Indicator 19: Binge Drinking

Internal variable name: outc19_binge_drink

Section 1: Definition

Definition: Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more drinks for men or 4 or more drinks for women on an occasion?

Section 2: Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 19: Binge Drinking Non-Hispanic Black vs. Non-Hispanic White	-0.5729*** (0.1384)	-0.5920*** (0.1375)	-0.5920*** (0.1408)
Non-Hispanic Asian vs. Non-Hispanic White	-1.6111*** (0.3191)	-1.6537*** (0.3503)	-1.6536*** (0.3219)
Non-Hispanic Other vs. Non-Hispanic White	-0.5500* (0.2176)	-0.5769* (0.2476)	-0.5769* (0.2237)
Hispanic vs. Non-Hispanic White	-1.0219*** (0.1801)	-1.0963*** (0.2222)	-1.0962*** (0.1802)
Female	-0.7349*** (0.0705)	-0.7307*** (0.0906)	-0.7307*** (0.0694)
Age 18-24 vs. 65+	2.3311*** (0.1788)	2.3330*** (0.1943)	2.3330*** (0.1767)
Age 25-34 vs. 65+	2.7432*** (0.2064)	2.7436*** (0.1692)	2.7436*** (0.2070)
Age 35-44 vs. 65+	2.0633*** (0.2023)	2.0542*** (0.1706)	2.0541*** (0.2008)
Age 45-54 vs. 65+	1.5023*** (0.2092)	1.4971*** (0.1717)	1.4971*** (0.2095)
Age 55-64 vs. 65+	1.1871*** (0.1840)	1.1875*** (0.1730)	1.1875*** (0.1861)
% education below High School, population 25+ years old		-0.0534** (0.0178)	-0.0534** (0.0167)
Bladder Cancer Male Rate		-0.0040 (0.0039)	-0.0040 (0.0039)
Asthma hospitalization rate per 1,000		0.1486 (0.0927)	0.1486 (0.0851)

% vacant housing units		0.0369***	0.0369***
		(0.0098)	(0.0075)
Crude mortality rate of influenza pneumonia per 10,000		-0.1427**	-0.1427***
		(0.0494)	(0.0418)
% Hispanic among adults 18 to 64		-0.0784*	-0.0784**
		(0.0345)	(0.0295)
{% Hispanic among adults 18 to 64} interacted with {% education below HS, population 25+ years old		0.0067**	0.0067**
		(0.0025)	(0.0025)
% education Bachelor+, population 25+ years old		0.0176*	0.0176**
		(0.0083)	(0.0063)
Crude mortality rate of Alzheimer's disease per 10,000		0.0334	0.0335
		(0.0764)	(0.0817)
{% education Bachelor+, population 25+ years old} interacted with {Crude mortality rate of Alzheimer's disease per 10,000}		-0.0019	-0.0019
		(0.0026)	(0.0025)
Intercept	-3.0217***	-2.9452***	-2.9452***
	(0.1902)	(0.3953)	(0.4284)
Area effect variance	0.0593		0.0000
	(0.0398)		(0.0000)

Number of alternative models used to estimate model error = 3.

