the age of 22 would, therefore, contribute 53 years to the total YPLL ($75-22=53$). YPLL is an important tool in emphasizing and evaluating causes of premature death.

The YPLL from all causes increased 16.1%, from 213,760 in 2020 to 248,104 in 2021. The four leading causes of YPLL in 2021 were non-motor vehicle accidents (52,408 YPLL), malignant neoplasms (33,164 YPLL), diseases of the heart (31,045 YPLL), and COVID-19 (27,958 YPLL). Combined, these four causes accounted for over half (58.3%) of all years of potential life lost in 2021. In comparison to 2020, YPLL attributed to non-motor vehicle accidents decreased from 22.2% to 21.1% of the total YPLL, malignant neoplasms decreased from 15.4% to 13.4%, YPLL due to diseases of the heart decreased from 13.0% to 12.5%, and the percentage of total YPLL due to COVID-19 increased from 2.5% to 11.3%.

Note: All percentage differences in this summary are calculated by using the previous year's result as the denominator.

Number and Rate of Resident Deaths (Compared to Births)
West Virginia, 1925-2021
Exhibit 6



Year	Deaths		Births	
	Number of Deaths	Rate per 1,000 Population	Number Of Live Births	Rate per 1,000 Population
1925	17,132	10.8	45,240	28.4
1930	18,220	10.5	41,614	24.1
1935	18,342	9.9	41,775	22.5
1940	17,577	9.2	41,900	22.0
1945	16,464	9.6	38,446	22.5
1950	17,459	8.7	50,850	25.4
1955	16,712	8.9	44,199	23.5
1960	18,040	9.7	39,696	21.3
1965	19,121	10.7	31,958	17.9
1970	19,924	11.4	30,194	17.3
1975	19,479	10.8	27,960	15.5
1980	19,178	9.8	29,438	15.1
1985	19,425	10.0	24,108	12.5
1990	19,360	10.8	22,582	12.6
1995	20,128	11.0	21,158	11.6
2000	21,127	11.7	20,860	11.5
2005	20,773	11.4	20,834	11.5
2010	21,278	11.5	20,471	11.0
2015	22,643	12.3	19,778	10.7
2016	22,721	12.4	19,070	10.4
2017	23,290	12.8	18,679	10.3
2018	23,462	13.0	18,243	10.1
2019	23,291	13.0	18,090	10.1
2020	26,108	14.6	17,327	9.7
2021	29,402	16.5	17,189	9.6

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Summary Totals
West Virginia Resident Deaths, 2021
Table 4

Characteristic	Number	Percent	Characteristic	Number	Percent
<u>Total</u>			<u>Place Death Occurred</u>		
Residence	29,402	100.0%	WV Hospital	10,191	34.7%
Occurrence	28,836		Home	9,316	31.7%
			Licensed Nursing Home/LTC	3,861	13.1%
<u>Gender</u>			Hospice Care	2,553	8.7%
Male	15,597	53.1%	Out-of-State Hospital	1,943	6.6%
Female	13,803	46.9%	Other Personal Care	1,475	5.0%
			En Route to Hospital	63	0.2%
<u>Disposition of Death</u>			Clinic or Center	0	0.0%
Burial	13,906	47.3%	Other	0	0.0%
Cremation	13,130	44.7%	Unknown	0	
Removal from State	1,300	4.4%			
Donation	381	1.3%	<u>Race</u>		
Entombment/Other	675	2.3%	White or Caucasian	28,360	96.5%
Unknown	10		Black or African American	900	3.1%
			All Other Races	137	0.5%
<u>Age at Death</u>			<u>Leading Causes of Death</u>		
Less than One Year of Age	121	0.4%	Diseases of the Heart	5,538	18.8%
One to Four Years	21	0.1%	Malignant Neoplasms	4,806	16.3%
Five to Fourteen Years	38	0.1%	COVID-19	3,585	12.2%
Fifteen to Nineteen Years	71	0.2%	Accidents, All Forms	2,490	8.5%
Twenty to Twenty-Four Years	149	0.5%	Chronic Lower Respiratory Disease	1,565	5.3%
Twenty-Five to Thirty-Four Years	649	2.2%	Diabetes Mellitus	1,202	4.1%
Thirty-Five to Forty-Four Years	1,213	4.1%	Cerebrovascular Disease	1,020	3.5%
Forty-Five to Fifty-Four Years	2,034	6.9%	Alzheimer's Disease	851	2.9%
Fifty-Five to Sixty-Four Years	4,398	15.0%	Nephritis, Neph. Syndrome, and Nephrosis	646	2.2%
Sixty-Five to Seventy-Four Years	6,906	23.5%	Chronic Liver Disease and Cirrhosis	415	1.4%
Seventy-Five to Eighty-Four Years	7,104	24.2%	All Other Causes (Residual)	7,284	24.8%
Eighty-Five Years and Older	6,698	22.8%			

Note: En Route to Hospital includes any patient status listed as Dead-on-Arrival
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Out-of-State Occurrences
West Virginia Resident Deaths, 2017-2021
Table 5

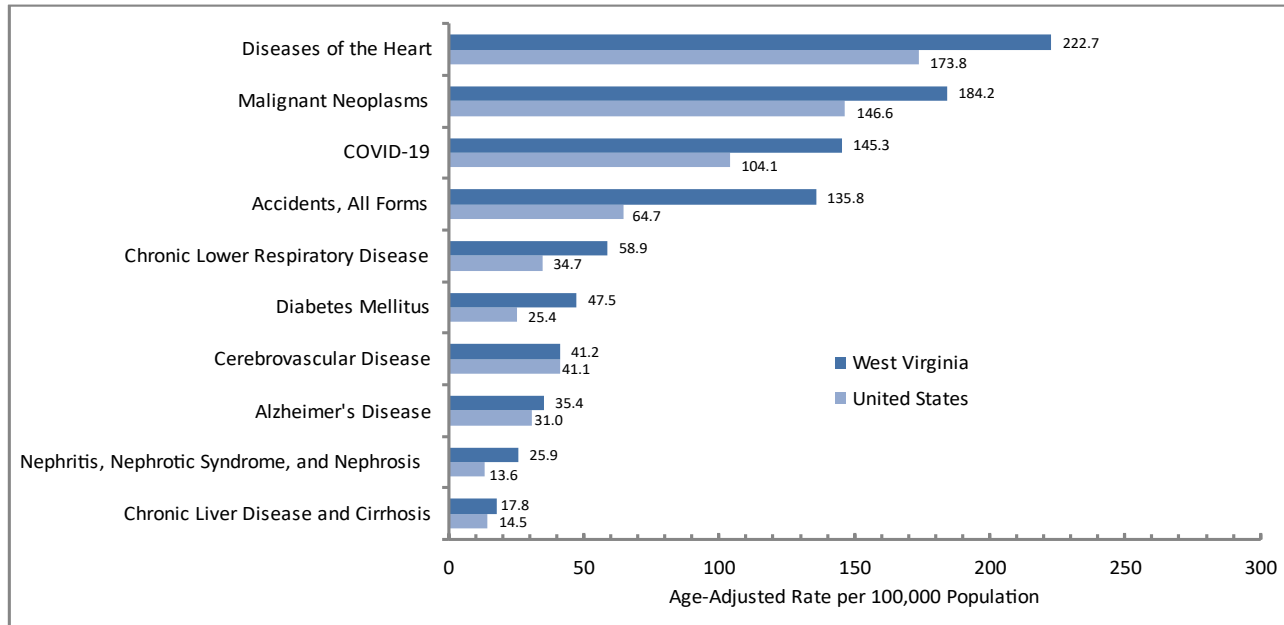
State	2017 Deaths	2018 Deaths	2019 Deaths	2020 Deaths	2021 Deaths
Ohio	671	665	555	658	770
Virginia	621	537	548	591	629
Maryland	281	286	256	326	320
Pennsylvania	293	254	270	252	285
Kentucky	252	238	280	334	398
North Carolina	77	74	62	55	62
Florida	47	59	58	57	57
Tennessee	22	37	17	23	21
South Carolina	23	21	17	22	24
District of Columbia	16	16	7	20	30
California	8	8	8	6	8
Georgia	0	0	0	0	24
Texas	9	8	9	7	14
Indiana	8	8	1	3	4
All Other States/Countries	52	50	52	42	43
Total	2,380	2,261	2,140	2,396	2,689

