

## Outcome 19: Have you had a test for high blood sugar or diabetes within the past

Internal variable name: outc19\_diabetes\_test

Definition: Have you had a test for high blood sugar or diabetes within the past three years?

### Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 19: Have you had a test for high blood sugar or diabetes within the past			
NH White	0.0000 (.)	0.0000 (.)	0.0000 (.)
NH Black vs. NH White	0.2839** (0.0951)	0.2855** (0.0957)	0.2839** (0.0951)
NH Asian vs. NH White	-0.2159 (0.1175)	-0.2166 (0.1976)	-0.2159 (0.1175)
NH Other vs. NH White	0.1272 (0.1285)	0.1274 (0.1559)	0.1272 (0.1285)
Hispanic vs. NH White	-0.0258 (0.1353)	-0.0253 (0.1413)	-0.0258 (0.1353)
SEX OF RESPONDENT=1	0.0000 (.)	0.0000 (.)	0.0000 (.)
Female	0.0155 (0.0602)	0.0156 (0.0702)	0.0155 (0.0602)
Age 18-34 vs. 65+	-1.4262*** (0.0918)	-1.4250*** (0.1015)	-1.4262*** (0.0918)
Age 35-44 vs. 65+	-0.6509*** (0.0899)	-0.6503*** (0.1061)	-0.6509*** (0.0899)
Age 45-54 vs. 65+	-0.1918 (0.1074)	-0.1914 (0.1027)	-0.1918 (0.1074)
Age 55-64 vs. 65+	0.0788 (0.1018)	0.0792 (0.0971)	0.0788 (0.1018)
65+	0.0000 (.)	0.0000 (.)	0.0000 (.)
_cons	0.6415*** (0.0649)	0.6413*** (0.0737)	0.6415*** (0.0649)
Area effect variance			
var(_cons[FIPS_county])	0.0024 (0.0264)		0.0024 (0.0264)

Number of alternative models used to estimate model error = 5.

## Results by health districts

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Augusta County	51015	45.7%	(34.0%, 58.0%)	58.7%	(55.9%, 61.4%)
Bath County	51017	70.4%	(31.8%, 92.4%)	59.4%	(55.1%, 63.6%)
Caroline County	51033	55.2%	(26.7%, 80.6%)	59.8%	(57.3%, 62.2%)
Clarke County	51043	76.8%	(40.7%, 94.1%)	59.6%	(56.7%, 62.5%)
Culpeper County	51047	42.3%	(23.2%, 63.9%)	59.9%	(57.2%, 62.5%)
Fauquier County	51061	45.3%	(30.7%, 60.7%)	59.7%	(57.0%, 62.4%)
Frederick County	51069	50.4%	(36.3%, 64.5%)	59.1%	(56.2%, 61.9%)
Highland County	51091	51.1%	(13.8%, 87.2%)	59.3%	(55.1%, 63.3%)
King George County	51099	86.1%	(58.1%, 94.4%)	60.1%	(57.3%, 62.9%)
Madison County	51113	78.6%	(49.6%, 93.2%)	60.4%	(57.5%, 63.3%)
Orange County	51137	66.1%	(44.2%, 82.8%)	60.4%	(57.6%, 63.2%)
Page County	51139	55.7%	(28.9%, 79.5%)	59.9%	(55.9%, 63.7%)
Rappahannock County	51157	56.3%	(14.0%, 91.0%)	60.2%	(57.2%, 63.2%)
Rockbridge County	51163	39.1%	(20.5%, 61.5%)	59.0%	(56.1%, 61.7%)
Rockingham County	51165	38.3%	(25.2%, 53.4%)	54.4%	(51.5%, 57.4%)
Shenandoah County	51171	67.4%	(50.5%, 80.8%)	60.2%	(57.2%, 63.1%)
Spotsylvania County	51177	60.5%	(47.8%, 71.9%)	59.8%	(57.1%, 62.4%)
Stafford County	51179	50.5%	(38.7%, 62.2%)	57.9%	(55.2%, 60.5%)
Warren County	51187	63.0%	(44.1%, 78.6%)	60.0%	(56.9%, 63.0%)
Buena Vista City	51530	52.2%	(11.3%, 90.3%)	59.3%	(56.5%, 62.1%)
Fredericksburg City	51630	43.7%	(24.2%, 65.3%)	58.0%	(55.2%, 60.7%)
Harrisonburg City	51660	16.9%	(4.3%, 47.9%)	54.7%	(50.6%, 58.8%)
Lexington City	51678	.%	(.%, .%)	59.3%	(56.0%, 62.6%)
Staunton City	51790	27.4%	(7.7%, 62.8%)	59.0%	(56.1%, 61.9%)
Waynesboro	51820	60.6%	(14.5%, 93.4%)	59.4%	(55.5%, 63.1%)

City					
Winchester City	51840	27.8%	(10.1%, 62.1%)	59.2%	(56.1%, 62.2%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	50.1%	(37.1%, 63.1%)	57.7%	(55.0%, 60.3%)
Alleghany County	51005	45.4%	(24.9%, 67.6%)	60.1%	(57.5%, 62.6%)
Amherst County	51009	62.8%	(43.8%, 78.5%)	60.9%	(57.9%, 63.8%)
Appomattox County	51011	40.3%	(24.1%, 58.9%)	60.1%	(56.6%, 63.6%)
Arlington City	51013	53.0%	(40.3%, 65.4%)	56.9%	(54.5%, 59.3%)
Bedford County	51019	67.7%	(55.4%, 78.0%)	61.4%	(58.6%, 64.2%)
Botetourt County	51023	54.1%	(31.9%, 74.8%)	60.3%	(57.6%, 63.0%)
Campbell County	51031	57.3%	(43.1%, 70.4%)	56.3%	(53.4%, 59.2%)
Craig County	51045	25.6%	(4.2%, 72.9%)	60.2%	(57.4%, 63.0%)
Fairfax County	51059	51.6%	(46.1%, 57.0%)	57.3%	(55.5%, 59.0%)
Fluvanna County	51065	57.5%	(33.2%, 78.7%)	60.5%	(57.4%, 63.6%)
Greene County	51079	89.1%	(34.5%, 97.7%)	56.5%	(53.5%, 59.4%)
Loudoun County	51107	51.1%	(42.4%, 59.8%)	57.8%	(55.8%, 59.8%)
Louisa County	51109	51.1%	(28.9%, 72.9%)	60.4%	(57.0%, 63.7%)
Nelson County	51125	45.9%	(14.7%, 80.7%)	60.5%	(57.5%, 63.5%)
Prince William County	51153	56.1%	(47.9%, 63.9%)	59.1%	(56.8%, 61.3%)
Roanoke County	51161	52.5%	(40.8%, 64.0%)	60.0%	(57.3%, 62.6%)
Alexandria City	51510	46.3%	(33.3%, 59.9%)	58.8%	(56.0%, 61.5%)
Charlottesville City	51540	15.8%	(8.1%, 34.6%)	55.5%	(51.2%, 59.7%)
Covington City	51580	100.0%	(0.6%, 100.0%)	60.4%	(56.4%, 64.3%)
Fairfax City	51600	51.1%	(34.2%, 67.6%)	57.3%	(55.0%, 59.7%)
Falls Church City	51610	36.9%	(12.1%, 71.4%)	58.8%	(55.8%, 61.7%)
Lynchburg City	51680	54.1%	(39.5%, 68.0%)	56.2%	(53.0%, 59.3%)
Manassas City	51683	32.3%	(14.6%, 57.0%)	57.2%	(53.6%, 60.8%)
Manassas Park City	51685	59.8%	(14.8%, 92.7%)	57.6%	(52.9%, 62.2%)
Salem City	51775	65.1%	(26.0%, 90.8%)	59.7%	(56.4%, 63.0%)