Section 3: Results

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Augusta County	51015	21.2%	(14.1%, 30.8%)	13.0%	(10.8%, 15.5%)
Bath County	51017	23.4%	(5.2%, 63.1%)	32.6%	(24.0%, 42.6%)
Caroline County	51033	7.2%	(1.1%, 34.1%)	11.7%	(8.0%, 16.8%)
Clarke County	51043	20.7%	(7.0%, 47.5%)	16.7%	(14.9%, 18.6%)
Culpeper County	51047	11.7%	(4.7%, 26.2%)	14.8%	(12.4%, 17.6%)
Fauquier County	51061	12.7%	(6.1%, 24.5%)	18.1%	(15.9%, 20.5%)
Frederick County	51069	8.2%	(3.6%, 17.3%)	13.7%	(11.9%, 15.7%)
Highland County	51091	54.9%	(6.3%, 95.7%)	36.2%	(25.2%, 48.8%)
King George County	51099	20.5%	(5.4%, 53.7%)	22.6%	(19.0%, 26.6%)
Madison County	51113	3.2%	(0.5%, 17.0%)	14.6%	(10.4%, 20.3%)
Orange County	51137	8.6%	(3.2%, 20.9%)	14.8%	(12.7%, 17.2%)
Page County	51139	0.0%	(0.0%, 32.1%)	14.1%	(9.6%, 20.1%)
Rappahannock County	51157	15.1%	(3.8%, 44.6%)	13.1%	(8.9%, 19.1%)
Rockbridge County	51163	19.6%	(6.5%, 46.0%)	16.7%	(13.2%, 21.0%)
Rockingham County	51165	15.2%	(8.8%, 25.1%)	16.1%	(12.6%, 20.3%)
Shenandoah County	51171	14.2%	(6.4%, 28.6%)	13.2%	(10.5%, 16.4%)
Spotsylvania County	51177	18.6%	(9.7%, 32.8%)	16.7%	(14.8%, 18.8%)
Stafford County	51179	13.6%	(7.4%, 23.8%)	16.5%	(13.8%, 19.5%)
Warren County	51187	7.7%	(3.6%, 24.7%)	14.1%	(12.4%, 16.1%)
Buena Vista City	51530	0.0%	(-0.0%, 89.6%)	7.2%	(5.0%, 10.4%)
Fredericksburg City	51630	19.8%	(6.1%, 48.5%)	21.6%	(17.5%, 26.3%)
Harrisonburg City	51660	17.6%	(2.5%, 64.4%)	21.0%	(15.0%, 28.5%)
Lexington City	51678	0.0%	(0.0%, 99.4%)	13.2%	(7.4%, 22.4%)
Staunton City	51790	0.0%	(0.0%, 42.2%)	11.2%	(7.3%, 16.8%)
Waynesboro City	51820	8.3%	(1.3%, 39.5%)	8.9%	(5.4%, 14.4%)
Winchester City	51840	11.0%	(4.5%, 36.3%)	17.2%	(12.2%, 23.9%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Albemarle County	51003	14.0%	(7.8%, 24.0%)	19.5%	(15.1%, 24.7%)
Alleghany County	51005	11.9%	(4.4%, 28.6%)	10.8%	(8.6%, 13.5%)
Amherst County	51009	7.9%	(1.9%, 27.4%)	9.7%	(7.8%, 12.0%)
Appomattox County	51011	6.0%	(1.1%, 26.7%)	11.0%	(7.7%, 15.5%)
Arlington City	51013	24.8%	(17.3%, 34.2%)	25.4%	(21.6%, 29.7%)
Bedford County	51019	19.0%	(10.4%, 32.4%)	16.6%	(14.7%, 18.7%)
Botetourt County	51023	21.6%	(10.9%, 38.3%)	16.6%	(13.5%, 20.3%)
Campbell County	51031	7.5%	(2.4%, 21.0%)	14.3%	(12.1%, 16.8%)
Craig County	51045	0.0%	(0.0%, 73.6%)	17.3%	(9.3%, 29.9%)
Fairfax County	51059	14.4%	(10.5%, 19.3%)	15.1%	(13.6%, 16.8%)
Fluvanna County	51065	10.4%	(3.7%, 34.1%)	14.3%	(11.6%, 17.4%)
Greene County	51079	31.8%	(13.1%, 58.9%)	12.8%	(9.4%, 17.1%)
Loudoun County	51107	22.3%	(16.3%, 29.8%)	17.9%	(15.7%, 20.4%)
Louisa County	51109	10.1%	(3.1%, 28.3%)	15.1%	(13.0%, 17.4%)
Nelson County	51125	20.3%	(8.0%, 42.7%)	23.1%	(17.1%, 30.4%)
Prince William County	51153	15.5%	(11.1%, 21.2%)	14.8%	(12.9%, 17.0%)
Roanoke County	51161	15.6%	(9.6%, 24.4%)	15.8%	(13.4%, 18.4%)
Alexandria City	51510	17.5%	(8.8%, 31.8%)	24.5%	(21.0%, 28.5%)
Charlottesville City	51540	40.9%	(17.1%, 69.9%)	16.1%	(9.1%, 27.0%)
Covington City	51580	0.0%	(0.0%, 99.4%)	10.2%	(4.8%, 20.3%)
Fairfax City	51600	17.0%	(10.2%, 27.0%)	14.6%	(12.9%, 16.6%)
Falls Church City	51610	1.8%	(0.4%, 73.2%)	17.0%	(12.3%, 22.9%)
Lynchburg City	51680	27.8%	(13.8%, 48.0%)	14.6%	(11.4%, 18.6%)
Manassas City	51683	0.0%	(0.0%, 33.5%)	25.7%	(12.2%, 46.3%)
Manassas Park City	51685	0.0%	(-0.0%, 96.8%)	35.3%	(14.3%, 64.1%)
Salem City	51775	0.0%	(0.0%, 49.0%)	12.9%	(9.5%, 17.3%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Bland County	51021	0.0%	(0.0%, 42.3%)	15.0%	(12.5%, 17.9%)
Buchanan County	51027	0.0%	(-0.0%, 10.0%)	7.2%	(4.5%, 11.5%)
Carroll County	51035	11.0%	(3.5%, 29.6%)	12.1%	(9.2%, 15.7%)
Dickenson County	51051	8.7%	(2.8%, 24.1%)	6.6%	(4.5%, 9.7%)
Floyd County	51063	4.2%	(0.7%, 21.5%)	22.3%	(18.2%, 27.0%)
Franklin County	51067	17.2%	(7.5%, 34.8%)	16.5%	(13.8%, 19.6%)
Giles County	51071	6.9%	(1.1%, 33.5%)	15.6%	(13.1%, 18.6%)
Grayson County	51077	1.0%	(0.6%, 22.4%)	15.2%	(7.4%, 28.7%)
Henry County	51089	15.2%	(6.4%, 32.1%)	10.4%	(7.5%, 14.2%)
Lee County	51105	15.3%	(4.2%, 42.9%)	9.4%	(6.7%, 13.0%)
Montgomery County	51121	18.5%	(10.6%, 30.2%)	23.7%	(18.8%, 29.5%)
Patrick County	51141	12.6%	(4.1%, 32.8%)	9.7%	(7.4%, 12.7%)
Pittsylvania County	51143	12.3%	(6.4%, 22.2%)	10.7%	(8.5%, 13.5%)
Pulaski County	51155	12.2%	(4.8%, 27.6%)	16.9%	(13.8%, 20.6%)
Russell County	51167	12.9%	(5.0%, 29.4%)	7.9%	(5.1%, 11.9%)
Scott County	51169	2.3%	(0.5%, 9.6%)	8.3%	(5.9%, 11.7%)
Smyth County	51173	6.3%	(1.6%, 21.9%)	11.6%	(9.8%, 13.7%)
Tazewell County	51185	6.0%	(1.9%, 17.7%)	7.6%	(5.4%, 10.7%)
Washington County	51191	4.2%	(1.1%, 14.8%)	9.9%	(7.9%, 12.3%)
Wise County	51195	4.9%	(1.5%, 14.6%)	8.6%	(6.4%, 11.5%)
Wythe County	51197	8.2%	(2.7%, 21.9%)	9.5%	(6.8%, 13.1%)
Bristol City	51520	0.0%	(0.0%, 40.4%)	6.3%	(3.7%, 10.4%)
Danville City	51590	6.5%	(1.0%, 31.3%)	8.8%	(7.1%, 10.9%)
Galax City	51640	0.0%	(0.0%, 70.9%)	14.7%	(5.0%, 35.8%)
Martinsville City	51690	33.2%	(4.1%, 85.4%)	9.8%	(6.7%, 13.9%)
Norton City	51720	28.7%	(2.9%, 84.6%)	14.2%	(10.7%, 18.6%)
Radford City	51750	8.1%	(2.1%, 61.7%)	22.1%	(18.3%, 26.5%)
Roanoke City	51770	10.9%	(5.7%, 19.9%)	15.2%	(13.2%, 17.6%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Amelia County	51007	8.1%	(2.0%, 27.5%)	11.4%	(8.5%, 15.2%)
Brunswick County	51025	2.3%	(1.4%, 25.4%)	13.5%	(9.1%, 19.6%)
Buckingham County	51029	10.4%	(2.0%, 40.0%)	11.2%	(7.8%, 15.8%)
Charles City County	51036	0.0%	(0.0%, 37.4%)	8.6%	(5.9%, 12.3%)
Charlotte County	51037	6.2%	(1.0%, 30.8%)	12.8%	(8.9%, 18.1%)
Chesterfield County	51041	14.0%	(9.5%, 20.2%)	15.3%	(14.0%, 16.8%)
Cumberland County	51049	10.7%	(1.6%, 46.6%)	10.6%	(7.6%, 14.7%)
Dinwiddie County	51053	4.1%	(2.3%, 20.8%)	11.5%	(9.7%, 13.6%)
Goochland County	51075	8.5%	(2.6%, 24.2%)	14.7%	(12.3%, 17.3%)
Greensville County	51081	16.6%	(3.9%, 49.7%)	11.4%	(7.9%, 16.2%)
Halifax County	51083	10.5%	(4.7%, 21.8%)	10.1%	(8.2%, 12.4%)
Hanover County	51085	10.7%	(6.0%, 18.4%)	14.4%	(12.0%, 17.2%)
Henrico County	51087	15.4%	(11.0%, 21.2%)	13.7%	(11.7%, 15.9%)
Lunenburg County	51111	36.3%	(12.4%, 69.6%)	13.5%	(10.2%, 17.7%)
Mecklenburg County	51117	12.0%	(3.8%, 31.7%)	13.8%	(10.3%, 18.4%)
New Kent County	51127	7.5%	(2.8%, 30.9%)	14.5%	(12.3%, 17.1%)
Nottoway County	51135	17.3%	(3.6%, 54.0%)	10.2%	(8.5%, 12.2%)
Powhatan County	51145	0.0%	(0.0%, 35.2%)	11.8%	(9.1%, 15.1%)
Prince Edward County	51147	22.7%	(8.4%, 48.4%)	13.7%	(11.1%, 16.8%)
Prince George County	51149	27.9%	(13.5%, 49.0%)	14.7%	(12.3%, 17.5%)
Surry County	51181	26.5%	(4.1%, 75.3%)	14.9%	(10.8%, 20.2%)
Sussex County	51183	4.9%	(0.8%, 25.4%)	9.9%	(6.9%, 14.1%)
Colonial Heights City	51570	29.0%	(7.0%, 69.1%)	9.9%	(7.3%, 13.2%)
Emporia City	51595	31.1%	(3.1%, 86.3%)	9.6%	(5.0%, 17.5%)
Hopewell City	51670	24.4%	(7.1%, 57.9%)	14.0%	(10.9%, 17.8%)
Petersburg City	51730	19.3%	(7.3%, 42.2%)	20.4%	(15.5%, 26.4%)
Richmond City	51760	26.0%	(18.8%, 34.8%)	23.2%	(19.0%, 28.0%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Accomack County	51001	26.6%	(12.2%, 48.6%)	17.5%	(12.8%, 23.7%)
Essex County	51057	18.3%	(3.9%, 55.5%)	15.8%	(11.8%, 20.7%)
Gloucester County	51073	17.4%	(7.0%, 37.1%)	14.2%	(12.1%, 16.7%)
Isle of Wight County	51093	7.4%	(4.5%, 18.6%)	12.3%	(10.5%, 14.4%)
James City County	51095	16.3%	(8.0%, 30.3%)	17.0%	(13.5%, 21.3%)
King and Queen County	51097	18.6%	(2.2%, 69.6%)	14.4%	(9.8%, 20.7%)
King William County	51101	1.6%	(0.9%, 24.0%)	14.9%	(12.0%, 18.3%)
Lancaster County	51103	0.0%	(0.0%, 28.3%)	14.4%	(9.6%, 20.9%)
Mathews County	51115	24.2%	(9.3%, 49.9%)	25.9%	(17.8%, 36.2%)
Middlesex County	51119	23.9%	(3.6%, 72.5%)	23.6%	(18.1%, 30.1%)
Northampton County	51131	11.2%	(5.1%, 22.5%)	14.0%	(8.7%, 21.9%)
Northumberland County	51133	13.5%	(4.1%, 36.2%)	18.6%	(13.4%, 25.3%)
Richmond County	51159	20.4%	(8.4%, 41.8%)	14.3%	(11.1%, 18.3%)
Southampton County	51175	20.9%	(3.0%, 69.4%)	9.9%	(7.6%, 12.8%)
Westmoreland County	51193	11.6%	(2.9%, 36.7%)	16.6%	(13.1%, 20.8%)
York County	51199	15.2%	(6.9%, 30.2%)	19.5%	(17.0%, 22.4%)
Chesapeake City	51550	11.0%	(6.9%, 17.2%)	14.9%	(13.0%, 17.1%)
Franklin City	51620	3.6%	(2.2%, 18.9%)	8.4%	(6.0%, 11.7%)
Hampton City	51650	11.3%	(6.7%, 18.3%)	14.8%	(12.8%, 16.9%)
Newport News City	51700	16.4%	(10.1%, 25.3%)	16.1%	(14.1%, 18.3%)
Norfolk City	51710	22.0%	(15.1%, 30.9%)	19.1%	(17.2%, 21.2%)
Poquoson City	51735	14.0%	(2.4%, 70.2%)	8.7%	(5.3%, 13.8%)
Portsmouth City	51740	11.8%	(6.0%, 21.8%)	11.9%	(10.0%, 14.1%)
Suffolk City	51800	9.1%	(2.9%, 25.0%)	13.3%	(11.3%, 15.5%)
Virginia Beach City	51810	18.1%	(13.4%, 24.1%)	16.3%	(14.0%, 18.8%)
Williamsburg City	51830	50.8%	(13.2%, 87.5%)	18.6%	(10.9%, 30.0%)