Deaths to Out-of-State Residents
West Virginia Occurrence Deaths, 2017-2021
Table 6

State	2017 Deaths	2018 Deaths	2019 Deaths	2020 Deaths	2021 Deaths
Ohio	818	840	911	1,009	1,092
Pennsylvania	177	183	194	250	321
Virginia	178	192	183	184	201
Maryland	187	164	174	181	182
Kentucky	145	156	151	170	146
Florida	39	35	32	31	31
North Carolina	18	24	32	25	29
Michigan	21	14	10	7	8
South Carolina	16	16	9	10	11
Texas	9	8	11	7	9
New York	4	8	10	7	5
Tennessee	8	7	6	4	11
Georgia	2	7	5	9	13
Illinois	6	4	1	4	2
All Other States/Countries	38	62	34	51	56
Total	1,666	1,720	1,763	1,949	2,117

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2021 West Virginia and United States Resident Deaths
Leading Causes of Death, Age-Adjusted Mortality Rates
Exhibit 7



Leading Cause of Death	West Virginia			United States*		
	Number of Deaths	Rate per 100,000 Population	Percent of Total	Number of Deaths	Rate per 100,000 Population	Percent of Total
Diseases of the Heart	5,538	222.7	18.8%	695,547	173.8	20.1%
Malignant Neoplasms	4,806	184.2	16.3%	605,213	146.6	17.5%
COVID-19	3,585	145.3	12.2%	416,893	104.1	12.0%
Accidents, All Forms	2,490	135.8	8.5%	224,935	64.7	6.5%
Chronic Lower Respiratory Disease	1,565	58.9	5.3%	142,342	34.7	4.1%
Diabetes Mellitus	1,202	47.5	4.1%	103,294	25.4	3.0%
Cerebrovascular Disease	1,020	41.2	3.5%	162,890	41.1	4.7%
Alzheimer's Disease	851	35.4	2.9%	119,399	31.0	3.4%
Nephritis, Nephrotic Syndrome, and Nephrosis	646	25.9	2.2%	54,358	13.6	1.6%
Chronic Liver Disease and Cirrhosis	415	17.8	1.4%	56,585	14.5	1.6%