County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	50.4%	(10.5%, 89.8%)	60.3%	(57.0%, 63.6%)
Buchanan County	51027	64.0%	(40.3%, 82.4%)	60.2%	(56.6%, 63.8%)
Carroll County	51035	34.0%	(16.6%, 57.1%)	60.0%	(57.4%, 62.7%)
Dickenson County	51051	57.3%	(30.1%, 80.7%)	60.1%	(55.9%, 64.2%)
Floyd County	51063	22.2%	(9.9%, 42.4%)	53.8%	(48.2%, 59.3%)
Franklin County	51067	54.8%	(38.7%, 69.9%)	60.2%	(57.6%, 62.7%)
Giles County	51071	23.4%	(5.9%, 59.6%)	54.1%	(50.7%, 57.4%)
Grayson County	51077	79.2%	(53.3%, 92.7%)	60.6%	(56.9%, 64.3%)
Henry County	51089	44.9%	(29.5%, 61.4%)	61.3%	(58.5%, 64.1%)
Lee County	51105	86.2%	(57.3%, 96.7%)	60.4%	(57.1%, 63.6%)
Montgomery County	51121	36.1%	(25.0%, 49.0%)	53.5%	(50.2%, 56.8%)
Patrick County	51141	40.4%	(19.5%, 65.5%)	61.5%	(58.8%, 64.2%)
Pittsylvania County	51143	57.5%	(43.2%, 70.6%)	61.7%	(58.9%, 64.4%)
Pulaski County	51155	62.1%	(41.4%, 79.2%)	54.5%	(51.2%, 57.7%)
Russell County	51167	35.9%	(18.0%, 58.9%)	59.7%	(54.1%, 65.1%)
Scott County	51169	59.4%	(43.0%, 73.9%)	60.1%	(56.6%, 63.5%)
Smyth County	51173	75.4%	(56.5%, 87.9%)	60.8%	(58.1%, 63.4%)
Tazewell County	51185	50.1%	(32.5%, 67.8%)	59.9%	(56.3%, 63.4%)
Washington County	51191	48.7%	(34.1%, 63.4%)	60.0%	(56.9%, 63.0%)
Wise County	51195	66.9%	(49.8%, 80.4%)	60.6%	(57.1%, 63.9%)
Wythe County	51197	56.4%	(35.2%, 75.5%)	60.3%	(57.4%, 63.2%)
Bristol City	51520	32.7%	(4.7%, 82.6%)	60.2%	(57.4%, 63.0%)
Danville City	51590	58.1%	(24.7%, 85.4%)	61.8%	(59.0%, 64.6%)
Galax City	51640	100.0%	(7.8%, 100.0%)	60.4%	(57.1%, 63.7%)
Martinsville City	51690	85.9%	(32.2%, 97.6%)	62.0%	(59.4%, 64.5%)
Norton City	51720	14.5%	(0.3%, 97.9%)	60.1%	(57.1%, 63.0%)
Radford City	51750	35.9%	(16.5%, 61.4%)	54.0%	(50.2%, 57.7%)
Roanoke City	51770	38.6%	(26.2%, 52.7%)	58.9%	(55.6%, 62.1%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	54.5%	(23.3%, 82.6%)	61.0%	(58.1%, 63.7%)
Brunswick County	51025	37.2%	(14.2%, 67.8%)	60.8%	(57.4%, 64.0%)
Buckingham County	51029	45.4%	(20.7%, 72.6%)	60.9%	(57.8%, 63.9%)
Charles City County	51036	61.4%	(8.4%, 96.5%)	60.5%	(57.2%, 63.8%)
Charlotte County	51037	50.8%	(24.1%, 77.1%)	61.0%	(57.8%, 64.1%)
Chesterfield County	51041	58.3%	(49.9%, 66.2%)	60.2%	(57.9%, 62.5%)
Cumberland County	51049	47.0%	(16.8%, 79.6%)	60.9%	(57.6%, 64.2%)
Dinwiddie County	51053	69.8%	(52.8%, 82.7%)	61.7%	(58.3%, 64.9%)
Goochland County	51075	63.1%	(20.1%, 92.1%)	60.6%	(58.0%, 63.1%)
Greensville County	51081	66.3%	(34.4%, 88.0%)	61.4%	(58.4%, 64.3%)
Halifax County	51083	56.3%	(38.8%, 72.4%)	61.0%	(58.1%, 63.7%)
Hanover County	51085	51.4%	(36.4%, 66.1%)	60.2%	(57.5%, 62.9%)
Henrico County	51087	56.9%	(47.3%, 66.1%)	60.4%	(58.0%, 62.8%)
Lunenburg County	51111	41.2%	(14.8%, 73.9%)	60.9%	(57.8%, 63.9%)
Mecklenburg County	51117	52.4%	(33.2%, 70.9%)	60.9%	(58.1%, 63.6%)
New Kent County	51127	52.1%	(27.9%, 75.4%)	60.4%	(57.6%, 63.2%)
Nottoway County	51135	58.9%	(32.7%, 80.8%)	61.1%	(57.9%, 64.2%)
Powhatan County	51145	80.8%	(54.5%, 93.7%)	60.9%	(58.3%, 63.4%)
Prince Edward County	51147	46.1%	(24.4%, 69.4%)	60.9%	(57.4%, 64.3%)
Prince George County	51149	70.7%	(51.8%, 84.4%)	61.7%	(57.5%, 65.7%)
Surry County	51181	63.3%	(22.7%, 91.0%)	61.4%	(58.0%, 64.8%)
Sussex County	51183	59.7%	(30.4%, 83.4%)	61.4%	(58.2%, 64.5%)
Colonial Heights City	51570	60.7%	(30.5%, 84.5%)	61.5%	(58.4%, 64.5%)
Emporia City	51595	61.7%	(3.5%, 98.5%)	61.4%	(55.9%, 66.6%)
Hopewell City	51670	64.6%	(32.7%, 87.2%)	61.5%	(58.4%, 64.5%)
Petersburg	51730	72.5%	(48.6%, 88.0%)	61.7%	(58.5%, 64.8%)