Section 4: Graphical representation

Binge drinking past 30 days
Alexandria, Fairfax, Arlington, Loudon, Prince William HDs
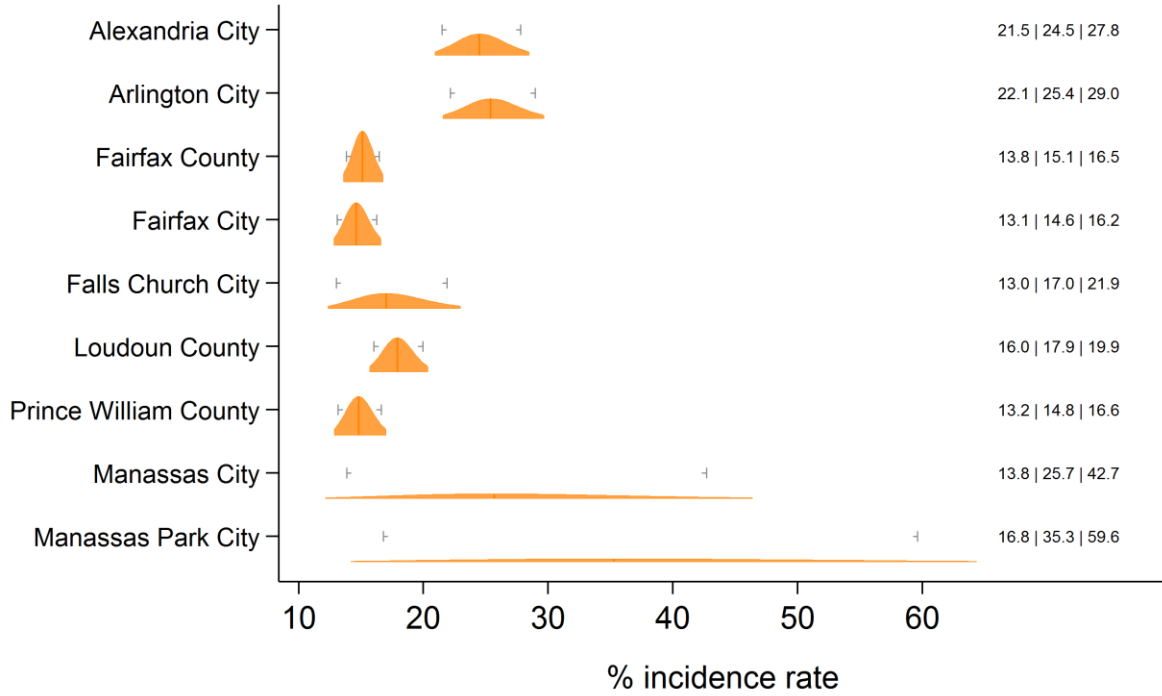
	% incidence rate	Text at right
Alexandria City		21.5 | 24.5 | 27.8
Arlington City		22.1 | 25.4 | 29.0
Fairfax County		13.8 | 15.1 | 16.5
Fairfax City		13.1 | 14.6 | 16.2
Falls Church City		13.0 | 17.0 | 21.9
Loudoun County		16.0 | 17.9 | 19.9
Prince William County		13.2 | 14.8 | 16.6
Manassas City		13.8 | 25.7 | 42.7
Manassas Park City		16.8 | 35.3 | 59.6

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Alleghany, Roanoke and Central Virginia HDs

County/City		1-sided 95% LCB	Point Estimate	1-sided 95% UCB
Alleghany County		8.9	10.8	13.0
Botetourt County		14.0	16.6	19.6
Craig County		10.3	17.3	27.5
Roanoke County		13.8	15.8	18.0
Covington City		5.4	10.2	18.3
Salem City		10.0	12.9	16.5
Amherst County		8.1	9.7	11.6
Appomattox County		8.1	11.0	14.7
Bedford County		15.0	16.6	18.4
Campbell County		12.4	14.3	16.4
Lynchburg City		11.8	14.6	17.9
Roanoke City		13.4	15.2	17.2

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Norfolk,Portsmouth,Chesapeake,VA Beach,W. Tidewater HDs
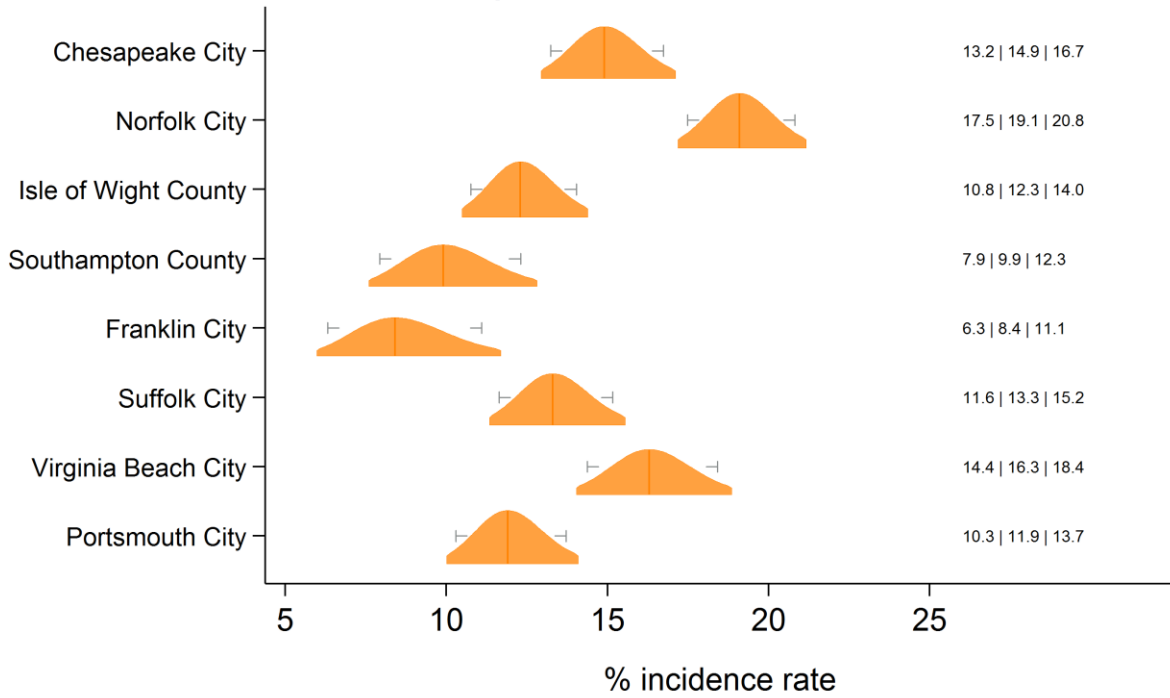
Location	1-sided 95% LCB	Point Estimate	1-sided 95% UCB
Chesapeake City	13.2	14.9	16.7
Norfolk City	17.5	19.1	20.8
Isle of Wight County	10.8	12.3	14.0
Southampton County	7.9	9.9	12.3
Franklin City	6.3	8.4	11.1
Suffolk City	11.6	13.3	15.2
Virginia Beach City	14.4	16.3	18.4
Portsmouth City	10.3	11.9	13.7