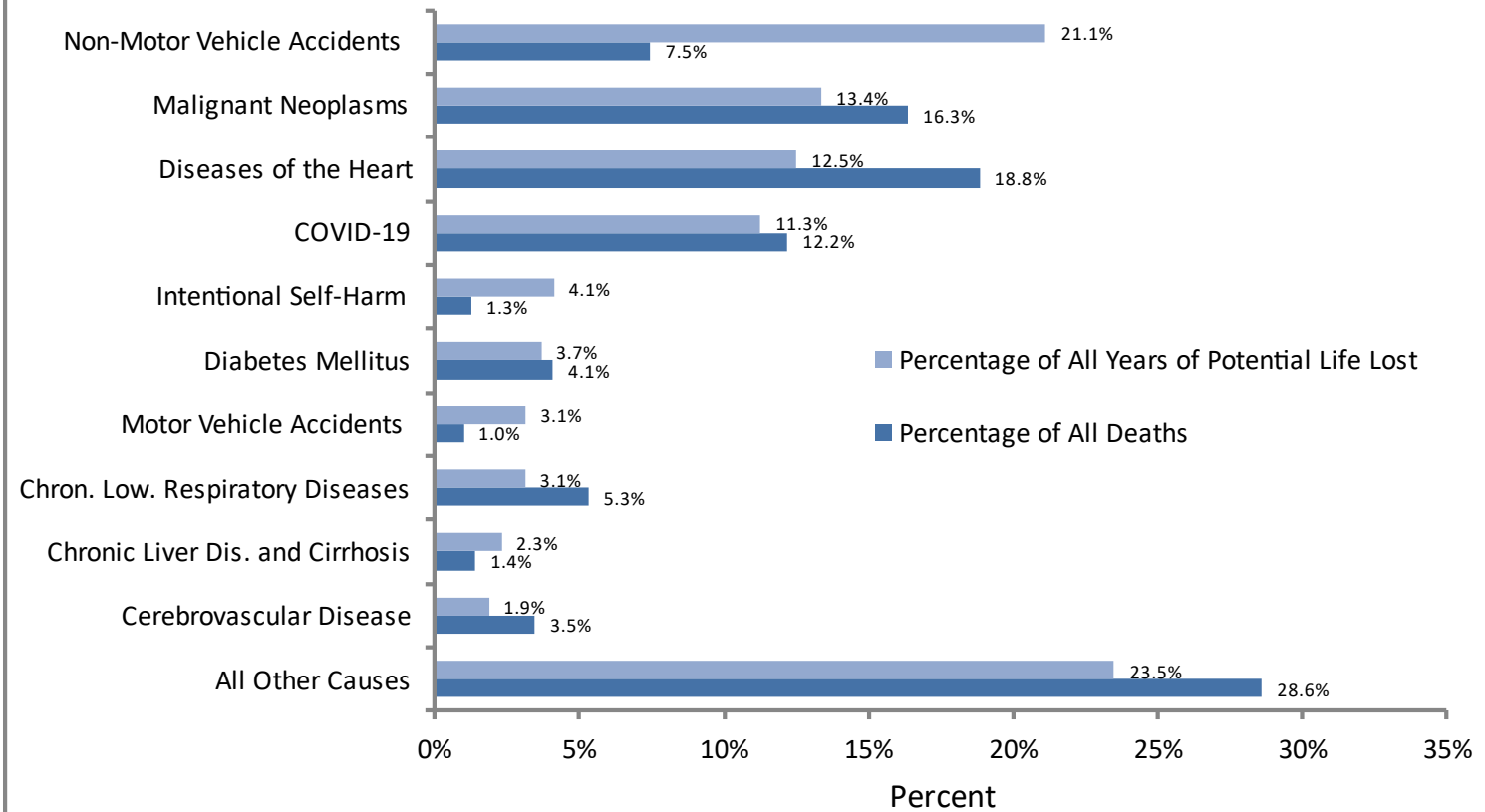
* CDC Wonder - <http://wonder.cdc.gov>

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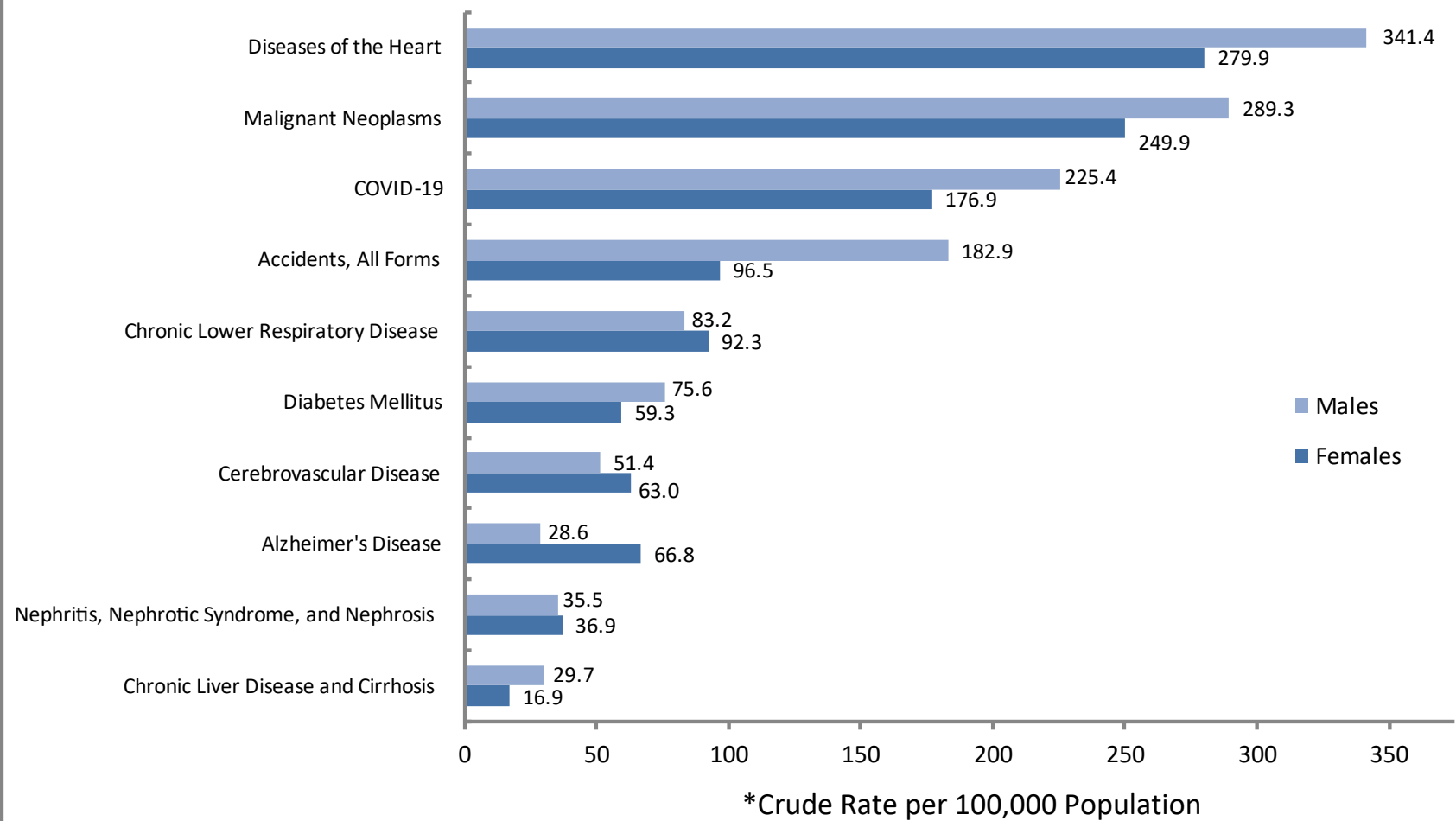
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Top Ten Causes of Years of Potential Life Lost Before Age 75
Compared to Resident Deaths of All Ages
West Virginia Resident Deaths, 2021

Exhibit 8



2021 Ten Leading Causes of Death by Gender West Virginia Resident Death Rates* Exhibit 9



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*Using 2021 Census data for WV: Males = 889,098; Females = 893,861



West Virginia Vital Statistics
Infant & Fetal Deaths

Infant and Fetal Death Summary

Deaths of infants under one year of age decreased by 10 from 131 in 2020 to 121 in 2021. West Virginia's infant mortality rate decreased (7.9%) from 7.6 per 1,000 live births in 2020 to 7.0 in 2021. The U.S. infant mortality rate was 5.4 in 2021.

The following table shows the decline in the national and state infant mortality rates from 1950 through 2021.

1950 – 2021 Infant Mortality
West Virginia and United States
(Number and Rate per 1,000 Live Births)

Year	West Virginia	United States
1950	31.4	29.2
1955	27.1	26.4
1960	25.3	26.0
1965	27.1	24.5
1970	23.3	20.0
1975	18.3	16.1
1980	11.8	12.6
1985	10.7	10.6
1990	9.8	9.1
1995	7.6	7.5
2000	7.6	6.9
2005	8.1	6.9
2010	7.3	6.1
2011	6.8	6.0
2012	7.3	6.0
2013	7.5	6.0
2014	7.1	5.8
2015	7.0	5.9
2016	7.3	5.8
2017	7.1	5.8
2018	7.0	5.7
2019	6.2	5.6
2020	7.6	5.4
2021	7.0	5.4

The state's 2021 white infant mortality rate decreased from 7.1 in 2020 to 6.6 in 2021, and the rate for black infants increased from 9.4 to 16.4. West Virginia's 2021 race-specific infant mortality rates and comparable U.S. rates are shown in the table on the following page.

2021 West Virginia and United States Infant Mortality by Race of Infant (Number and Rate per 1,000 Live Births)

Race of Infant	West Virginia		United States	
	Number	Rate	Number	Rate
All Races	121	7.0	19,920	5.4
White	104	6.6	11,981	4.4
Black	9	16.4	6,006	10.4
Other	8	9.3	1,933	5.1

*Source: <http://wonder.cdc.gov/>
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Twenty (16.5%) infant deaths in 2021 were due to SUIDS (sudden unexplained infant death syndrome). Almost one in five (24.8%) was the result of congenital malformations, while 43.0% were due to certain conditions originating in the perinatal period, including disorders relating to short gestation and unspecified low birthweight (13.2%).

Neonatal/Postneonatal Deaths

The number of neonatal deaths decreased by 11, from 85 in 2020 to 74 in 2021; the neonatal death rate also decreased from 4.9 deaths per 1,000 live births among infants aged less than 28 days in 2020 to 4.3 in 2021. Neonatal deaths comprised 61.2% of all West Virginia resident infant deaths in 2021, compared with 64.9% in 2020. The state rate of postneonatal deaths remained the same at 2.7 deaths per 1,000 neonatal survivors. The 2021 U.S. neonatal death rate was 3.3, while the postneonatal rate was 2.1 deaths per 1,000 live births.

Fetal Deaths

Fetal deaths are registered when birthweight is at least 350 grams or if the weight is unknown, those occurring after 20 or more weeks gestation.

The 93 resident fetal deaths reported with a birthweight of at least 350 grams or occurring after 20 or more weeks of gestation (if the weight is unknown) in 2021 were 10 more than in 2020 (83). The fetal death ratio increased from 4.8 deaths per 1,000 live births in 2020 to 5.4 in 2021. All but one of the fetal deaths were due to conditions originating in the perinatal period, including short gestation and low birthweight (48.4%).