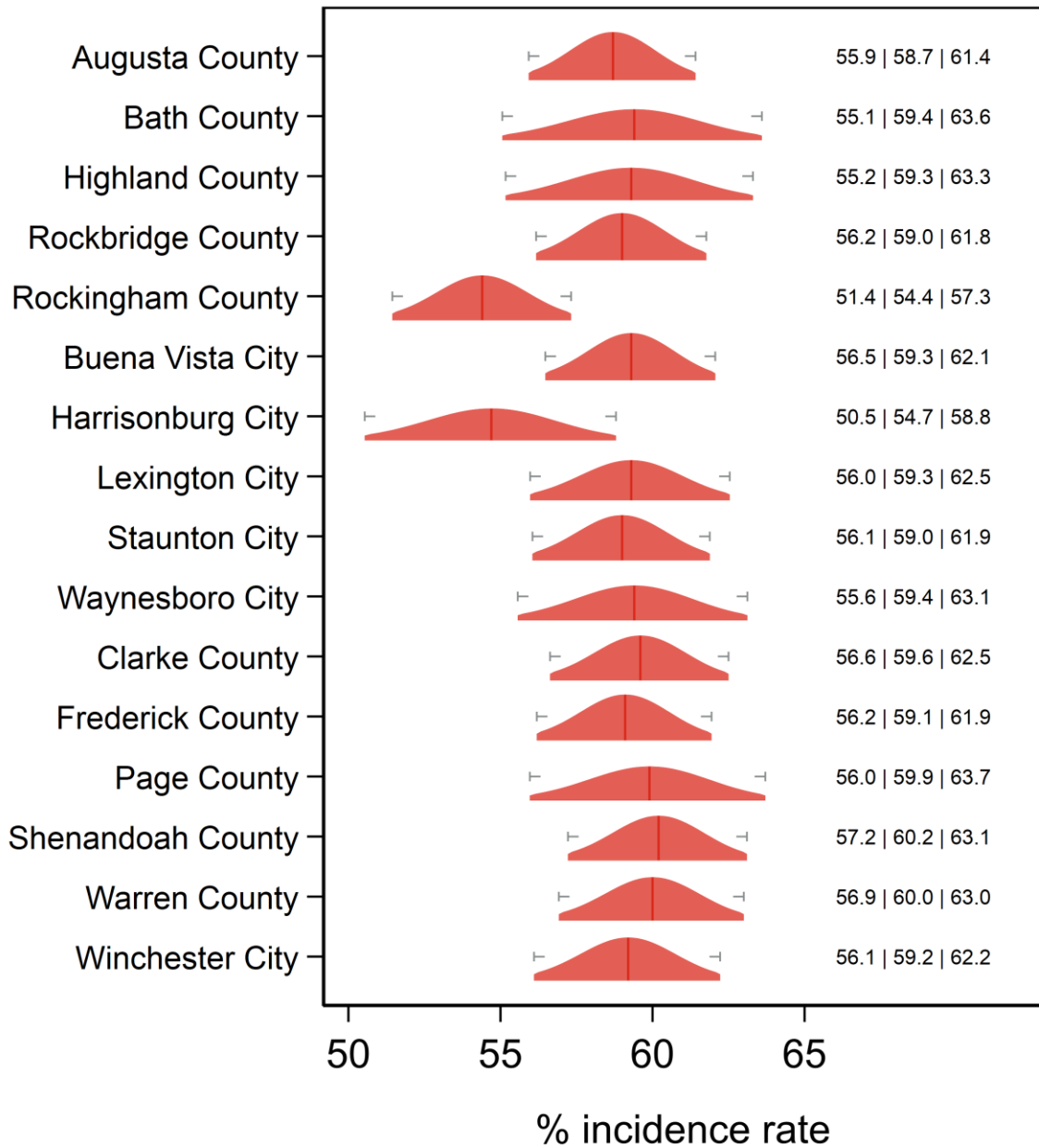
City					
Richmond City	51760	46.4%	(35.2%, 58.0%)	58.1%	(55.0%, 61.1%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	61.3%	(44.5%, 75.8%)	62.1%	(59.0%, 65.2%)
Essex County	51057	39.9%	(15.3%, 70.8%)	61.9%	(58.5%, 65.1%)
Gloucester County	51073	56.3%	(38.9%, 72.3%)	62.0%	(59.0%, 64.9%)
Isle of Wight County	51093	63.2%	(38.3%, 82.6%)	61.7%	(58.8%, 64.5%)
James City County	51095	43.8%	(30.4%, 58.2%)	58.5%	(55.8%, 61.1%)
King and Queen County	51097	55.5%	(18.8%, 87.0%)	62.0%	(58.4%, 65.6%)
King William County	51101	50.2%	(18.9%, 81.4%)	60.5%	(57.9%, 63.0%)
Lancaster County	51103	50.4%	(27.1%, 73.7%)	62.0%	(58.3%, 65.5%)
Mathews County	51115	45.6%	(24.0%, 69.1%)	61.9%	(57.9%, 65.7%)
Middlesex County	51119	63.6%	(34.3%, 85.4%)	62.2%	(58.9%, 65.3%)
Northampton County	51131	44.8%	(21.8%, 70.3%)	61.9%	(58.9%, 64.7%)
Northumberland County	51133	62.3%	(28.4%, 87.3%)	62.1%	(58.8%, 65.2%)
Richmond County	51159	56.8%	(35.0%, 76.3%)	62.1%	(58.5%, 65.7%)
Southampton County	51175	41.6%	(19.2%, 68.1%)	61.3%	(58.4%, 64.1%)
Westmoreland County	51193	68.2%	(44.3%, 85.3%)	62.3%	(57.7%, 66.6%)
York County	51199	52.3%	(36.2%, 67.9%)	59.0%	(56.4%, 61.6%)
Chesapeake City	51550	52.4%	(43.0%, 61.8%)	59.6%	(57.1%, 62.0%)
Franklin City	51620	63.4%	(23.9%, 90.5%)	61.6%	(58.2%, 64.8%)
Hampton City	51650	59.8%	(48.2%, 70.4%)	60.2%	(57.1%, 63.3%)
Newport News City	51700	52.9%	(42.1%, 63.5%)	58.7%	(56.0%, 61.4%)
Norfolk City	51710	49.8%	(40.5%, 59.0%)	55.9%	(53.3%, 58.5%)
Poquoson City	51735	65.5%	(23.1%, 92.3%)	59.2%	(56.5%, 61.9%)
Portsmouth City	51740	41.2%	(29.7%, 53.7%)	59.4%	(56.2%, 62.6%)
Suffolk City	51800	72.8%	(58.5%, 83.6%)	62.2%	(59.1%, 65.2%)
Virginia Beach City	51810	55.6%	(47.4%, 63.6%)	58.6%	(56.4%, 60.7%)
Williamsburg City	51830	48.2%	(15.3%, 82.8%)	59.1%	(56.0%, 62.1%)



