# E-cigarette Use Among Current, Former, and Never Smokers: Variation by State and Demographic Characteristics

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## Background

Millions of American adults use ecigarettes, despite negative short-term and unknown long-term health effects.

While e-cigarettes may be less harmful than combustible cigarettes, use among non-smokers is concerning due to the potential for addiction.

We examined prevalence of ever and current use of e-cigarettes among current, former, and never smokers.

## Methodology

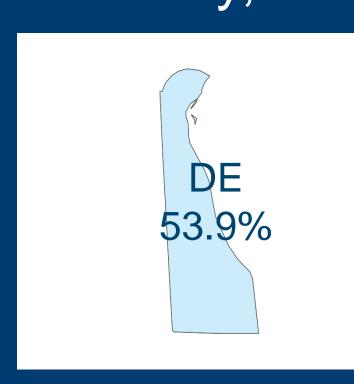
2016 BRFSS data were used to calculate national and state-level prevalence estimates overall, and by gender, age, race/ethnicity, education, income, and urbanicity, and stratified by smoking status. Point estimates and 95% confidence intervals were calculated.

Smoking Status	U.S. Prevalence
Current Smoker	16.7%
Former Smoker	25.1%
Never Smoker	58.2%

Use Category	U.S.	Lowest State	Highest State
Ever Use	22.1%	17.8% (CT)	28.4% (AR)
Current Use	4.7%	2.9% (SD)	6.7% (OK)

## Results – Ever Use of E-cigarettes

Nationally, 63.4% of current smokers



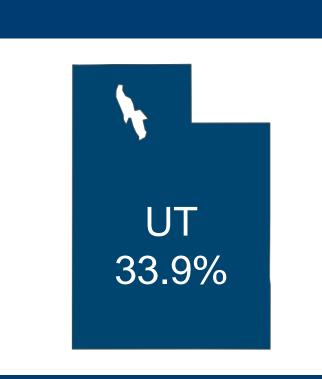
1.4x higher in OK than DE



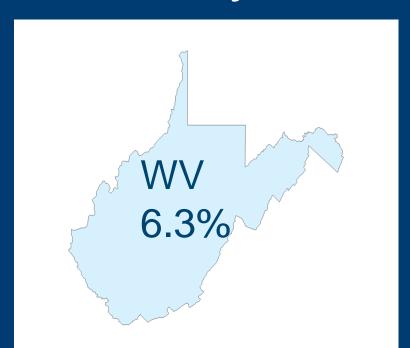
Nationally, 22.1% of former smokers



2.5x higher in UT than VT



Nationally, 10.5% of never smokers



2.4x higher in NM than WV



Across all smoking statuses, ever use was higher among younger adults (aged 18-44; 17.8%) than those 45-64 (3.1%) and 65+ (1.3%).

Among never smokers, ever use was higher among

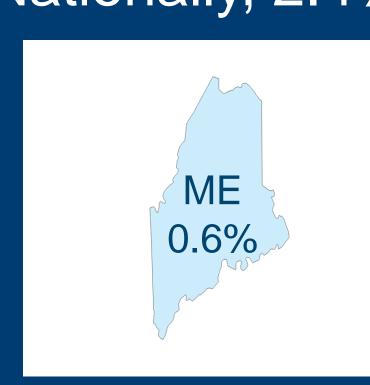
- Males (13.7%), compared with females (7.9%)
- Multiracial adults (20.4%) and American Indian/Alaska Natives (13.7%) and Hawaiian/Pacific Islanders (15.6%)

2 <sup>nd</sup> Quintile  3 <sup>rd</sup> Quintile
3 <sup>rd</sup> Quintile
4 <sup>th</sup> Quintile
5 <sup>th</sup> Quintile