Fetal Deaths, Neonatal Deaths and Postneonatal Deaths: Number and Rate/Ratio
West Virginia Resident Deaths, 1925-2021

Table 7

Year	Fetal Deaths		Neonatal Deaths		Postneonatal Deaths		
	Number	Ratio per 1,000 Live Births	Number	Rate per 1,000 Live Births	Number	Rate per 1,000 Live Births	Rate per 1,000 Neonatal Survivors*
1925	1,740	38.5	N/A	N/A	N/A	N/A	N/A
1930	1,547	37.2	N/A	N/A	N/A	N/A	N/A
1935	1,647	39.4	1,467	35.1	1,071	25.6	26.6
1940	1,483	35.4	1,321	31.5	937	22.4	23.1
1945	1,594	41.5	1,085	28.2	928	24.1	24.8
1950	1,126	22.1	1,184	23.3	665	13.1	13.4
1955	813	18.4	847	19.2	351	7.9	8.1
1960	583	14.7	713	18.0	292	7.4	7.5
1965	575	18.0	649	20.3	218	6.8	7.0
1970	513	17.0	542	18.0	163	5.4	5.5
1975	323	11.6	385	13.8	128	4.6	4.6
1980	275	9.3	235	8.0	112	3.8	3.8
1985	208	8.6	175	7.3	82	3.4	3.4
1990	168	7.4	142	6.3	80	3.5	3.6
1995	143	6.8	103	4.9	57	2.7	2.7
2000	142	6.8	103	4.9	56	2.7	2.7
2005	115	5.5	106	5.1	62	3.0	3.0
2010	83	4.1	82	4.0	68	3.3	3.3
2015	86	4.3	85	4.3	54	2.7	2.7
2016	96	5.0	84	4.4	55	2.9	2.9
2017	107	5.7	78	4.2	55	2.9	3.0
2018	103	5.6	78	4.3	50	2.7	2.8
2019	86	4.8	74	4.1	38	2.1	2.1
2020	83	4.8	85	4.9	46	2.7	2.7
2021	93	5.4	74	4.3	47	2.7	2.7

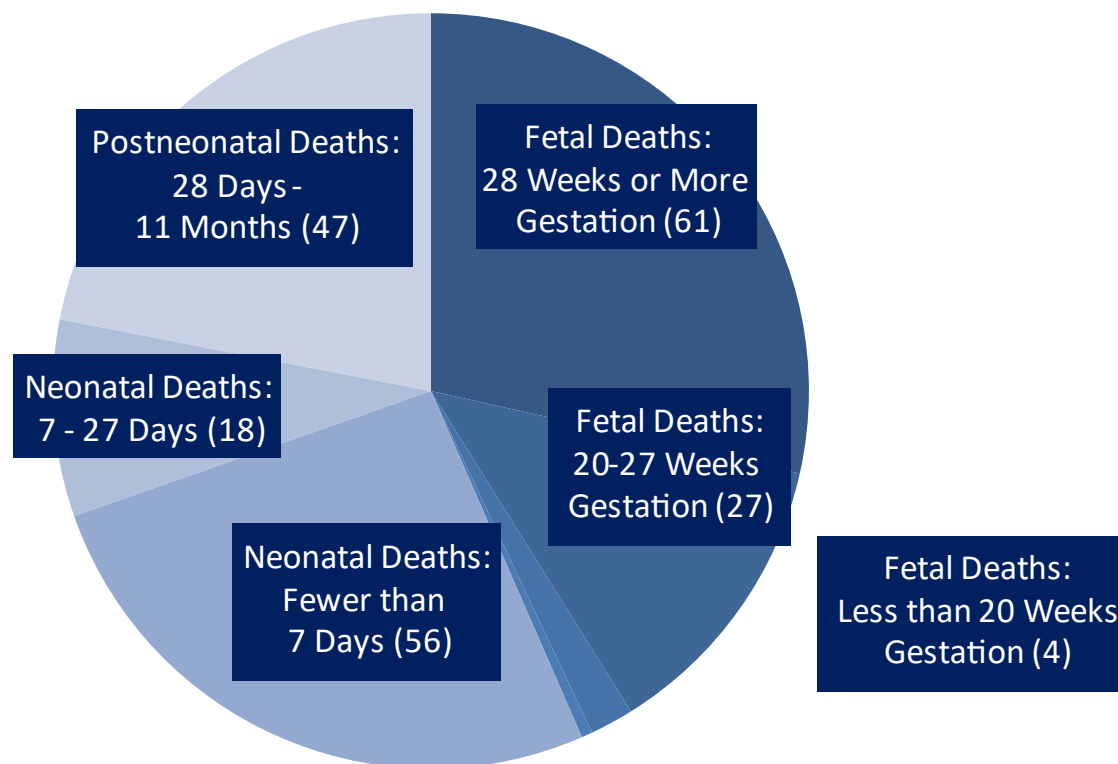
*Neonatal Survivors are live births minus neonatal deaths

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Fetal Deaths, Neonatal Deaths and Postneonatal Deaths West Virginia Resident Perinatal Deaths, 2021

Exhibit 10



West Virginia Bureau for Public Health
Health Statistics Center, Vital Statistics System, 2023

**Births and Infant Deaths by Selected Risk Factors and Demographics
West Virginia Residents, 2021
Table 8**

Factor	Births		Infant Deaths	
	Number	Percent*	Number	Percent*
Total	17,189		121	
Birthweight < 2,500 Grams	1,682	9.8%	76	67.9%
Birthweight < 1,500 Grams	242	1.4%	49	43.8%
Gestational Age < 37 Weeks	2,199	12.8%	71	62.8%
Gestational Age 37-38 Weeks	5,480	31.9%	20	17.7%
Gestational Age 39+ Weeks	9,486	55.3%	22	19.5%
Age of Mother < 20 Years	1,081	6.3%	14	12.3%
Age of Mother < 15 Years	10	0.1%	0	0.0%
Unmarried Mothers	7,764	45.5%	66	58.4%
Mothers Using Tobacco	3,136	18.3%	34	30.1%
White or Caucasian Mothers	15,776	92.8%	106	93.8%
Black or African American Mothers	550	3.2%	4	3.5%
Mothers of Other Races	672	4.0%	3	2.7%
Mothers of Unknown Race	191		8	

*Percentages are calculated excluding unknown numbers.

West Virginia Bureau for Public Health

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West Virginia Vital Statistics
**Induced Terminations
of Pregnancy (ITOP)**

Induced Terminations of Pregnancy (ITOP) Summary

The annual reporting of induced termination of pregnancy (ITOP), was mandated in the W.Va. Code, beginning June 30, 2016. An ITOP is a purposeful interruption of an intrauterine pregnancy with the intention other than to produce a live-born infant and which does not result in a live birth. The management of prolonged retention of products of conception following fetal death is excluded. The major distinguishing feature of this event is the fact that it is “purposeful” rather than spontaneous. A spontaneous interruption of a pregnancy is also known as a fetal death, or a spontaneous abortion or, more commonly, as a miscarriage or a stillbirth.