Graphical representation

# Had a diabetes test past yr Central Shenandoah and Lord Fairfax HDs

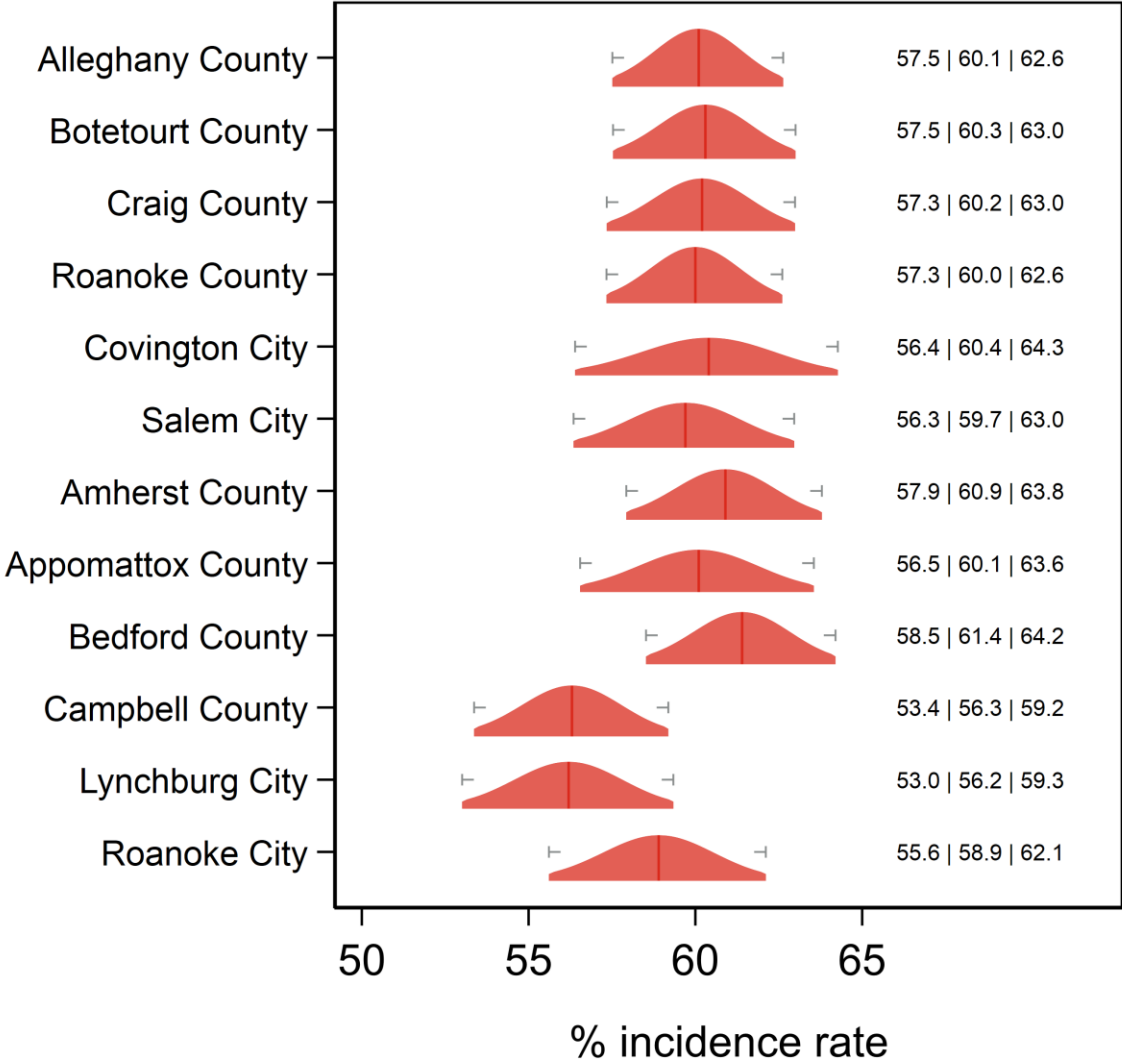


Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
Gray markers: 95% confidence interval



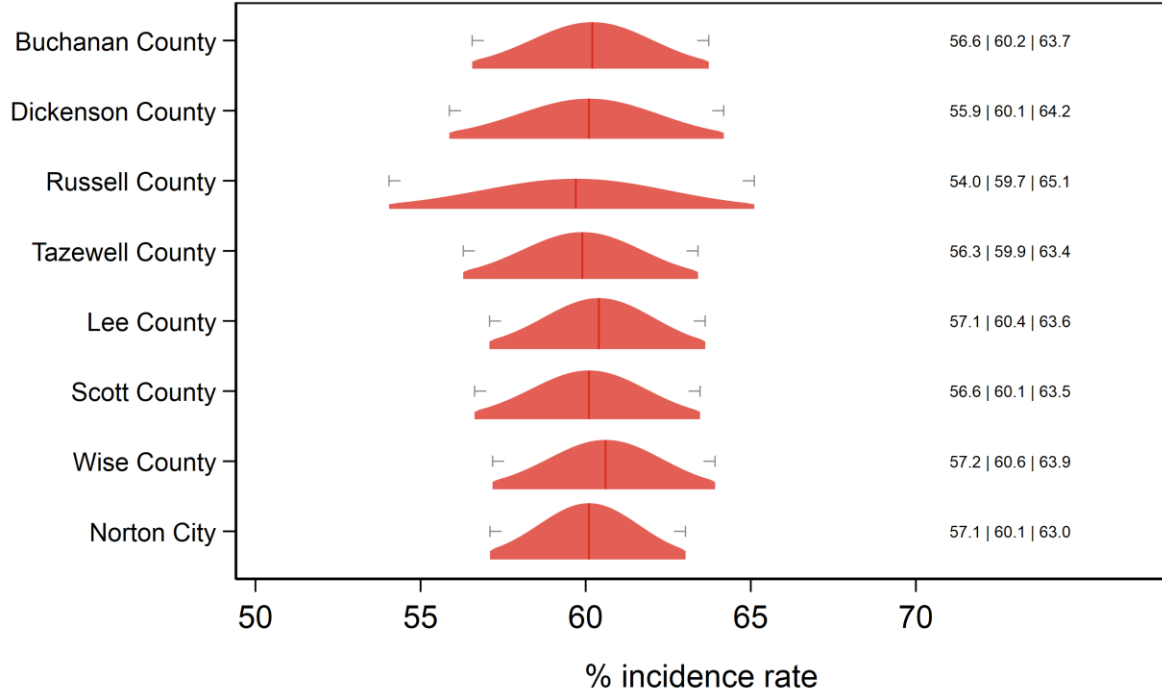
# Had a diabetes test past yr

## Alleghany, Roanoke and Central Virginia HDs



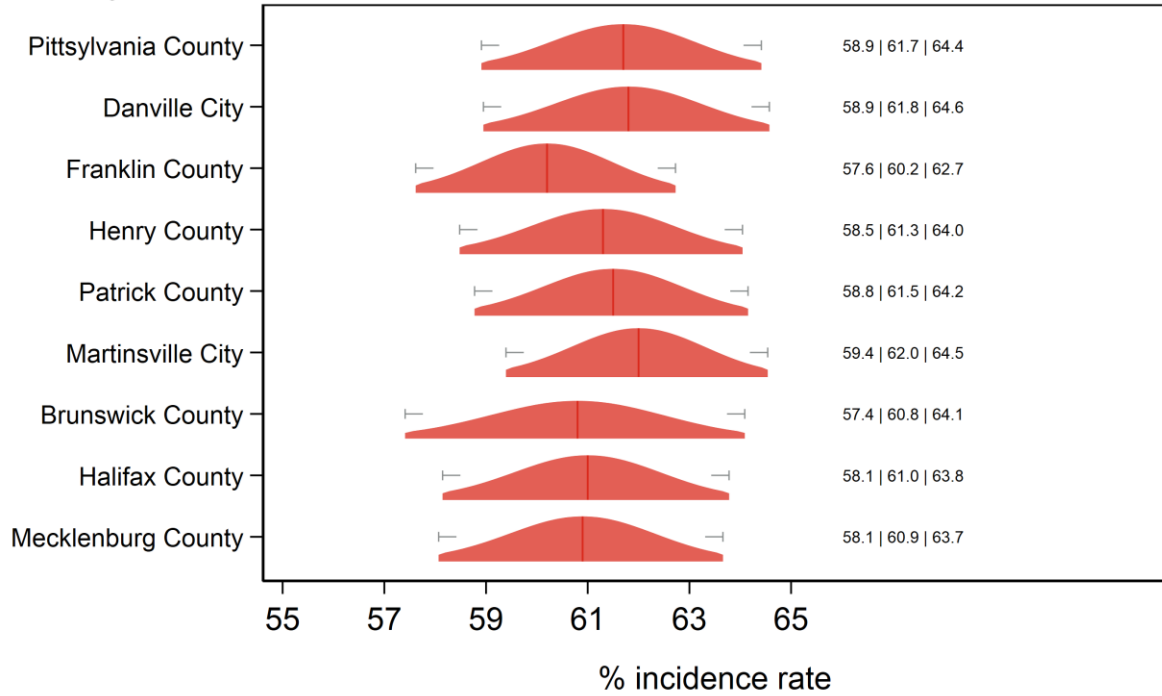
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