State         Current Sp.1         Former 27.1         Never 11.7           AK         59.1         27.1         11.7           AL         64.9         20.6         10.4           AR         71.2         20.5         12.4           AZ         68.3         21.8         12.7           CA         61.3         24.4         12.6           CO         65.5         23.3         11.9           CT         61.1         15.0         9.3           DE         53.9         14.7         10.0           FL         62.9         19.9         9.0           GA         60.5         21.1         9.1           HI         69.6         22.9         11.9           IA         62.8         15.0         8.4           ID         74.7         24.2         9.8           IL         64.9         19.9         10.3           IN         66.3         20.9         9.8           KS         70.4         23.6         10.8           KY         66.6         23.0         9.8           LA         59.4         23.6         10.1           MA					
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KY         66.6         23.0         9.8           LA         59.4         23.6         10.1           MA         59.3         16.4         10.2           MD         61.2         18.0         8.7           ME         61.9         15.2         9.1           MI         60.7         19.8         10.4           MN         62.0         18.3         9.2           MO         66.5         20.9         9.9           MS         55.3         20.6         8.7           MT         60.9         19.2         9.9           NC         64.6         19.7         8.2           ND         61.1         18.2         9.8           NE         66.6         21.4         10.4           NH         64.1         16.6         9.3           NJ         59.3         17.6         9.2           NM         65.0         23.0         15.1           NV         64.1         23.5         11.6           NY         61.0         19.5         10.5           OH         66.7         19.2         10.2           OK         75.7         <					
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MA 59.3 16.4 10.2  MD 61.2 18.0 8.7  ME 61.9 15.2 9.1  MI 60.7 19.8 10.4  MN 62.0 18.3 9.2  MO 66.5 20.9 9.9  MS 55.3 20.6 8.7  MT 60.9 19.2 9.9  NC 64.6 19.7 8.2  ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
MD 61.2 18.0 8.7  ME 61.9 15.2 9.1  MI 60.7 19.8 10.4  MN 62.0 18.3 9.2  MO 66.5 20.9 9.9  MS 55.3 20.6 8.7  MT 60.9 19.2 9.9  NC 64.6 19.7 8.2  ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
ME 61.9 15.2 9.1  MI 60.7 19.8 10.4  MN 62.0 18.3 9.2  MO 66.5 20.9 9.9  MS 55.3 20.6 8.7  MT 60.9 19.2 9.9  NC 64.6 19.7 8.2  ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  SC 62.9 11.0  NY 66.9 21.0 11.0					
MI 60.7 19.8 10.4  MN 62.0 18.3 9.2  MO 66.5 20.9 9.9  MS 55.3 20.6 8.7  MT 60.9 19.2 9.9  NC 64.6 19.7 8.2  ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
MN 62.0 18.3 9.2  MO 66.5 20.9 9.9  MS 55.3 20.6 8.7  MT 60.9 19.2 9.9  NC 64.6 19.7 8.2  ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
MO 66.5 20.9 9.9  MS 55.3 20.6 8.7  MT 60.9 19.2 9.9  NC 64.6 19.7 8.2  ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
MS 55.3 20.6 8.7  MT 60.9 19.2 9.9  NC 64.6 19.7 8.2  ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
MT       60.9       19.2       9.9         NC       64.6       19.7       8.2         ND       61.1       18.2       9.8         NE       66.6       21.4       10.4         NH       64.1       16.6       9.3         NJ       59.3       17.6       9.2         NM       65.0       23.0       15.1         NV       64.1       23.5       11.6         NY       61.0       19.5       10.5         OH       66.7       19.2       10.2         OK       75.7       26.3       11.6         OR       63.1       19.8       9.0         PA       59.8       20.2       9.2         RI       63.6       19.0       11.0         SC       62.9       19.2       9.8         SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8					
NC         64.6         19.7         8.2           ND         61.1         18.2         9.8           NE         66.6         21.4         10.4           NH         64.1         16.6         9.3           NJ         59.3         17.6         9.2           NM         65.0         23.0         15.1           NV         64.1         23.5         11.6           NY         61.0         19.5         10.5           OH         66.7         19.2         10.2           OK         75.7         26.3         11.6           OR         63.1         19.8         9.0           PA         59.8         20.2         9.2           RI         63.6         19.0         11.0           SC         62.9         19.2         9.8           SD         59.6         16.4         9.3           TN         65.7         22.7         9.4           TX         69.0         27.4         12.0           UT         74.3         33.9         9.5           VA         64.2         21.7         10.7           VT         59.3					
ND 61.1 18.2 9.8  NE 66.6 21.4 10.4  NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
NE         66.6         21.4         10.4           NH         64.1         16.6         9.3           NJ         59.3         17.6         9.2           NM         65.0         23.0         15.1           NV         64.1         23.5         11.6           NY         61.0         19.5         10.5           OH         66.7         19.2         10.2           OK         75.7         26.3         11.6           OR         63.1         19.8         9.0           PA         59.8         20.2         9.2           RI         63.6         19.0         11.0           SC         62.9         19.2         9.8           SD         59.6         16.4         9.3           TN         65.7         22.7         9.4           TX         69.0         27.4         12.0           UT         74.3         33.9         9.5           VA         64.2         21.7         10.7           VT         59.3         13.8         8.8           WA         68.6         23.9         11.1           WI         65.2					_
NH 64.1 16.6 9.3  NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
NJ 59.3 17.6 9.2  NM 65.0 23.0 15.1  NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5					
NM       65.0       23.0       15.1         NV       64.1       23.5       11.6         NY       61.0       19.5       10.5         OH       66.7       19.2       10.2         OK       75.7       26.3       11.6         OR       63.1       19.8       9.0         PA       59.8       20.2       9.2         RI       63.6       19.0       11.0         SC       62.9       19.2       9.8         SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
NV 64.1 23.5 11.6  NY 61.0 19.5 10.5  OH 66.7 19.2 10.2  OK 75.7 26.3 11.6  OR 63.1 19.8 9.0  PA 59.8 20.2 9.2  RI 63.6 19.0 11.0  SC 62.9 19.2 9.8  SD 59.6 16.4 9.3  TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5				_	
NY 61.0 19.5 10.5 OH 66.7 19.2 10.2 OK 75.7 26.3 11.6 OR 63.1 19.8 9.0 PA 59.8 20.2 9.2 RI 63.6 19.0 11.0 SC 62.9 19.2 9.8 SD 59.6 16.4 9.3 TN 65.7 22.7 9.4 TX 69.0 27.4 12.0 UT 74.3 33.9 9.5 VA 64.2 21.7 10.7 VT 59.3 13.8 8.8 WA 68.6 23.9 11.1 WI 65.2 17.7 10.4 WV 60.1 19.7 6.3 WY 66.9 21.0 11.0 ALL 63.9 21.2 10.5					
OH       66.7       19.2       10.2         OK       75.7       26.3       11.6         OR       63.1       19.8       9.0         PA       59.8       20.2       9.2         RI       63.6       19.0       11.0         SC       62.9       19.2       9.8         SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
OK       75.7       26.3       11.6         OR       63.1       19.8       9.0         PA       59.8       20.2       9.2         RI       63.6       19.0       11.0         SC       62.9       19.2       9.8         SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
OR       63.1       19.8       9.0         PA       59.8       20.2       9.2         RI       63.6       19.0       11.0         SC       62.9       19.2       9.8         SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5		_			
PA       59.8       20.2       9.2         RI       63.6       19.0       11.0         SC       62.9       19.2       9.8         SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
RI 63.6 19.0 11.0 SC 62.9 19.2 9.8 SD 59.6 16.4 9.3 TN 65.7 22.7 9.4 TX 69.0 27.4 12.0 UT 74.3 33.9 9.5 VA 64.2 21.7 10.7 VT 59.3 13.8 8.8 WA 68.6 23.9 11.1 WI 65.2 17.7 10.4 WV 60.1 19.7 6.3 WY 66.9 21.0 11.0 ALL 63.9 21.2 10.5					
SC       62.9       19.2       9.8         SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
SD       59.6       16.4       9.3         TN       65.7       22.7       9.4         TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
TN 65.7 22.7 9.4  TX 69.0 27.4 12.0  UT 74.3 33.9 9.5  VA 64.2 21.7 10.7  VT 59.3 13.8 8.8  WA 68.6 23.9 11.1  WI 65.2 17.7 10.4  WV 60.1 19.7 6.3  WY 66.9 21.0 11.0  ALL 63.9 21.2 10.5				-	
TX       69.0       27.4       12.0         UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
UT       74.3       33.9       9.5         VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
VA       64.2       21.7       10.7         VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
VT       59.3       13.8       8.8         WA       68.6       23.9       11.1         WI       65.2       17.7       10.4         WV       60.1       19.7       6.3         WY       66.9       21.0       11.0         ALL       63.9       21.2       10.5					
WA 68.6 23.9 11.1 WI 65.2 17.7 10.4 WV 60.1 19.7 6.3 WY 66.9 21.0 11.0 ALL 63.9 21.2 10.5					
WI 65.2 17.7 10.4 WV 60.1 19.7 6.3 WY 66.9 21.0 11.0 ALL 63.9 21.2 10.5					
WV 60.1 19.7 6.3 WY 66.9 21.0 11.0 ALL 63.9 21.2 10.5					
WY 66.9 21.0 11.0 ALL 63.9 21.2 10.5					
ALL 63.9 21.2 10.5					
77.3 10.2 9.3					
			T1.U	10.2	J.J