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Pittsylvania/Danville, Southside and West Piedmont HDs
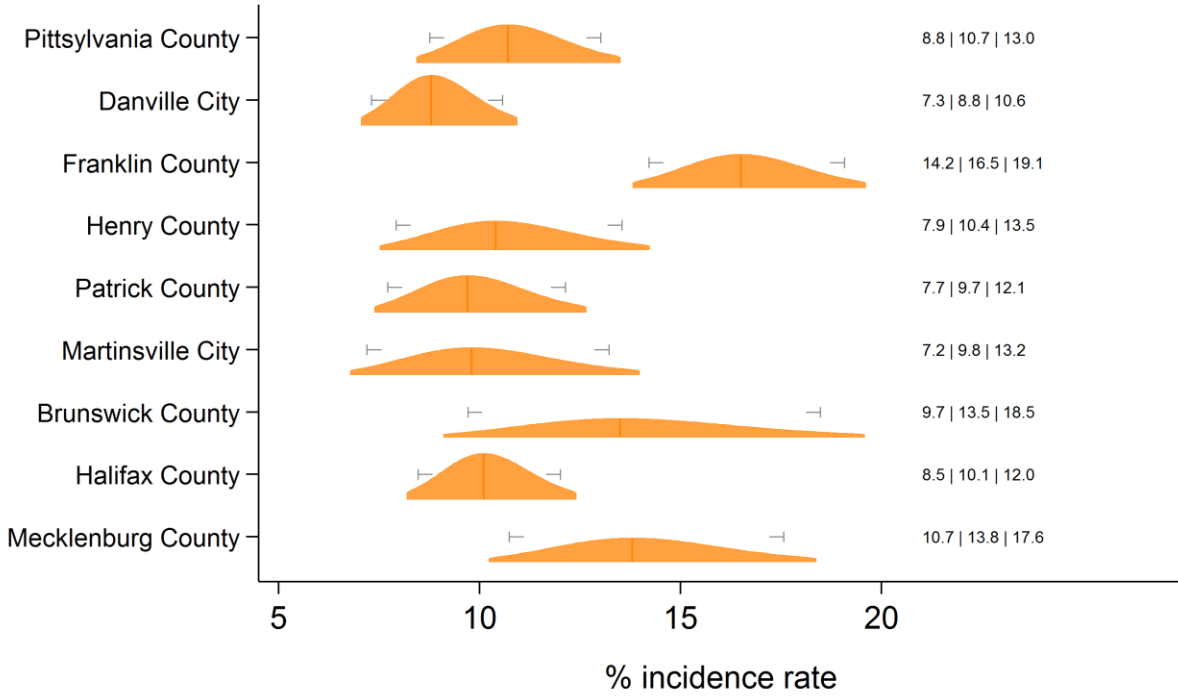
County	1-sided 95% LCB	Point Estimate	1-sided 95% UCB
Pittsylvania County	8.8	10.7	13.0
Danville City	7.3	8.8	10.6
Franklin County	14.2	16.5	19.1
Henry County	7.9	10.4	13.5
Patrick County	7.7	9.7	12.1
Martinsville City	7.2	9.8	13.2
Brunswick County	9.7	13.5	18.5
Halifax County	8.5	10.1	12.0
Mecklenburg County	10.7	13.8	17.6

% incidence rate
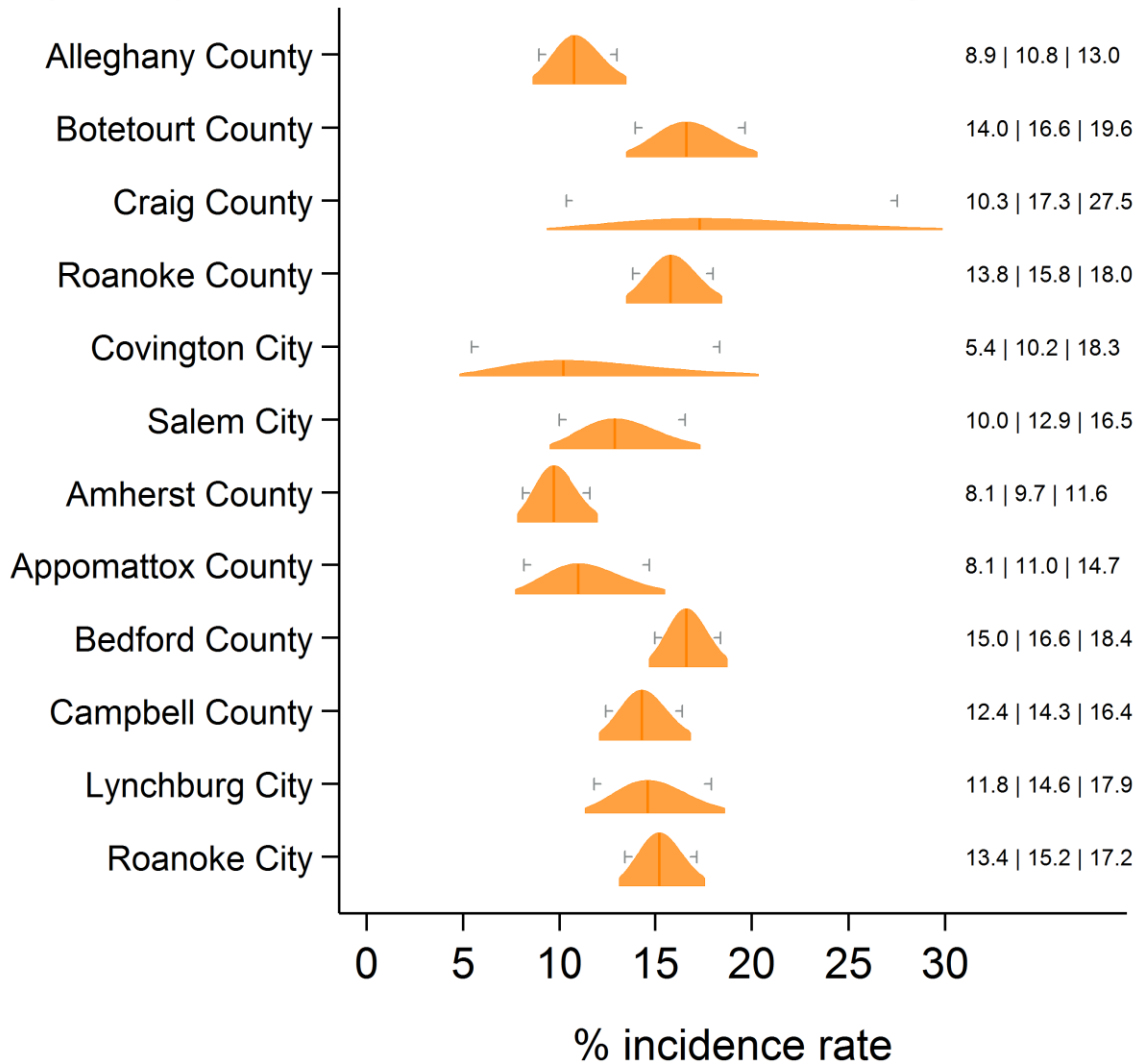
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Chesterfield, Chickahominy, Henrico and Richmond HDs
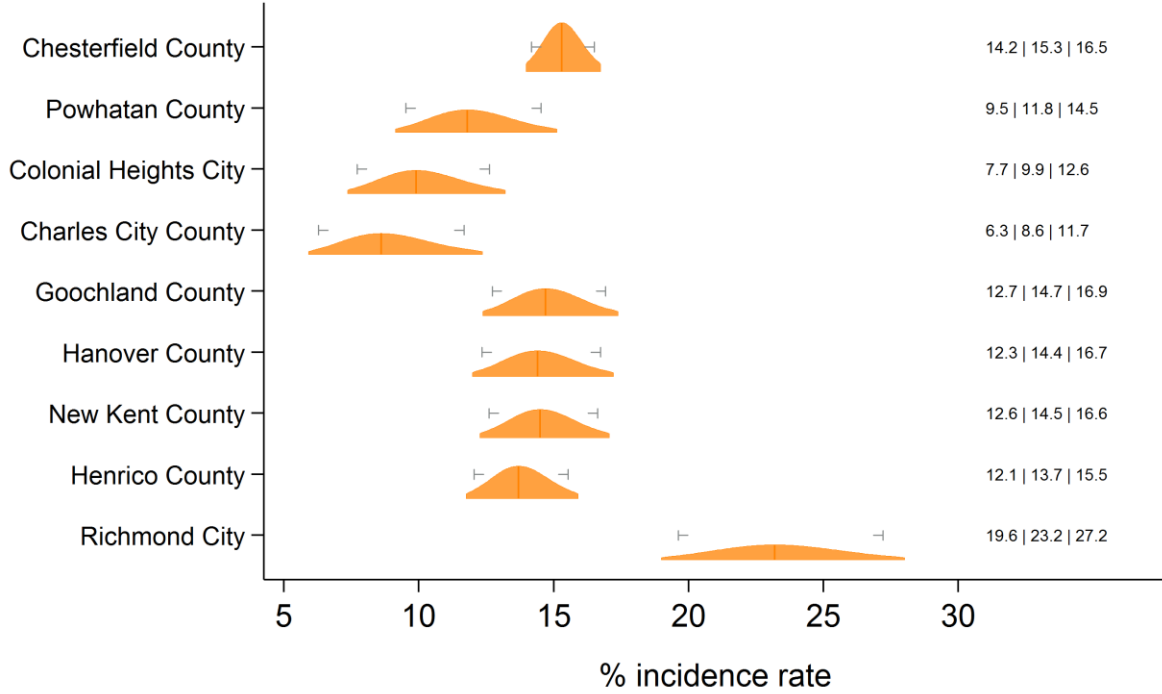
Location	1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Chesterfield County	14.2 | 15.3 | 16.5
Powhatan County	9.5 | 11.8 | 14.5
Colonial Heights City	7.7 | 9.9 | 12.6
Charles City County	6.3 | 8.6 | 11.7
Goochland County	12.7 | 14.7 | 16.9
Hanover County	12.3 | 14.4 | 16.7
New Kent County	12.6 | 14.5 | 16.6
Henrico County	12.1 | 13.7 | 15.5
Richmond City	19.6 | 23.2 | 27.2