## Had a diabetes test past yr Cumberland Plateau and Lenowisco HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

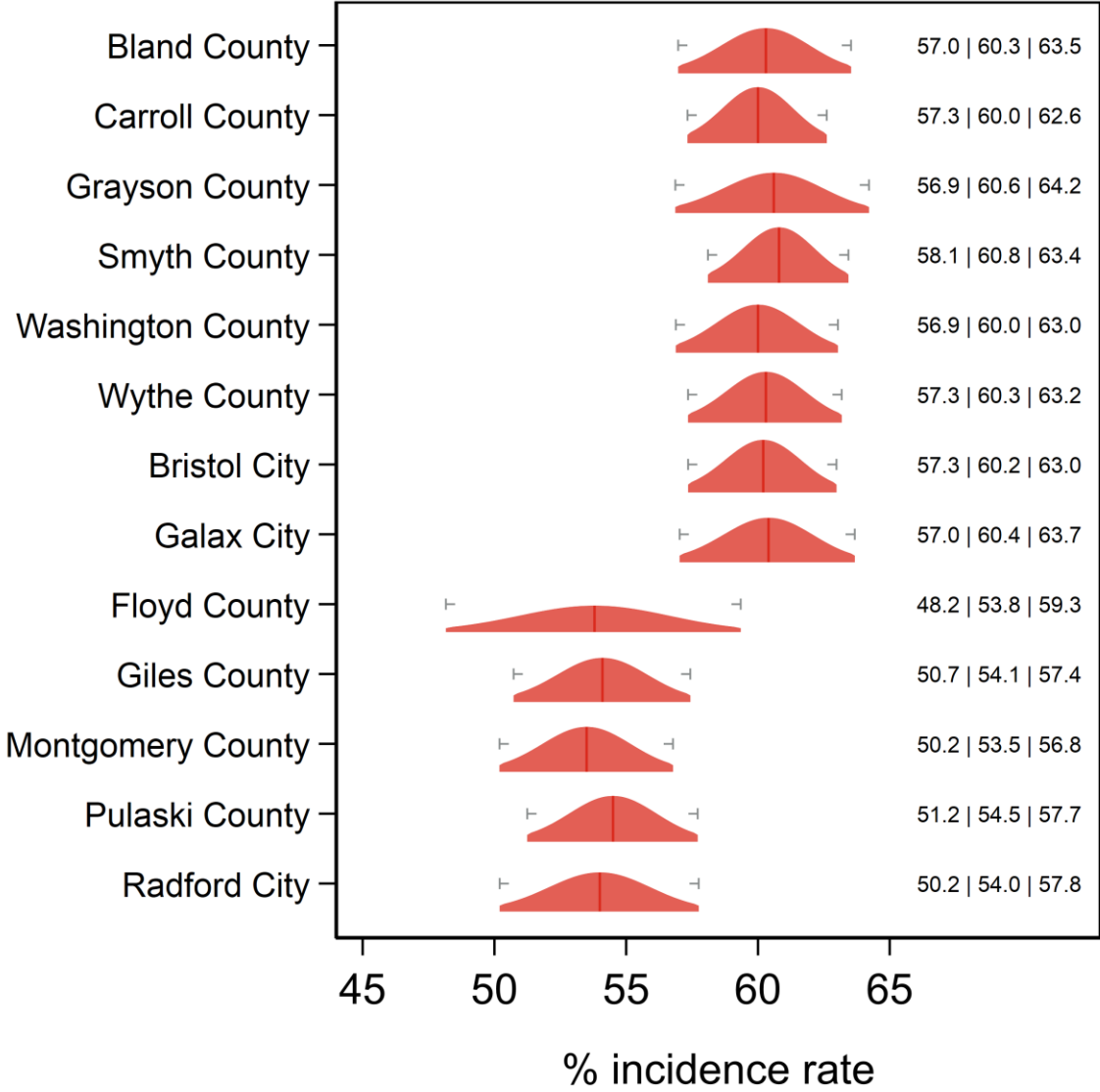
## Had a diabetes test past yr Pittsylvania/Danville, Southside and West Piedmont HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

