

Vermont Adult Behavioral Risk Factor Survey Data Brief – Impact of Cell Phones on Sample Demographics

The Vermont Behavioral Risk Factor Surveillance System (BRFSS) has traditionally only collected interviews via land line telephones. However, in recent years, the proportion of households in Vermont with only a cell phone has increased rapidly. A report published earlier this year estimated the current percentage of Vermont adults living in households without a landline at 20%¹. In response to the changing patterns in telephone use and to help ensure that the BRFSS sample remains representative of the Vermont adult population, cell phones were added to the BRFSS sample beginning in 2009.

The inclusion of cell phone data necessitates a new weighting methodology to accurately represent those interviews. Following the lead of the Centers for Disease Control and Prevention (CDC), 2009 and 2010 data are being used as transition years with 2011 data being the first reported utilizing a new weighting methodology and will include both land line and cell phone interviews.

In 2010, there were 412 cell phone and 6,798 land line respondents to the Vermont BRFSS. In Vermont, cell phone respondents were found to have different demographics than respondents in land line households (see Table 1):

- Male: 52% of cell phone respondents are male, compared to 40% of land line respondents
- Younger: Nearly half of cell phone respondents are under 35 (48%; 19% 18-24 and 29% 25-34), compared with 9% of land line respondents (2% 18-24 and 7% 25-34)
- Have never been married*: 49% of cell phone respondents have never been married, versus 13% of land line respondents
- Have lower annual household incomes: 72% of cell phone respondents live in homes making less than \$50,000 per year; 52% of those land line respondents reported the same.
- Racial or ethnic minority: 11% of cell phone respondents are a racial or ethnic minority, compared with 4% of land line respondents.

Respondents reached via land line were more often:

- Older: 32% of land line respondents are 65 years of age and older, compared with 3% of cell phone respondents
- Have a college degree or higher: 40% of land line respondents have a college degree or higher; 32% of cell phone respondents reported the same
- Retired: More than a quarter (26%) of land line respondents are retired, versus 4% of cell phone respondents

Many of the differences outlined above are related to the differences in age between the two samples. For example, an individual who is 65 is significantly more likely to be retired than someone 19. Likewise, someone who is 19 is much more likely to have never been married than someone 65. Other items, are more complex.

The release of 2011 data, which will incorporate the more representative combined land line and cell phone sample and a new weighting methodology, will bring changes in the weighted BRFSS estimates. These changes will not be consistent across measures; some estimates will change very little, while others will change more significantly. As an example, in 2010, if the combined data with the new weighting methodology were used, the percent of 18-64 year olds with a health plan would be 86% instead of the 90% currently reported for 2010. As described above, this is influenced by the age difference between the cell phone and land line samples. Vermont BRFSS staff will work with stakeholders to understand any changes and how to communicate those changes to the public.

*Includes those who have never been married or are part of an unmarried couple.

Table 1: Cell Phone and Land Line Sample Characteristics
by Demographic Variables, Un-weighted 2010 BRFSS Data

	Cell		Landline		US Census*	
Sex	N	%	N	%	N	%
Male	214	52%	2733	40%	241,858	49%
Female	198	48%	4065	60%	254,650	51%
Age						
18-24	79	19%	156	2%	65257	13%
25-34	119	29%	443	7%	69728	14%
35-44	71	17%	827	12%	77686	16%
45-54	82	20%	1448	21%	101395	20%
55-64	47	11%	1698	25%	91002	18%
65+	14	3%	2176	32%	91231	18%
Mean	38.1		57.0		--	--
Education Level						
Less than high school	30	7%	400	6%	44599	9%
High school	138	34%	2067	30%	157728	32%
Some college	110	27%	1577	23%	142596	29%
College or higher	133	32%	2743	40%	151376	31%
Income Level						
Less than \$25,000	134	36%	1562	26%	64274	25%
\$25,000 - less than \$50,000	133	36%	1569	26%	65408	25%
\$50,000 - less than \$75,000	55	15%	1085	18%	51005	20%
\$75,000 or more	48	13%	1757	29%	76235	30%
Race						
White, non-Hispanic	363	89%	6426	96%	590069	94%
Racial and Ethnic Minorities	45	11%	246	4%	35891	6%
Employment						
Employed wages/Self-employed	296	72%	3828	57%	--	--
Out of work	31	8%	320	5%	--	--
Home maker/Student	37	9%	466	7%	--	--
Retired	15	4%	1764	26%	--	--
Unable to work	32	8%	390	6%	--	--
Marital Status**						
Married	131	32%	3886	57%	263146	50%
Divorced	67	16%	1032	15%	61771	12%
Widowed	5	1%	848	13%	28322	5%
Separated	6	1%	95	1%	6906	1%
Never Married	153	37%	711	11%	161003	31%
Member unmarried couple	48	12%	197	3%	--	--

For more information on the BRFSS or to suggest ideas for future BRFSS Data Briefs, contact Jessie Brosseau, M.P.H. (802-863-7663; Jessie.Brosseau@state.vt.us).

*US Census data is from the 2010 American Communities Survey

**US Census marital status data is for ages 15 and older while the land line and cell phone BRFSS data is 18 and older.