One of the primary differences between the reporting of ITOP statistics and birth and death statistics in this publication is that ITOP statistics reflect events that occurred in West Virginia only. Due to exchange agreements with other states, births and deaths to West Virginia residents that occur elsewhere are reported back to the state, making it possible to ascertain the number of births and deaths among state residents within a time frame regardless of where the event occurred. Information on the number of West Virginia residents who obtain an ITOP in another state is infrequently reported back to West Virginia by the state where the procedure took place, normally due to restrictions within the other state’s legal code.

The only free-standing clinic that performs ITOP on demand in West Virginia is in Charleston, which makes the likelihood of out-of-state ITOP greater in some regions of the state. It is unlikely that most women living in the northern or eastern panhandles of the state would seek an ITOP in West Virginia. Due to known incomplete reporting, the procedures performed on West Virginia residents in other states have been excluded from the compiled statistics.

W.Va. Code §16-2I-2* requires clinics to provide counseling and informational guidance to females seeking an abortion. All 2021 ITOP records indicate the female received counseling, compared to all but two in 2020. There are some isolated incidents where the ITOP needs to be performed due to a medical emergency. In 2021, there were six ITOP performed due to a medical emergency, compared to four in 2020.

In 2021, there were 1,375 ITOP performed in West Virginia, 373 or 37.4% more than in 2020 (1,001). Over five out six (83.9%) ITOP involved a West Virginia resident, while 6.9% were Kentucky residents and 7.1% were residents of Ohio, compared with 2020 percentages of 84.8%, 6.5%, and 7.6%, respectively. The median age of women having an ITOP in 2020 was 27, compared to 26 in 2020. There were 42 procedures in 2021 involving females under the age of 18, of which 41 were performed on unemancipated** minors, compared with 31 in 2020. More than eight out of every ten (84.1%) of the 2021 ITOP performed in West Virginia involved women who were not married at the time. Nearly three in ten (29.6%) of the 2021 ITOP involved women who had never had a previous live birth, while 82.0% were to women who had two or fewer children. There were 13 ITOP performed on women who had six or more children. Over sixty-six percent of ITOP (66.1%) involved women for whom it was their first ITOP, while nearly all (94.8%) involved women who had two or fewer previous ITOP. Five ITOP involved women who previously had six or more ITOP.

* In effect in 2021.

* For the purpose of ITOP reporting, unemancipated minor means any person under the age of 18 years who has not graduated from high school and is neither married nor who has been otherwise emancipated.

Induced Terminations of Pregnancy
By Age of Female and Weeks of Gestation
West Virginia Occurrences, 2021

Table 9

Age of Female	Weeks of Gestation							Total
	Less than 9	9-10	11-12	13-15	16-19	20 or More	Unknown	
10-14	4	0	0	0	1	0	0	5
15-17	16	6	7	6	2	0	0	37
18-19	61	17	6	3	0	0	0	87
20-24	277	83	25	17	5	0	0	407
25-29	246	56	27	28	4	1	0	362
30-34	176	50	18	18	4	3	0	269
35-39	109	33	12	5	5	1	0	165
40-44	22	6	6	5	2	1	0	42
45+	1	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0
Total	912	251	101	82	23	6	0	1,375

Note: Gestational age is the physician's estimate of gestation (clinical/obstetric estimate).

If the physician's estimate of gestation is not available, it is calculated from the date of onset of last normal menses.

Induced Terminations of Pregnancy
By Age of Female and Marital Status
West Virginia Occurrences, 2021

Table 10

Age of Female	Marital Status						Total
	Married	Never Married	Divorced	Separated	Widowed	Unknown	
10-14	0	5	0	0	0	0	5
15-17	0	37	0	0	0	0	37
18-19	2	85	0	0	0	0	87
20-24	22	365	9	10	1	0	407
25-29	58	258	29	16	1	0	362
30-34	74	165	22	8	0	0	269
35-39	54	82	18	10	1	0	165
40-44	9	21	8	0	4	0	42
45+	0	1	0	0	0	0	1
Unknown	0	0	0	0	0	0	0
Total	219	1,019	86	44	7	0	1,375

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Induced Terminations of Pregnancy
By Age of Female and Previous Live Births
West Virginia Occurrences, 2021

Table 11

Age of Female	Previous Live Births						Total
	None	One	Two	Three	Four or More	Unknown	
10-14	5	0	0	0	0	0	5
15-17	36	1	0	0	0	0	37
18-19	70	13	3	1	0	0	87
20-24	176	133	75	21	2	0	407
25-29	63	106	117	55	21	0	362
30-34	35	65	92	38	39	0	269
35-39	12	41	54	37	21	0	165
40-44	9	11	10	8	4	0	42
45+	1	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0
Total	407	370	351	160	87	0	1,375

Previous Induced Terminations of Pregnancy
By Age of Female
West Virginia Occurrences, 2021

Table 12

Age of Female	Previous Induced Terminations						Total
	None	One	Two	Three	Four or More	Unknown	
10-14	5	0	0	0	0	0	5
15-17	34	3	0	0	0	0	37
18-19	72	12	2	0	1	0	87
20-24	329	55	16	7	0	0	407
25-29	214	98	36	8	6	0	362
30-34	143	80	26	13	7	0	269
35-39	93	33	16	11	12	0	165
40-44	19	12	5	4	2	0	42
45+	0	0	1	0	0	0	1
Unknown	0	0	0	0	0	0	0
Total	909	293	102	43	28	0	1,375

West Virginia Bureau for Public Health
Health Statistics Center, Vital Statistics System, 2023



West Virginia Vital Statistics
Marriages & Divorces

Marriages

The total number of marriages in West Virginia increased for the first time since 2011 with 10,774 in 2021. Of these, 10,473 were male-female marriages while 301 were same-sex marriages. The marriage rate in 2021 was 6.0 per 1,000 population, higher than the 2020 rate of 5.6. The 2021 U.S. provisional rate was also 6.0.

For male-female marriages in 2021, the average age was 33 for brides and 35 for grooms. The most frequently reported ages for male-female marriages were 25 for brides and 25 for grooms. There were 35 brides and 4 grooms aged less than 18. The youngest brides were 16 (13) and the youngest grooms were 17 (4). There were 226 brides and 399 grooms over the age of 65.

There were 301 same-sex marriages in 2021 compared to 239 in 2020. Of the 301 same-sex marriages, 73 included two males and the remaining 228 included two females. The average age for these same-sex marriages was 34: 35 for males, 33 for females. The most frequently reported age for same-sex marriages was 26 for both: 27 for males, 26 for females. There were 15 same-sex marriages involving someone over the age of 65: 5 for males and 10 for females.

Divorces and Annulments

The number of reported divorces and annulments increased by 291 or 5.3%, from 5,445 in 2020 to 5,736 in 2021. The 2021 rate of 3.2 per 1,000 population was higher than the 2020 rate of 3.0.

Among the 5,736 reported divorces in West Virginia in 2021, the most common duration of marriage was 3 years. One out of every four (25.0%) West Virginia divorces with a known duration in 2021 involved marriages lasting two years or less, while 9.2% involved marriages of 25 years or longer. One divorce involved either a petitioner or respondent aged less than 18. During 2021, divorces involved 220 petitioners and 206 respondents aged 65 or older.