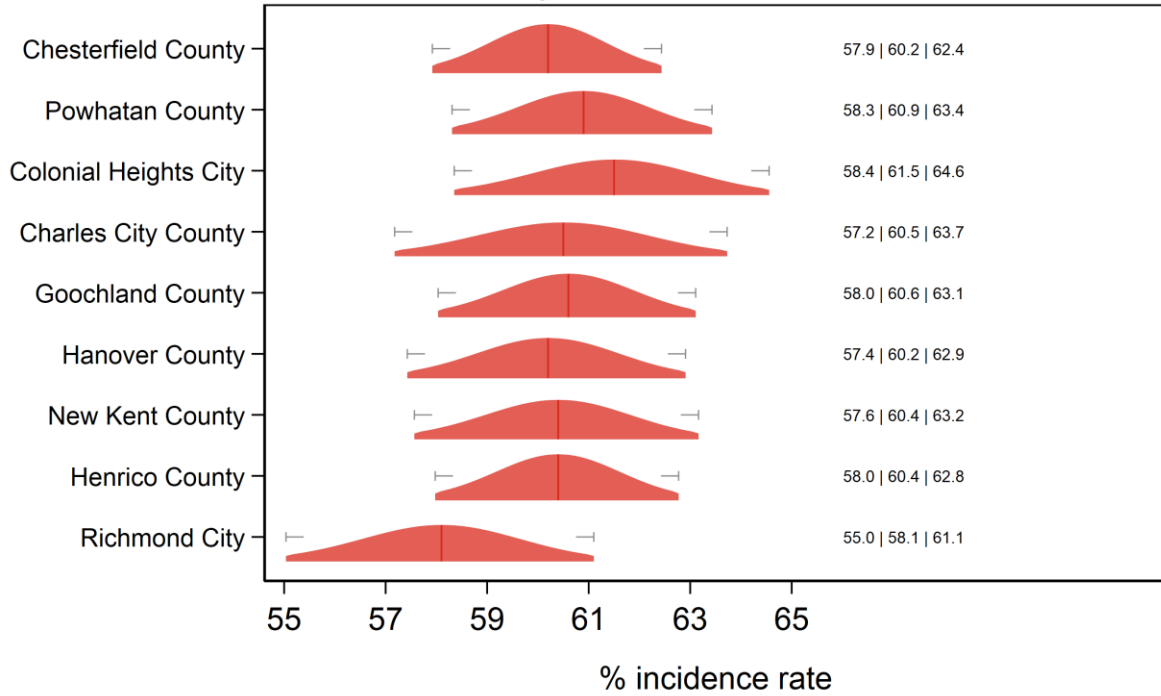


# Had a diabetes test past yr New River and Mount Rogers HDs



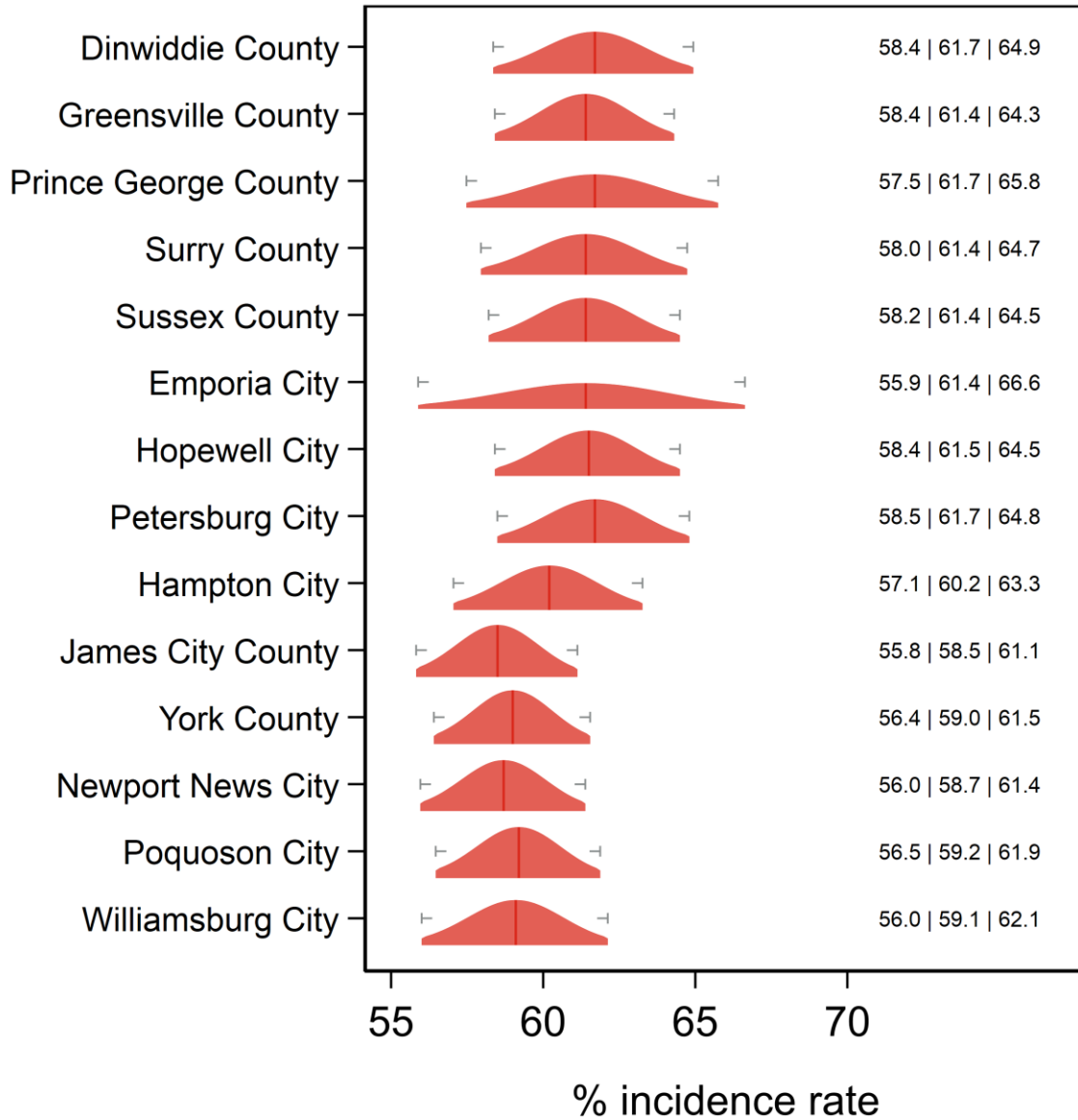
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

## Had a diabetes test past yr Chesterfield, Chickahominy, Henrico and Richmond HDs



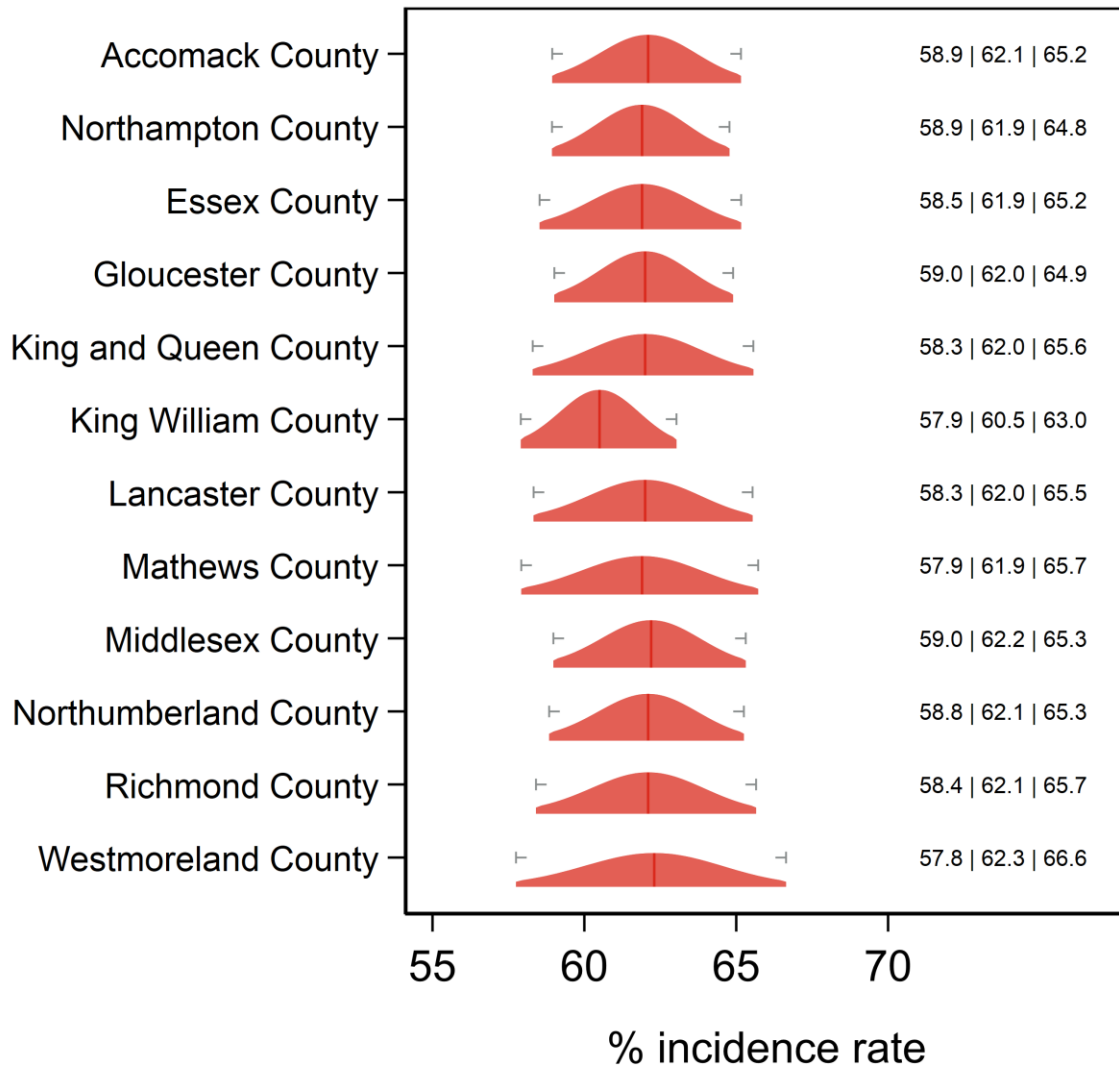
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

