SUPPLEMENTAL MATERIAL

Table S1. Characteristics of Study Participants Stratified by Cardiovascular Health Status, Behavioral Risk Factor Surveillance System (2017, 2019)

Characteristics	Overall n*=198,680 (weighted %)	Optimal CVH n=39,391 (weighted %)	Suboptimal CVH n =159,289 (weighted %)	p-value
Age				**<0.001**
18-24	29,383 (21.0)	8,958 (32.1)	20,425 (18.2)	
25-29	25,958 (14.1)	5,588 (14.9)	20,370 (13.9)	
30-34	30,632 (17.3)	5,938 (16.4)	24,694 (17.6)	
35-39	34,821 (15.9)	6,420 (13.7)	28,401 (16.4)	
40-44	35,710 (16.4)	6,109 (12.5)	29,601 (17.4)	
45-49	42,176 (15.3)	6,378 (10.4)	35,798 (15.5)	
Sex				**<0.001**
Male	96,582 (49.2)	15,252 (41.3)	81,330 (53.2)	
Female	102.090 (50.8)	24,138 (58.7)	77,952 (46.8)	
Race/ethnicity				**<0.001**
non-Hispanic White	135,048 (56.7)	28,806 (62.0)	106,242 (55.4)	
non-Hispanic Black	17,144 (12.2)	2,499 (9.5)	14,645 (12.9)	
American Indian/Alaskan Native	5,233 (1.2)	796 (1.1)	4,437 (1.2)	
Asian	7,210 (7.1)	1,489 (7.9)	5,721 (6.8)	
Hispanic	27,092 (20.8)	4413(17.4)	22,679 (21.7)	
Other	1,143 (0.4)	236 (0.4)	907 (0.4)	
Multi-racial	5,810 (1.6)	1,152 (1.7)	4,658 (1.6)	
Education level				**<0.001**
<high school	10,591(9.9)	1,026 (5.5)	9,565 (11.1)	
High school/some college,	103,509(58.5)	17,174 (54.7)	86,335 (59.4)	
≥College graduate	84,383 (31.6)	21,148 (39.8)	63,235 (29.5)	
Employment status				**<0.001**
Employed	150,838 (72.9)	29,340 (69.5)	121,498 (73.8)	
Unemployed	32,253 (16.6)	5,182 (13.1)	27,071 (17.5)	
Student	13,619 (10.1)	4,523 (17.2)	9,096 (8.3)	
Retired	830 (0.4)	110 (0.2)	720 (0.4)	
Marital status				**<0.001**
Married	98,502 (45.4)	19,807 (42.9)	78,695 (46.0)	
Divorced	23,746 (9.9)	3,148 (6.5)	20,598 (10.8)	
Widowed	1,515 (0.6)	202 (0.4)	1,313 (0.6)	
Never married	61,699 (37.0)	13,723 (43.7)	47,976 (35.4)	
Member of an unmarried couple	12,621 (7.1)	2,392 (6.5)	10,229 (7.2)	
Healthcare coverage				**<0.001**
No plan	23,317 (14.1)	3,596 (11.5)	19,721 (14.7)	
Some form of plan	174,504 (85.9)	35,562 (88.5)	138,942 (85.3)	
Annual family income				**<0.001**
< 100 federal poverty line,	25,032 (16.0)	3,445 (11.9)	21,587 (17.0)	
Within 100-200% poverty line,	33,976 (18.7)	5,440 (15.7)	28,536 (19.5)	
>200% federal poverty line	121,965 (65.3)	26,877 (72.4)	95,088 (63.5)	
Depression				**<0.001**
No	154,101 (79.5)	33, 218 (85.2)	120,883 (78.0)	
Yes	44,579 (20.5)	6,173 (14.8)	38,406 (22.0)	

CVH-cardiovascular health , *The numbers represent actual number of participants. All percentages are weighted to reflect final survey weights. p-value <0.05 -significant

Table S2. Association of Depression and Poor Mental Health with CVD outcomes, Behavioral Risk Factor Surveillance System (2017, 2019), additionally adjusting for hypertension and hypercholesterolemia

	Number of respondents	OR [95% CI]
Depression		
No	232,136	Ref
Yes	63,836	1.92 [1.71 – 2.16]
Poor Mental Health Days		
0	161,767	Ref
1-13	86,993	1.30 [1.13 – 1.49]
14-30	43,270	1.98 [1.73 – 2.26]
Model adjusted for age, sex, race, education, employment, income, marital status, healthcare coverage, combustible cigarette smoking, body mass index, diabetes, hypertension, and hypercholesterolemia		

CVD-cardiovascular disease, OR-odds ratio, CI- confidence interval

Table S3. Association of Depression and Poor Mental Health with CVD outcomes, Stratified by Sex, Behavioral Risk Factor Surveillance System (2017 – 2020)

	Male		Female	
	Model 1 OR [95% CI]	**Model 2 OR [95%CI]**	**Model 1 OR [95% CI]**	**Model 2 OR {95% CI]**
Depression				
No	Ref	Ref	Ref	Ref
Yes	2.80 [2.53 – 3.11]	2.40 [2.15 – 2.68]	2.57 [2.30 – 2.87]	2.20 [1.95 – 2.48]
Poor Mental Health Days				
0	Ref	Ref	Ref	Ref
1-13	1.65 [1.47 – 1.87]	1.57 [1.38 – 1.79]	1.53 [1.34– 1.76]	1.39 [1.21 – 1.60]
14-30	2.56 [2.26 – 2.90]	2.25 [1.97 – 2.58]	2.80 [2.47 – 3.18]	2.31 [2.03 – 2.63]
Model 1: adjusted for age, race, education, employment, income, marital status, and healthcare coverage Model 2: Model 1 + combustible cigarette smoking, body mass index and diabetes, Interaction by sex not significant				

CVD-cardiovascular disease, OR-odds ratio, CI- confidence interval

Table S4. Association of Depression and Poor Mental Health with CVD outcomes, Stratified by Urban/Rural Status, Behavioral Risk Factor Surveillance System (2017 – 2020)

	Urban		Rural	
	Model 1 OR [95% CI]	**Model 2 OR [95% CI]**	**Model 1 OR [95%CI]**	**Model 2 OR[95% CI]**
Depression				
No	Ref	Ref		
Yes	2.69 [2.45– 2.95]	2.32 [2.10 – 2.56]	2.36 [1.89-2.96]	2.03 [1.60-2.59]
Poor Mental Health Days				
0	Ref	Ref		
1-13	1.63 [1.46– 1.82]	1.50 [1.34 – 1.68]	1.78 [1.23-2.57]	1.72 [1.16-2.54]
14-30	2.72 [2.44 – 3.03]	2.26 [2.01– 2.54]	2.87 [2.22-3.70]	2.50 [1.91-3.27]
Model 1: adjusted for age, sex, race, education, employment, income, marital status, and healthcare coverage Model 2: Model 1 + combustible cigarette smoking, body mass index and diabetes Interaction by urban/rural status not significant				

CVD-cardiovascular disease, OR-odds ratio, CI- confidence interval