Of the 5,736 reported divorces and annulments, 113 involved same-sex couples. Of the 5,623 male-female divorces in West Virginia in 2021, the most common duration of marriage was 2 years. Nearly 25.0% (24.7%) of West Virginia male-female divorces with a known duration in 2021 involved marriages lasting two years or less; 9.3% involved marriages of 25 years or longer. One divorce involved a wife aged less than 18. During 2021, 157 divorces involved a wife aged 65 or older and 307 involved a husband in that age group.

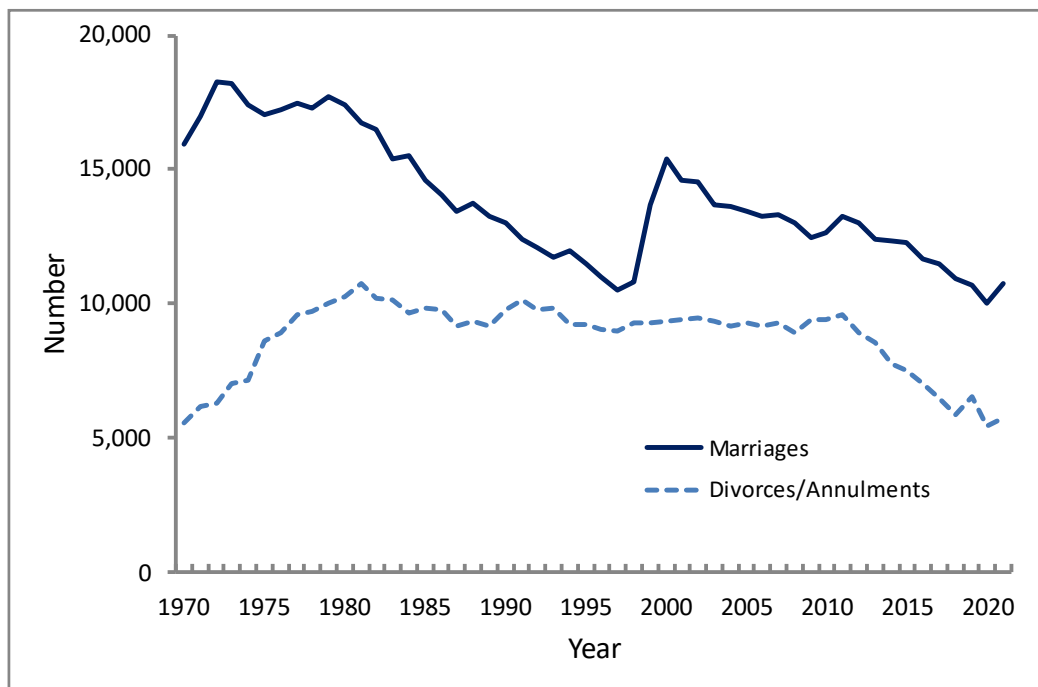
Note Regarding Marriage and Divorce/Annulment Statistics

Statistics regarding marriage and divorce/annulments are by occurrence only. They include

only those that occur within West Virginia regardless of where the couple resides. Marriage and divorce/annulment data are underreported.

Marriages and Divorces/Annulments West Virginia, 1970-2021

Exhibit 11



Year	Marriages	Divorces and Annulments
1970	15,948	5,584
1975	17,041	8,632
1980	17,391	10,273
1985	14,580	9,851
1990	13,012	9,783
1995	11,472	9,219
2000	15,375	9,336
2005	13,423	9,269
2010	12,662	9,431
2011	13,271	9,620
2012	12,996	8,932
2013	12,382	8,542
2014	12,356	7,785
2015	12,296	7,523
2016	11,664	7,038
2017	11,464	6,502
2018	10,950	5,879
2019	10,705	6,535
2020	10,030	5,445
2021	10,774	5,736

All Marriages by Age of Partner
West Virginia, 2021
Table 13

Age of Bride/Partner 1	Age of Groom/Partner 2												Total
	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60 Years & Over	Unknown	
10-14 Years	0	0	0	0	0	0	0	0	0	0	0	0	0
15-19 Years	0	158	248	39	9	3	0	2	1	0	1	0	461
20-24 Years	0	57	1,360	788	159	49	24	11	4	2	3	0	2,457
25-29 Years	0	5	231	1,247	634	217	78	27	13	4	7	0	2,463
30-34 Years	0	0	29	256	572	368	208	67	30	10	11	0	1,551
35-39 Years	0	0	10	59	161	348	236	116	50	24	9	0	1,013
40-44 Years	0	0	4	22	57	138	294	190	90	38	32	0	865
45-49 Years	0	1	3	2	13	29	103	218	188	73	56	0	686
50-54 Years	0	0	1	1	6	7	29	70	176	103	86	0	479
55-59 Years	0	0	0	0	3	1	3	19	45	115	142	0	328
60 Years & Over	0	0	0	0	0	0	0	3	15	49	404	0	471
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	221	1,886	2,414	1,614	1160	975	723	612	418	751	0	10,774

Note: Age at the time the marriage license was issued. Marriage license is valid for 60 days from the date issued.

West Virginia Bureau for Public Health

Health Statistics Center, Vital Statistics System, 2023

Male-Female Marriages by Age of Bride and Groom
West Virginia, 2021
Table 14

Age of Bride	Age of Groom												Total
	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60 Years & Over	Unknown	
10-14 Years	0	0	0	0	0	0	0	0	0	0	0	0	0
15-19 Years	0	154	243	38	9	3	0	2	1	0	1	0	451
20-24 Years	0	56	1,330	770	155	46	24	11	4	2	3	0	2,401
25-29 Years	0	3	222	1,206	619	211	78	27	11	4	7	0	2,388
30-34 Years	0	0	29	244	557	356	202	66	28	10	10	0	1,502
35-39 Years	0	0	10	56	149	337	231	115	47	24	9	0	978
40-44 Years	0	0	4	22	52	134	287	185	89	36	32	0	841
45-49 Years	0	1	3	1	13	27	97	213	185	71	53	0	664
50-54 Years	0	0	1	1	5	7	29	68	174	101	85	0	471
55-59 Years	0	0	0	0	3	1	3	17	45	111	140	0	320
60 Years & Over	0	0	0	0	0	0	0	2	13	46	396	0	457
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	214	1,842	2,338	1,562	1,122	951	706	597	405	736	0	10,473

Note: Age at the time the marriage license was issued. Marriage license is valid for 60 days from the date issued.

West Virginia Bureau for Public Health

Health Statistics Center, Vital Statistics System, 2023

Same-Sex Marriages by Age of Partner
West Virginia, 2021
Table 15

Age of Partner 1	Age of Partner 2												Total
	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60 Years & Over	Unknown	
10-14 Years	0	0	0	0	0	0	0	0	0	0	0	0	0
15-19 Years	4	5	1	0	0	0	0	0	0	0	4	0	10
20-24 Years	1	30	18	4	3	0	0	0	0	0	1	0	56
25-29 Years	2	9	41	15	6	0	0	2	0	0	2	0	75
30-34 Years	0	0	12	15	12	6	1	2	0	1	0	0	49
35-39 Years	0	0	3	12	11	5	1	3	0	0	0	0	35
40-44 Years	0	0	0	5	4	7	5	1	2	0	0	0	24
45-49 Years	0	0	1	0	2	6	5	3	2	3	0	0	22
50-54 Years	0	0	0	1	0	0	2	2	2	1	0	0	8
55-59 Years	0	0	0	0	0	0	2	0	4	2	0	0	8
60 Years & Over	0	0	0	0	0	0	1	2	3	8	0	0	14
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	7	44	76	52	38	24	17	15	13	15	0	301

Note: Age at the time the marriage license was issued. Marriage license is valid for 60 days from the date issued.