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Rappahannock/Rapidan and Rappahannock HDs
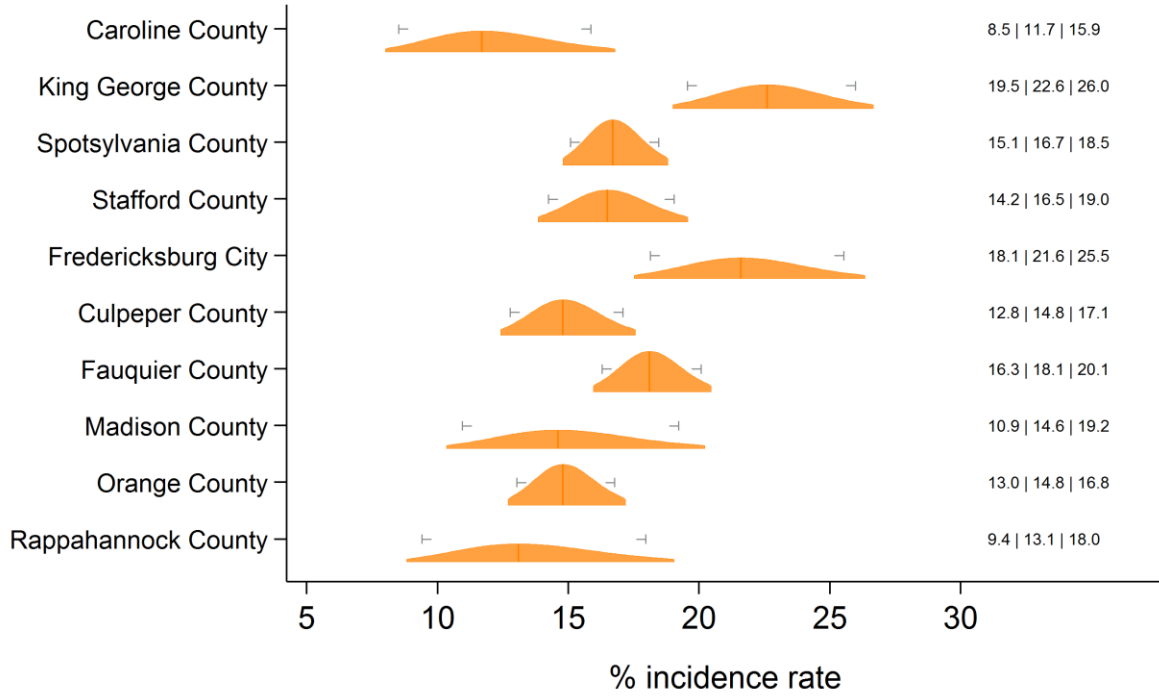
County	1-sided 95% LCB	Point Estimate	1-sided 95% UCB
Caroline County	8.5	11.7	15.9
King George County	19.5	22.6	26.0
Spotsylvania County	15.1	16.7	18.5
Stafford County	14.2	16.5	19.0
Fredericksburg City	18.1	21.6	25.5
Culpeper County	12.8	14.8	17.1
Fauquier County	16.3	18.1	20.1
Madison County	10.9	14.6	19.2
Orange County	13.0	14.8	16.8
Rappahannock County	9.4	13.1	18.0

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Central Shenandoah and Lord Fairfax HDs
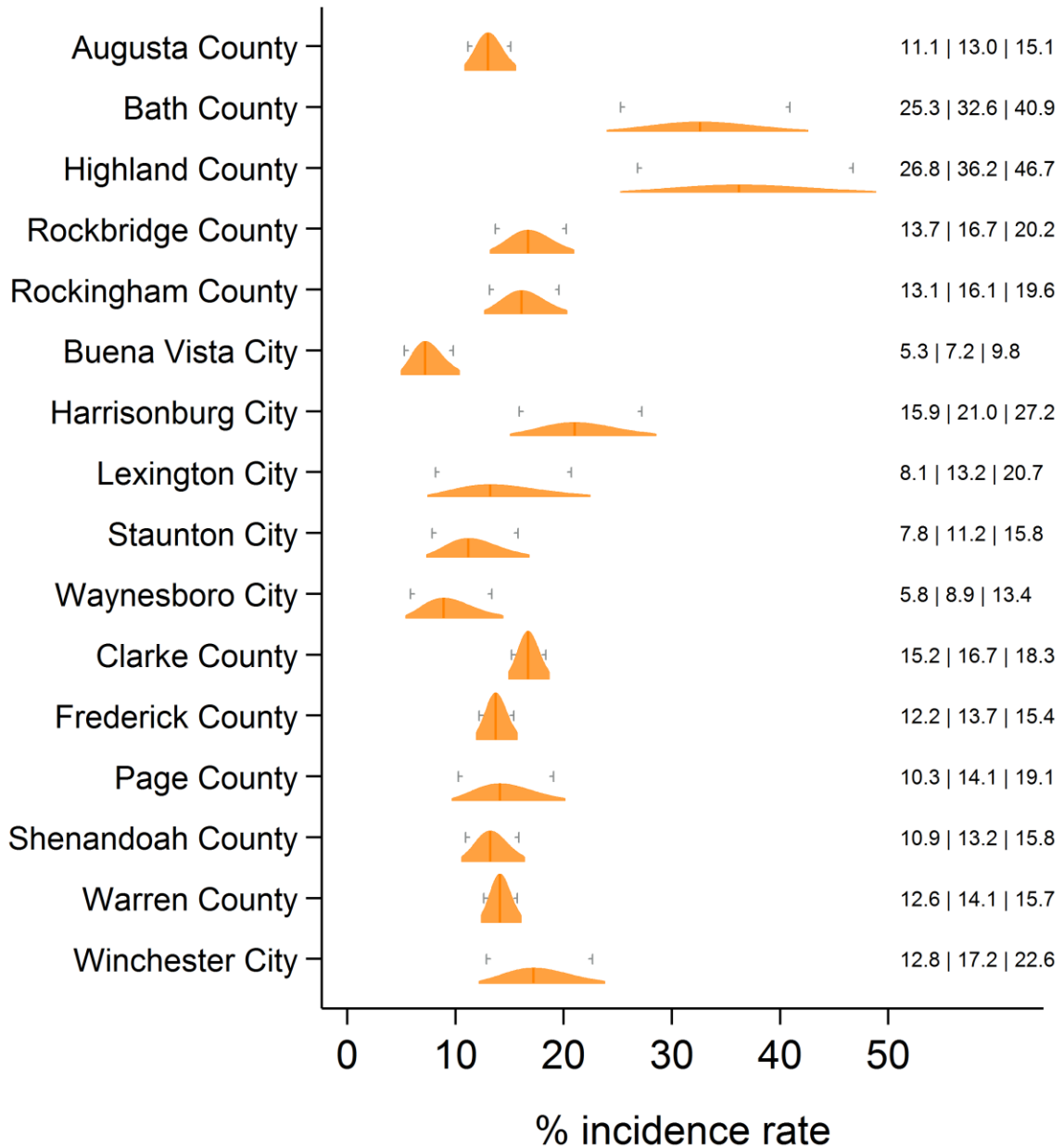
County/City		Values
Augusta County		11.1 | 13.0 | 15.1
Bath County		25.3 | 32.6 | 40.9
Highland County		26.8 | 36.2 | 46.7
Rockbridge County		13.7 | 16.7 | 20.2
Rockingham County		13.1 | 16.1 | 19.6
Buena Vista City		5.3 | 7.2 | 9.8
Harrisonburg City		15.9 | 21.0 | 27.2
Lexington City		8.1 | 13.2 | 20.7
Staunton City		7.8 | 11.2 | 15.8
Waynesboro City		5.8 | 8.9 | 13.4
Clarke County		15.2 | 16.7 | 18.3
Frederick County		12.2 | 13.7 | 15.4
Page County		10.3 | 14.1 | 19.1
Shenandoah County		10.9 | 13.2 | 15.8
Warren County		12.6 | 14.1 | 15.7
Winchester City		12.8 | 17.2 | 22.6