# Had a diabetes test past yr Crater, Peninsula and Hampton HDs



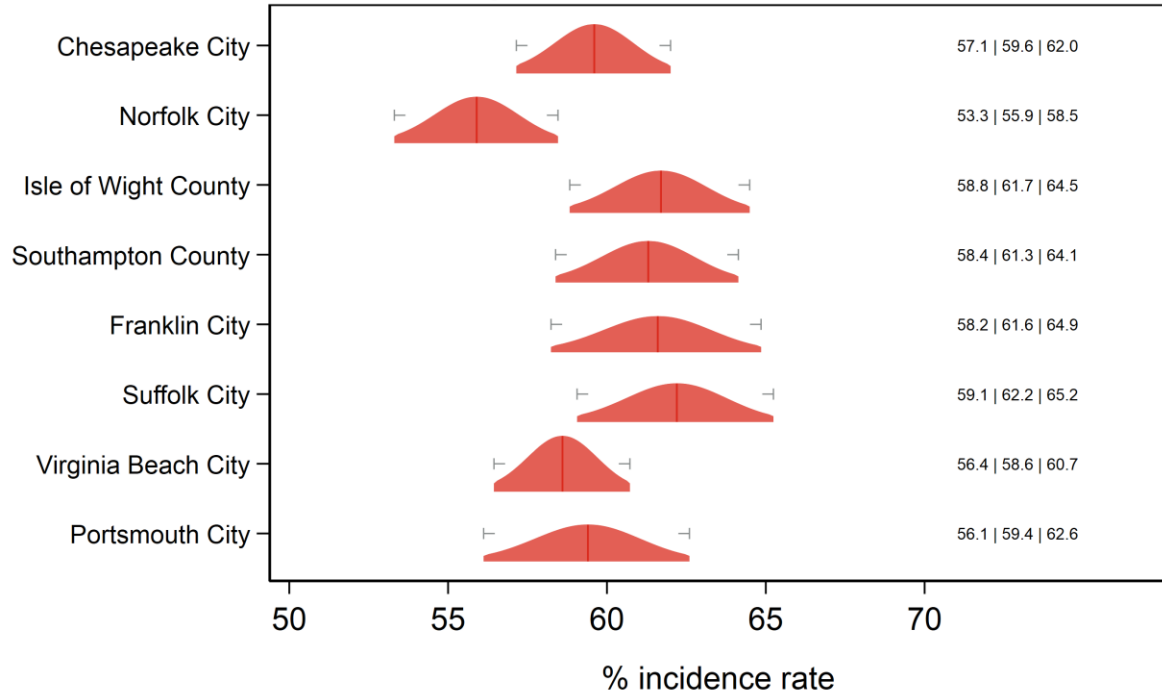
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

## Had a diabetes test past yr Eastern Shore and Three Rivers HDs



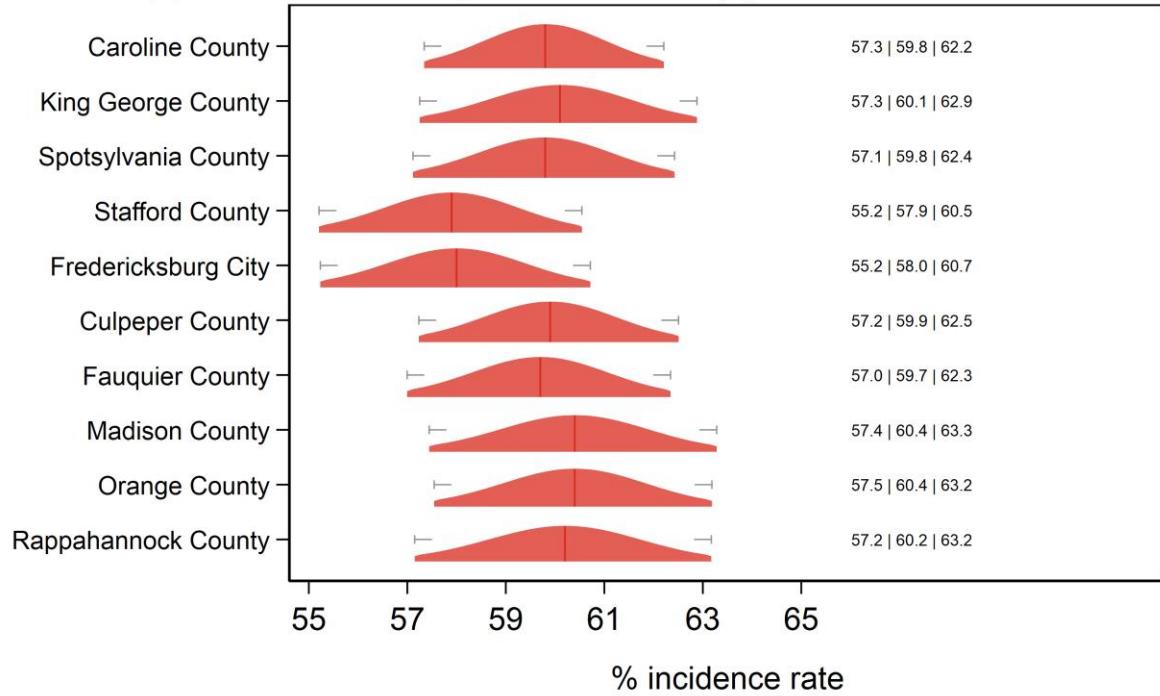
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

## Had a diabetes test past yr Norfolk, Portsmouth, Chesapeake, VA Beach, W. Tidewater HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