West Virginia Bureau for Public Health

Health Statistics Center, Vital Statistics System, 2023

All Divorces and Annulments by Age of Petitioner and Respondent
West Virginia, 2021
Table 16

Age of Petitioner	Age of Respondent												Total
	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60 Years & Over	Un- known	
10-14 Years	0	0	0	0	0	0	0	0	0	0	0	0	0
15-19 Years	0	1	6	0	0	0	0	0	0	0	0	0	7
20-24 Years	0	3	163	100	36	7	2	3	3	1	1	1	320
25-29 Years	0	1	73	358	182	51	14	6	3	2	2	6	698
30-34 Years	0	0	28	134	373	256	93	24	11	1	1	8	929
35-39 Years	0	1	5	33	157	333	193	86	28	9	3	6	854
40-44 Years	0	1	6	17	58	144	304	186	77	21	10	5	829
45-49 Years	0	0	2	3	15	58	128	251	150	46	28	2	683
50-54 Years	0	0	2	5	10	24	52	101	174	98	60	7	533
55-59 Years	0	0	0	0	4	11	15	30	87	125	96	4	372
60 Years & Over	0	0	0	1	4	7	11	16	48	73	304	8	472
Unknown	0	0	0	2	3	1	3	2	1	1	5	21	39
Total	0	7	285	653	842	892	815	705	582	377	510	68	5,736

West Virginia Bureau for Public Health

Health Statistics Center, Vital Statistics System, 2023

Male-Female Divorces and Annulments by Age of Husband and Wife
West Virginia, 2021
Table 17

Age of Wife	Age of Husband												Total
	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	45-49 Years	50-54 Years	55-59 Years	60 Years & Over	Un- known	
10-14 Years	0	0	0	0	0	0	0	0	0	0	0	0	0
15-19 Years	0	1	7	1	0	1	0	0	0	0	0	0	10
20-24 Years	0	1	159	136	45	10	6	3	3	0	1	0	364
25-29 Years	0	0	29	347	238	64	20	6	6	2	3	4	719
30-34 Years	0	0	15	65	364	307	113	32	14	4	5	6	925
35-39 Years	0	0	1	14	99	327	232	111	42	10	9	6	851
40-44 Years	0	1	2	7	36	96	304	218	103	25	19	1	812
45-49 Years	0	0	2	3	7	28	90	250	186	57	37	2	662
50-54 Years	0	0	2	2	7	9	26	63	174	130	82	2	497
55-59 Years	0	0	1	0	1	10	10	18	55	123	124	1	343
60 Years & Over	0	0	0	0	0	1	2	6	25	44	302	7	387
Unknown	0	0	1	4	4	1	6	2	6	4	6	19	53
Total	0	3	219	579	801	854	809	709	614	399	588	48	5,623

West Virginia Bureau for Public Health

Health Statistics Center, Vital Statistics System, 2023



West Virginia Vital Statistics

Appendix A:
ICD-10 Codes

APPENDIX A GROUPINGS OF ICD-10 CODES

ICD-10 CODE	SELECTED CAUSE
A15-A19	Tuberculosis
A40-A41	Septicemia
B20-B24	Human Immunodeficiency Virus Infection
C00-C97	Malignant Neoplasms
C15-C26	====of Digestive Organs
C18	=====of Colon
C25	=====of Pancreas
C30-C39	====of Respiratory and Intrathoracic Organs
C33-C34	=====Trachea, Bronchus and Lung
C50	==of Breast
C51-C68	==of Genitourinary Organs
C53	=====Cervix Uteri
C56	=====Ovary
C61	=====Prostate
C67	=====Bladder
	====All Other (Malignant Neoplasms)
D00-D48	Benign Neoplasms, Carcinoma in Situ and Neoplasms of Unspecified Nature
E10-E14	Diabetes Mellitus
G30	Alzheimer's Disease
I00-I78	Major Cardiovascular Diseases
I00-I09, I11, I13,	
I20-I51	====Diseases of the Heart
I20-I25	=====Ischemic Heart Disease
I10, I12	====Essential Hypertension and Hypertensive Renal Disease
I60-I69	====Cerebrovascular Disease
I70	====Arteriosclerosis
I71-I78	====Other Diseases of the Arteries, Arterioles and Capillaries
J09-J18	Influenza and Pneumonia
J09-J11	====Influenza
J12-J18	====Pneumonia
J40-J47	Chronic Lower Respiratory Diseases
J40-J43, J45-J46	====Bronchitis, Emphysema and Asthma
J60-J70	Lung Diseases Due to External Agents
J60	====Coal Worker's Pneumoconiosis
K70, K73-K74	Chronic Liver Disease and Cirrhosis
N00-N07, N17-N19,	
N25-N27	Nephritis, Nephrotic Syndrome and Nephrosis
Q00-Q99	Congenital Malformations, Deformations and Chromosomal Abnormalities
R95-R99	Ill-Defined and Unknown Causes of Death
U07.1	COVID-19
V01-X59, Y85-Y86	Accidents
V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79,	
V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8,	
V89.0, V89.2	====Motor Vehicle
W00-W19	====Falls
X00-X09	====Smoke, Fire and Flames
W65-W74	====Drownings
X40-X49	====Poisonings
	====All Other (Accidents)
X60-X84, Y87.0	Intentional Self-Harm (Suicide)
X85-Y09, Y87.1	Assault (Homicide)
Y10-Y34, Y87.2	Injury Undetermined Whether Accidentally or Purposely Inflicted
	All Other Causes (Residual)



West Virginia Vital Statistics

Appendix B:
Methodology,
Rates/Ratios
and Definitions

APPENDIX B METHODOLOGY

Data used to prepare this report are taken from birth and death certificates, fetal death reports, marriage applications, divorce reports, Induced Terminations of Pregnancy (ITOP) and paternity affidavits occurring in calendar year 2021 and filed in the state office of vital statistics prior to February 28, 2023. Vital events occurring to West Virginia residents in other states and are also included in totals by residence.

Place of Residence vs. Place of Occurrence

The statistics presented in this publication refer to resident data unless otherwise indicated. A resident birth is determined by the residence of the mother when she gives birth, i.e., if she lives in West Virginia. An occurrence birth is determined by where the mother gives birth. If a mother lives in West Virginia but gives birth in Michigan, that is defined as a West Virginia resident birth and will be included as part of West Virginia's resident statistics; however, it is considered a Michigan occurrence.

Statistical Variation

All statistics contain variations that are the result of chance, error, or omission. This characteristic is of particular importance in classifications of events with small numbers, in which small variations are proportionately large in relation to base figures. For example, small changes in the number of deaths or births in small population areas or in the number of deaths from uncommon causes could result in large changes in the respective rates. For this reason, rates for counties with small populations or other small bases should be used with caution.

Geographic Classification

The state has been used as the basic unit of tabulation throughout this report; however, statistics have been provided at the county level online.

Cause of Death Classification

The cause of death is coded from information contained in the medical certification section of the death certificate. This portion of the certificate is completed by the attending physician. In the case of unattended death, the medical examiner is responsible for investigation and certification.