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Thomas Jefferson and Piedmont HDs
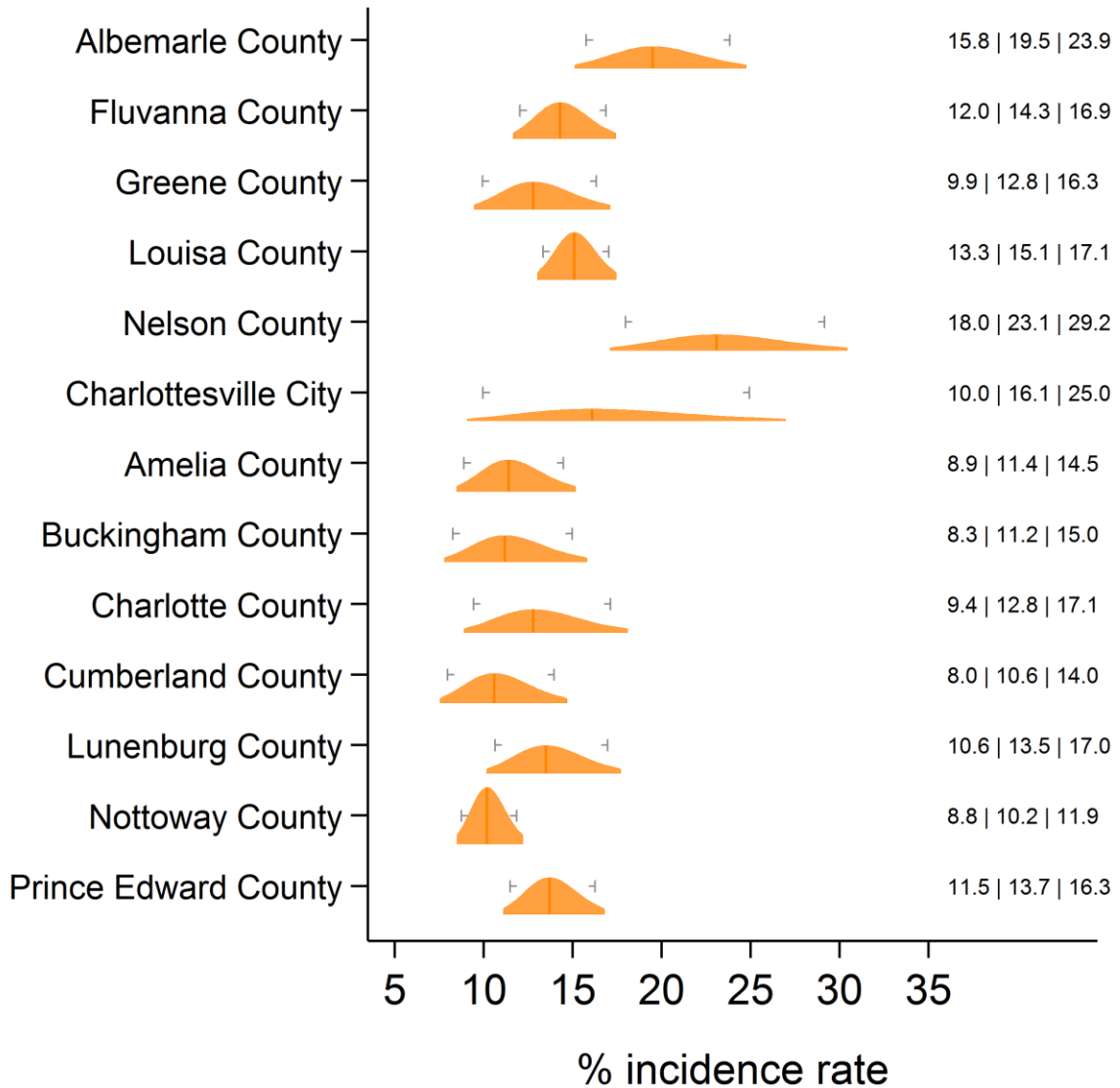
County	1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Albemarle County	15.8 | 19.5 | 23.9
Fluvanna County	12.0 | 14.3 | 16.9
Greene County	9.9 | 12.8 | 16.3
Louisa County	13.3 | 15.1 | 17.1
Nelson County	18.0 | 23.1 | 29.2
Charlottesville City	10.0 | 16.1 | 25.0
Amelia County	8.9 | 11.4 | 14.5
Buckingham County	8.3 | 11.2 | 15.0
Charlotte County	9.4 | 12.8 | 17.1
Cumberland County	8.0 | 10.6 | 14.0
Lunenburg County	10.6 | 13.5 | 17.0
Nottoway County	8.8 | 10.2 | 11.9
Prince Edward County	11.5 | 13.7 | 16.3