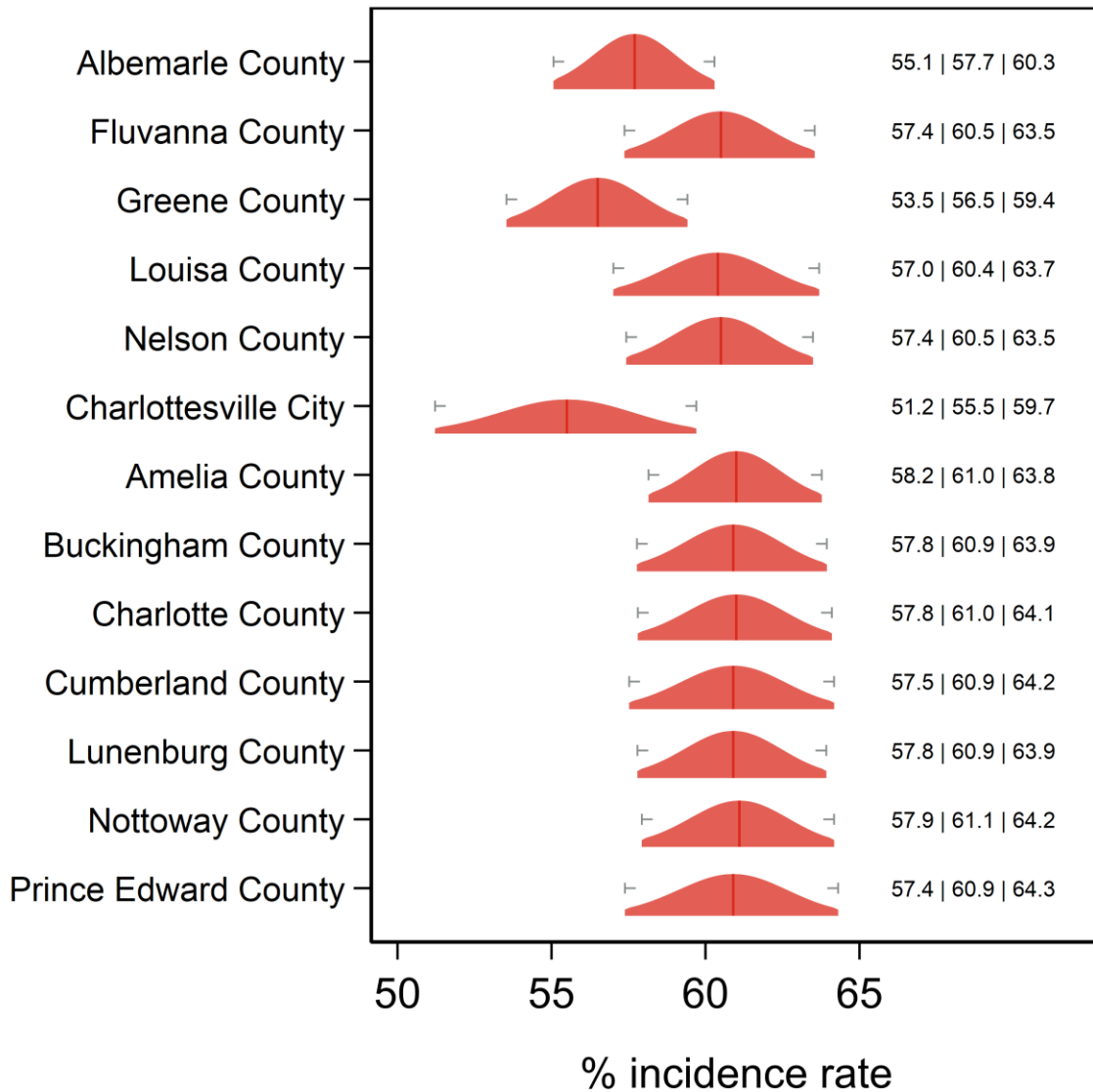
## Had a diabetes test past yr Rappahannock/Rapidan and Rappahannock HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

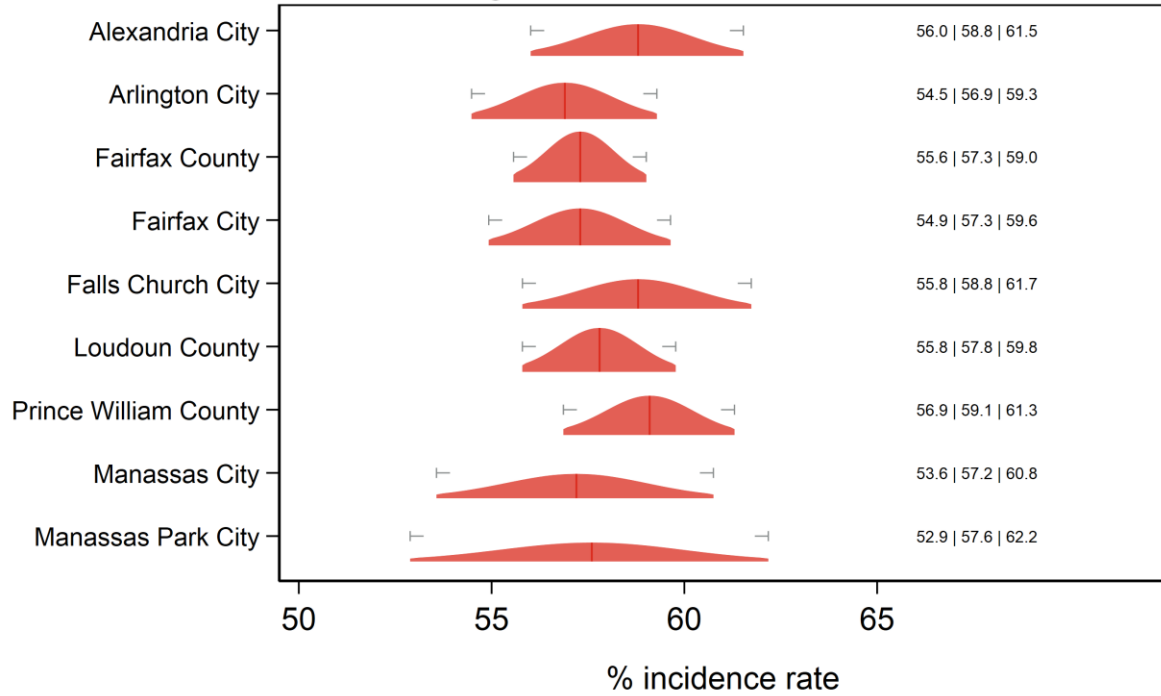
# Had a diabetes test past yr

## Thomas Jefferson and Piedmont HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval

## Had a diabetes test past yr Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB  
 Gray markers: 95% confidence interval





## Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 22 areas.

Direct estimate is outside the 95% SAE Wilson CI: 111 areas.

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

SAE estimate is outside the 95% direct Wilson CI: 15 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 109 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 24 areas.

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

SAE standard error is less than the direct standard error: 130 areas.

SAE standard error is greater than the (nonzero) direct standard error: 0 areas.

Direct standard error is zero: 3 areas.

Proportion of SAE variance due to ACS sampling error: min = 9.19%; med = 35.38%; max = 59.25%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 10.32%; med = 40.94%; max = 79.99%.

Proportion of SAE variance due to model selection: min = 0.21%; med = 15.57%; max = 79.48%.

Proportion of SAE variance due to area random effects: min = 0.61%; med = 2.85%; max = 5.83%.