Effective in 1999, the National Center for Health Statistics and the World Health Organization adopted the *Tenth Revision of the International Classification of Diseases Adapted for Use in the United States, 1999 (ICD-10)*. The deaths with codes A00 through T98 and Z00-Z99 were coded using the "nature of injury" causes, while those with codes V01 through Y98 were

coded using the “external cause” of death. The external codes are used to indicate a death due to an external rather than an internal cause.

In several tables, individual causes of death have been grouped into important selected causes of death. See Appendix A, Page 40, “Groupings of ICD-10 Codes,” for a listing of the selected causes of death.

Population

The rates given in this publication were calculated using the 2021 population estimated figures from the U.S. Department of Commerce, Bureau of the Census. This can be found at <https://www.census.gov/data/tables/time-series/demo/popest/2020s-counties-detail.html>.

Forms

The following is a list of the certificates and forms used in obtaining the data used in this publication.

- Certificate of Live Birth
- Physician’s/Medical Examiner’s Certificate of Death
- Report of Fetal Death
- Application for Marriage License
- Monthly Report of Divorces and Annulments of Marriages Granted
- Induced Termination of Pregnancy (ITOP)
- Declaration of Paternity Affidavit

Suggestions and comments on alternate methods of data presentation are welcome. Forward any suggestions to the following address:

Health Statistics Center
350 Capitol Street, Room 165
Charleston, WV 25301-3701
Telephone: (304) 558-9100
Fax: (304) 558-1787
Email: dhhrvitaldata@wv.gov

APPENDIX B (Continued)

RATES AND RATIOS

The impact of variation must be considered in evaluating categories with small frequencies. For example, a small change in the number of deaths within a population can disproportionately affect the mortality rate for that population. Therefore, rates based on small counts require special consideration.

Rates used in this report are calculated with the estimated 2021 population figures from the U.S. Department of Commerce, Bureau of the Census.

Birth Rate (Crude) =	$\frac{\text{Number of live births}}{\text{Population}}$	X	1,000
Fertility Rate =	$\frac{\text{Number of live births to women aged 15-44}}{\text{Number of women aged 15-44}}$	X	1,000
Teenage Fertility Rate =	$\frac{\text{Number of live births to women aged 15-19}}{\text{Number of women aged 15-19}}$	X	1,000
Death Rate (Crude) =	$\frac{\text{Number of deaths}}{\text{Population}}$	X	1,000
Cause of Death Rate =	$\frac{\text{Number of deaths from a stated cause}}{\text{Population}}$	X	100,000
Infant Death Rate =	$\frac{\text{Number of infant deaths}}{\text{Number of live births}}$	X	1,000
Neonatal Death Rate =	$\frac{\text{Number of neonatal deaths}}{\text{Number of live births}}$	X	1,000
Fetal Death Ratio =	$\frac{\text{Number of fetal deaths}}{\text{Number of live births}}$	X	1,000

APPENDIX B (Continued)

DEFINITIONS

Birthweight - The weight of the fetus or infant at the time of delivery.

Cause of death - The underlying cause of death/condition giving rise to the chain of events leading to death.

Fetal Death (stillbirth) - Death prior to the complete expulsion or extraction from its mother of a product of conception weighing at least 350 grams or more or having passed through at least the 20th week of gestation if the weight is unknown.

Induced termination of pregnancy (ITOP) - The purposeful interruption of an intrauterine pregnancy with the intention other than to produce a live-born infant that does not result in live birth. This excludes management of prolonged retention of products of conception following fetal death.

Infant death - The death of a live-born infant before one year of age.

Live birth - A live birth is the complete expulsion or extraction from its mother of a result of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of umbilical cord, or definite movement of voluntary muscles.

Low birthweight - A weight at birth of less than 2,500 grams or 5 lbs., 8 oz.

Neonatal death - The death of a live-born infant that occurs within the first 27 days of life.

Occurrence data - Vital statistics compiled on the basis of where the vital event actually occurred.

Paternity affidavit - A legal document signed by both parents declaring the paternity of their child.

Postneonatal death - The death of a live-born infant that occurs after the 27th day of life but before one year of age.

Residence data - Vital statistics compiled on the basis of the usual place of residence of the person(s) to whom the vital event occurred. For births and fetal deaths, residence is defined as the mother's usual place of residence.

Unemancipated minor - For the purpose of this publication and reporting of Induced Termination of Pregnancy (ITOP), any person under the age of 18 years who has not graduated from high school and is neither married nor who has been otherwise emancipated.

APPENDIX B (Continued)

Male-female marriage - For the purpose of this publication and reporting of marriages, where the groom is a male who is marrying a female bride.

Same-sex marriage - For the purpose of this publication and reporting of marriages, where both partners are of the same sex; male is marrying another male, female is marrying another female.



West Virginia Vital Statistics

Appendix C:

Grams Conversion

APPENDIX C

Converting Pounds/Ounces into Grams

Pounds	Ounces															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	-----	28	57	85	113	142	170	198	227	255	284	312	340	369	397	425
1	454	482	510	539	567	595	624	652	680	709	737	765	794	822	851	879
2	907	936	964	992	1,021	1,049	1,077	1,105	1,134	1,162	1,191	1,219	1,247	1,276	1,304	1,332
3	1,361	1,389	1,418	1,446	1,474	1,503	1,531	1,559	1,588	1,616	1,644	1,673	1,701	1,729	1,758	1,786
4	1,814	1,843	1,871	1,899	1,928	1,956	1,985	2,013	2,041	2,070	2,098	2,126	2,155	2,183	2,211	2,240
5	2,268	2,296	2,325	2,353	2,381	2,410	2,438	2,466	2,495	2,523	2,552	2,580	2,608	2,637	2,665	2,693
6	2,722	2,750	2,778	2,807	2,835	2,863	2,892	2,920	2,948	2,977	3,005	3,033	3,062	3,090	3,119	3,147
7	3,175	3,204	3,232	3,260	3,289	3,317	3,345	3,373	3,402	3,430	3,459	3,487	3,515	3,544	3,572	3,600
8	3,629	3,657	3,686	3,714	3,742	3,771	3,799	3,827	3,856	3,884	3,912	3,941	3,969	3,997	4,026	4,054
9	4,082	4,111	4,139	4,167	4,196	4,224	4,253	4,281	4,309	4,338	4,366	4,394	4,423	4,451	4,479	4,508
10	4,536	4,564	4,593	4,621	4,649	4,678	4,706	4,734	4,763	4,791	4,820	4,848	4,876	4,905	4,933	4,961
11	4,990	5,018	5,046	5,075	5,103	5,131	5,160	5,188	5,216	5,245	5,273	5,301	5,330	5,358	5,387	5,415
12	5,443	5,472	5,500	5,528	5,557	5,585	5,613	5,641	5,670	5,698	5,727	5,755	5,783	5,812	5,840	5,868
13	5,897	5,925	5,954	5,982	6,010	6,039	6,067	6,095	6,124	6,152	6,180	6,209	6,237	6,265	6,294	6,322
14	6,350	6,379	6,407	6,435	6,464	6,492	6,521	6,549	6,577	6,606	6,634	6,662	6,691	6,719	6,747	6,776

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Health Statistics Center, Vital Statistics System, 2023