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Cumberland Plateau and Lenowisco HDs
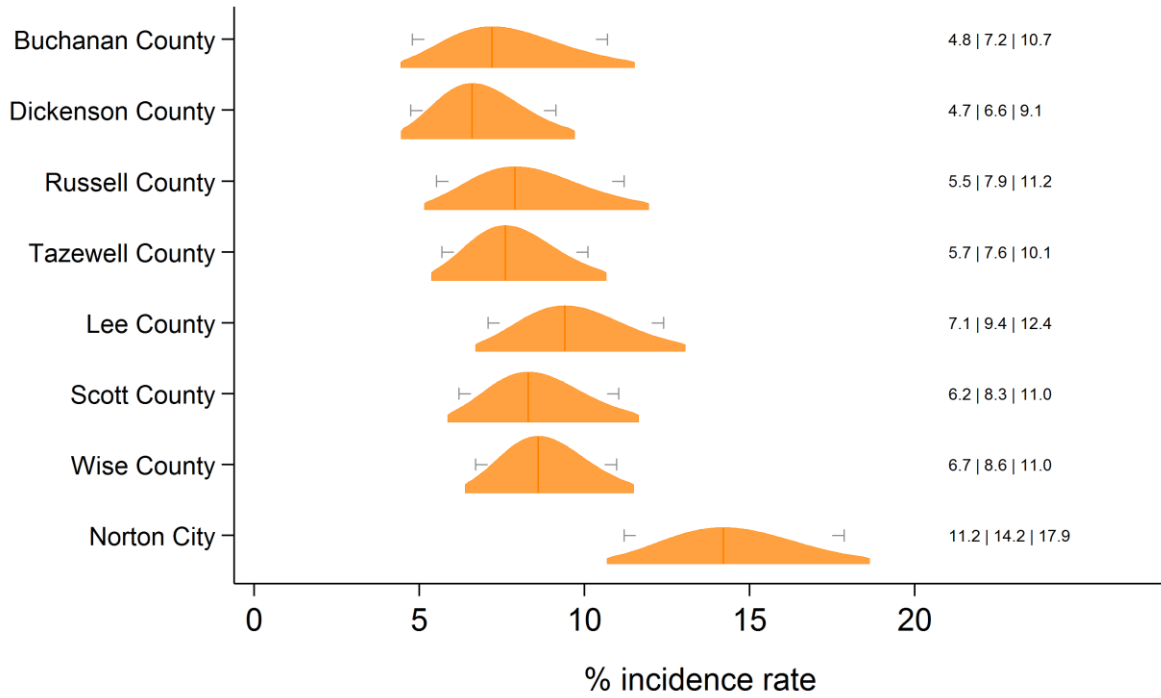
County		1-sided 95% LCB	Point Estimate	1-sided 95% UCB
Buchanan County		4.8 | 7.2 | 10.7
Dickenson County		4.7 | 6.6 | 9.1
Russell County		5.5 | 7.9 | 11.2
Tazewell County		5.7 | 7.6 | 10.1
Lee County		7.1 | 9.4 | 12.4
Scott County		6.2 | 8.3 | 11.0
Wise County		6.7 | 8.6 | 11.0
Norton City		11.2 | 14.2 | 17.9

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
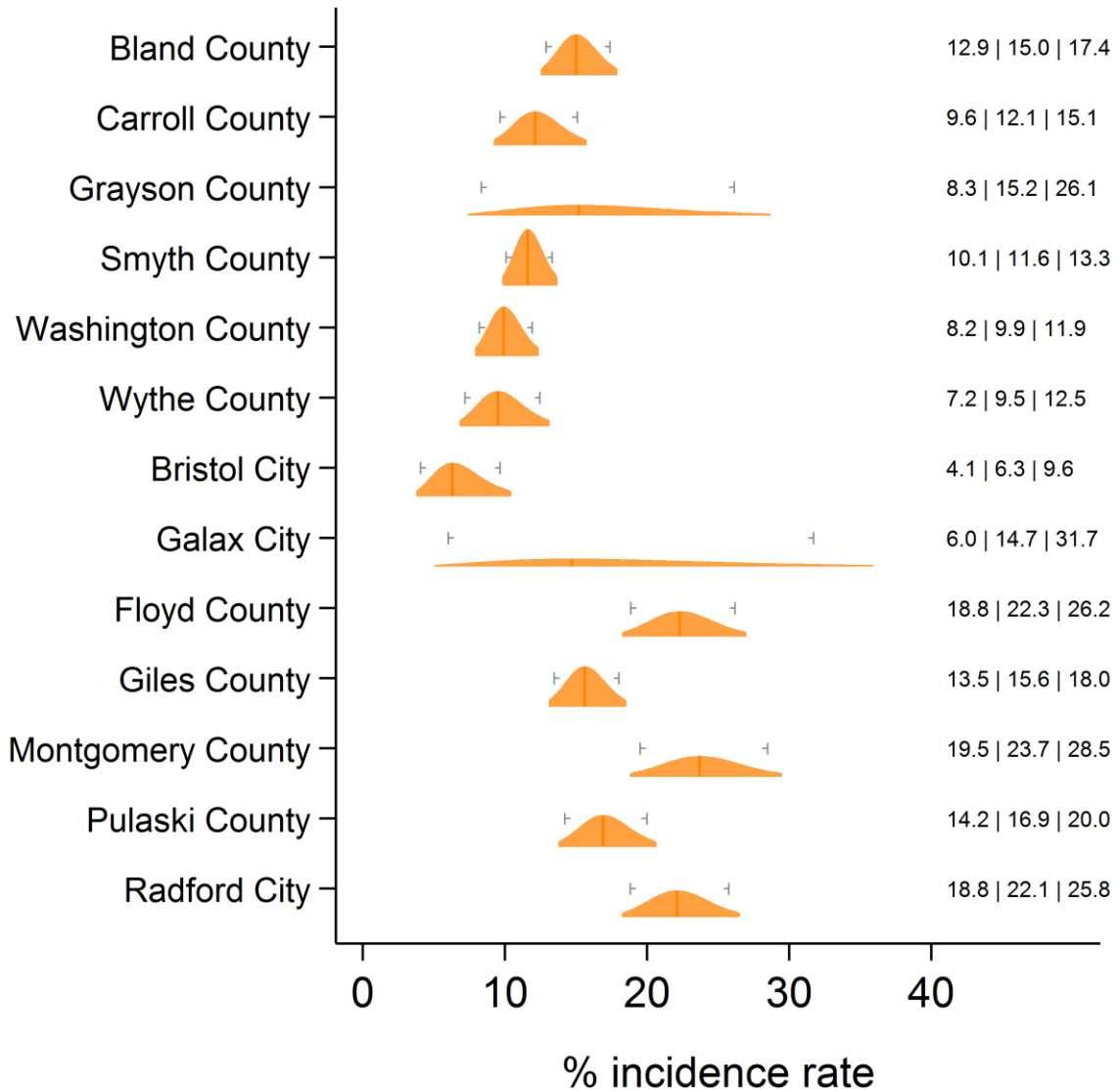## New River and Mount Rogers HDs

County		Values
Bland County		12.9 | 15.0 | 17.4
Carroll County		9.6 | 12.1 | 15.1
Grayson County		8.3 | 15.2 | 26.1
Smyth County		10.1 | 11.6 | 13.3
Washington County		8.2 | 9.9 | 11.9
Wythe County		7.2 | 9.5 | 12.5
Bristol City		4.1 | 6.3 | 9.6
Galax City		6.0 | 14.7 | 31.7
Floyd County		18.8 | 22.3 | 26.2
Giles County		13.5 | 15.6 | 18.0
Montgomery County		19.5 | 23.7 | 28.5
Pulaski County		14.2 | 16.9 | 20.0
Radford City		18.8 | 22.1 | 25.8