## Results – Current Use of E-cigarettes

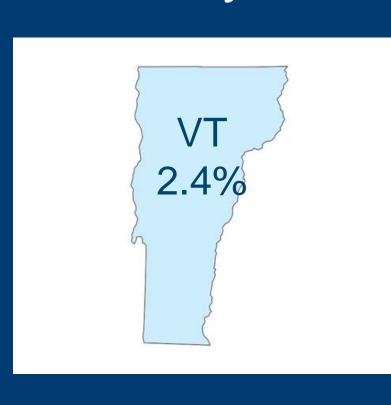
Nationally, 2.4% of current smokers



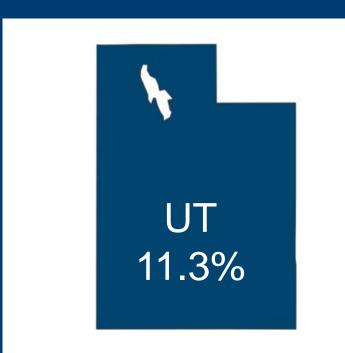
3.5x higher in NV than ME



Nationally, 5.3% of former smokers



4.7x higher in UT than VT



Nationally, 1.4% of never smokers



3.1x higher in NM than WV



### Conclusions

Utah has the highest rate of both ever and current e-cigarette use among former smokers.

Oklahoma has the highest rate of ever use among current smokers and the highest rate of current use among never smokers.

Knowledge of e-cigarette use by state and demographics may assist in targeting interventions to current, former, and never smokers to reduce e-cigarette use in the population.



#### Acknowledgments

We thank the advisory committee, who provided guidance in the development of the *America's Health Rankings® Annual Report*, and United Health Foundation for their continued support of this project.

### Disclosure

Arundel Metrics receives funding from United Health Foundation to produce America's Health Rankings. Arundel Metrics (arundelmetrics.com) is a small, data-driven consulting firm specializing in public health measurement and index generation.