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Crater, Peninsula and Hampton HDs
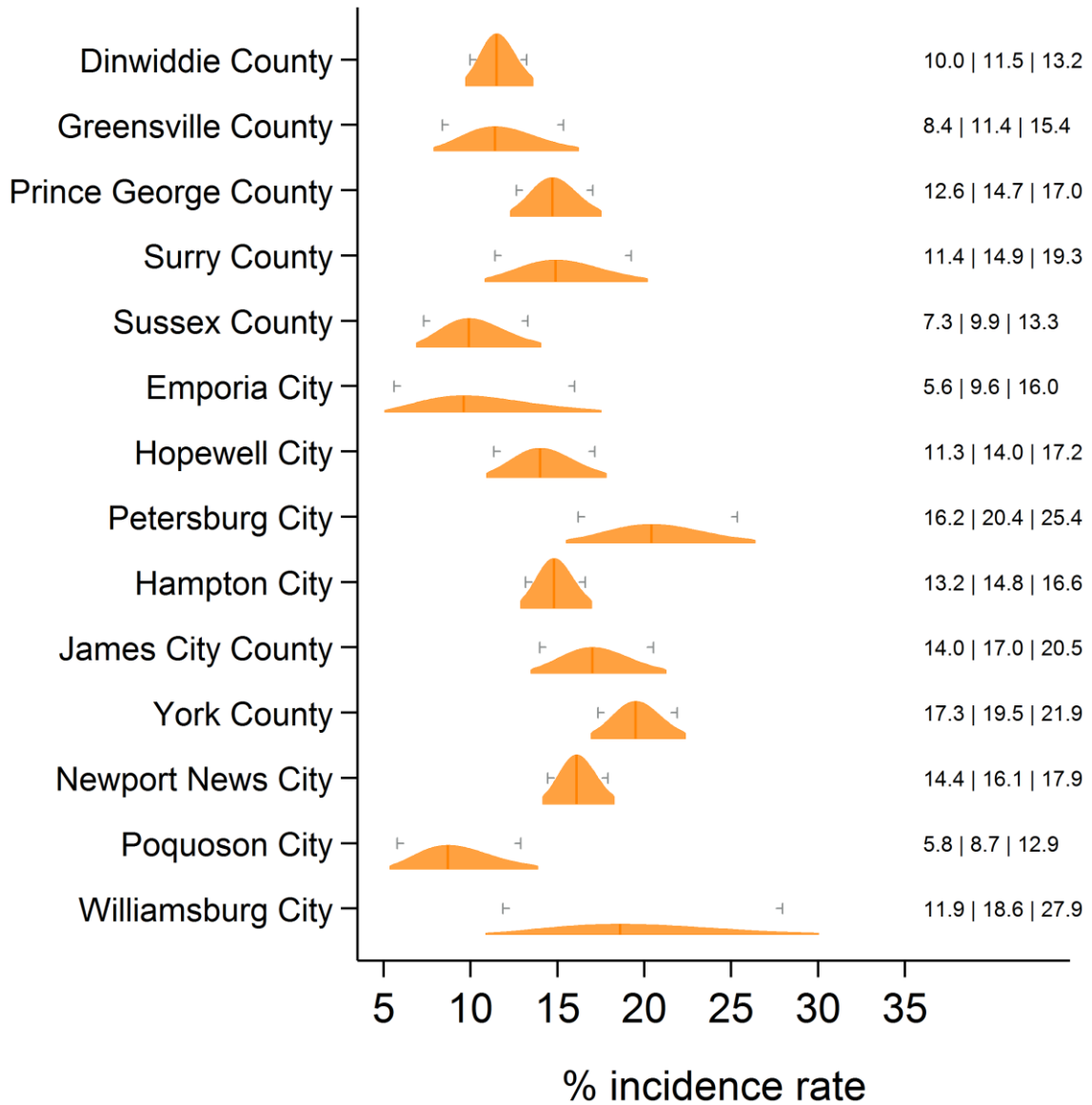
County/City		1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Dinwiddie County		10.0 | 11.5 | 13.2
Greensville County		8.4 | 11.4 | 15.4
Prince George County		12.6 | 14.7 | 17.0
Surry County		11.4 | 14.9 | 19.3
Sussex County		7.3 | 9.9 | 13.3
Emporia City		5.6 | 9.6 | 16.0
Hopewell City		11.3 | 14.0 | 17.2
Petersburg City		16.2 | 20.4 | 25.4
Hampton City		13.2 | 14.8 | 16.6
James City County		14.0 | 17.0 | 20.5
York County		17.3 | 19.5 | 21.9
Newport News City		14.4 | 16.1 | 17.9
Poquoson City		5.8 | 8.7 | 12.9
Williamsburg City		11.9 | 18.6 | 27.9

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Binge drinking past 30 days
Eastern Shore and Three Rivers HDs
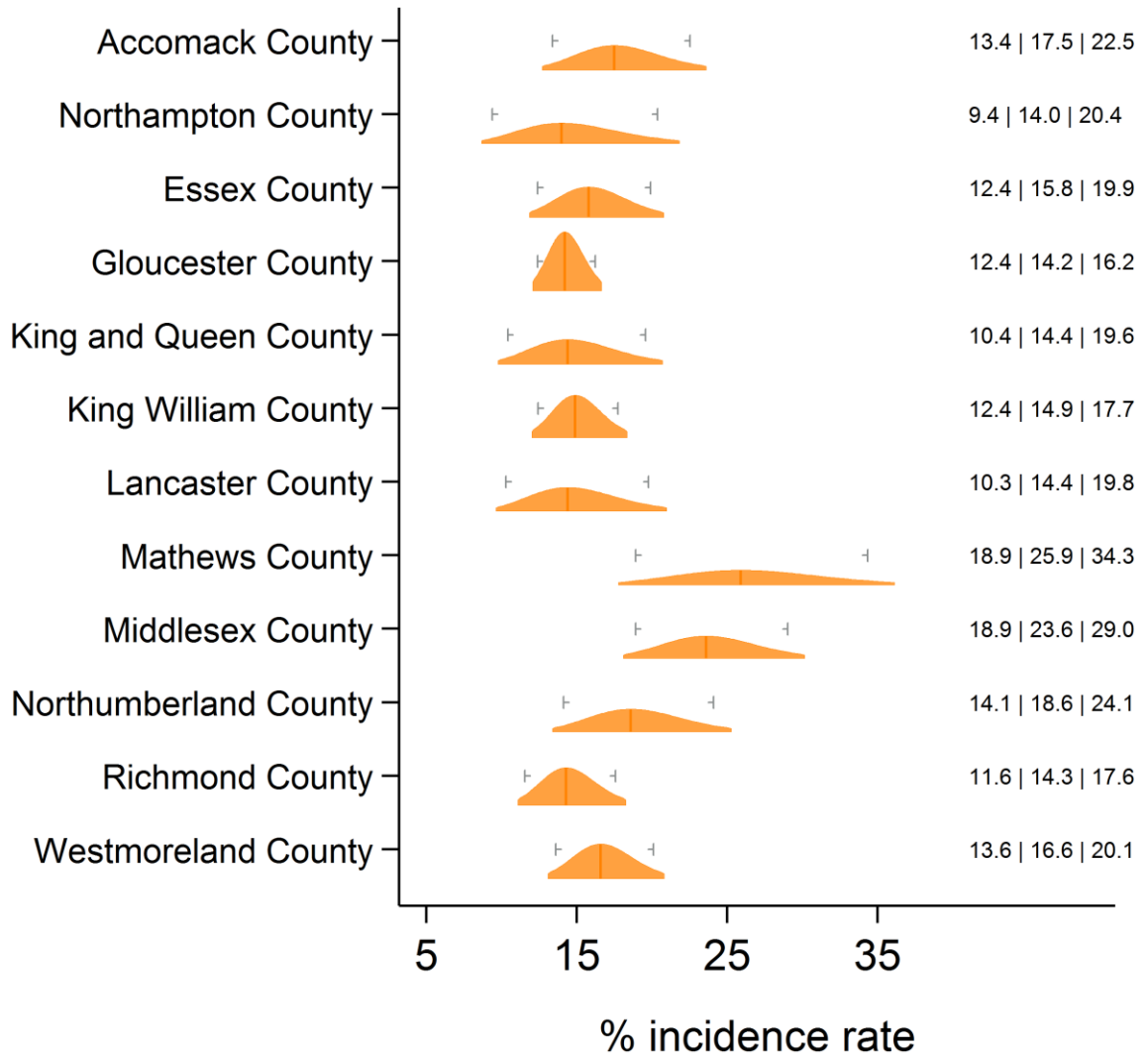
County	LCB | Point Estimate | UCB
Accomack County	13.4 | 17.5 | 22.5
Northampton County	9.4 | 14.0 | 20.4
Essex County	12.4 | 15.8 | 19.9
Gloucester County	12.4 | 14.2 | 16.2
King and Queen County	10.4 | 14.4 | 19.6
King William County	12.4 | 14.9 | 17.7
Lancaster County	10.3 | 14.4 | 19.8
Mathews County	18.9 | 25.9 | 34.3
Middlesex County	18.9 | 23.6 | 29.0
Northumberland County	14.1 | 18.6 | 24.1
Richmond County	11.6 | 14.3 | 17.6
Westmoreland County	13.6 | 16.6 | 20.1

% incidence rate

Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

Section 5: Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 40 areas.

Direct estimate is outside the 95% SAE Wilson CI: 93 areas.

SAE estimate is inside the 95% direct Wilson CI: 129 areas.

SAE estimate is outside the 95% direct Wilson CI: 4 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 118 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 15 areas.

SAE Wilson 95% CI and the 95% direct Wilson CI do not overlap: 0 areas.

SAE standard error is less that the direct standard error: 113 areas.

SAE standard error is greater that the (nonzero) direct standard error: 4 areas.

Direct standard error is zero: 16 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.17%; med = 3.03%; max = 15.80%.

Proportion of SAE variance to sampling error in regression coefficient estimates: min = 34.05%; med = 93.09%; max = 98.94%.

Proportion of SAE variance due to model selection: min = 0.01%; med = 2.35%; max = 64.78%.