Calculated Variables
in the
2021 Data File
of the
Behavioral Risk Factor Surveillance System

(Version #18 - Revised: June 17, 2022)

Introduction

This document provides information on calculated variables for the 2021 Behavioral Risk Factor Surveillance System (BRFSS) survey. These variables are calculated from responses to questions in the survey.

There are three types of calculated variables:

1. Variables used to stratify and weight the data (not included in this document).

2. Intermediate variables, which are derived from a question response and are used to calculate some other variable or risk factor. Example: WTKG2 is derived from the WEIGHT2 variable in the survey. WTKG2 is then used to calculate the body mass index variable (_BMI4). Most—but not all—of the intermediate variables end with an underscore such as FTJUDAY_.

3. Variables used to categorize or classify respondents. Most of these begin with an underscore such as _BMI4. Exceptions are: _DENSTR2, _GEOSTR, and _STATE, which are determined before the interview. Some of the calculated variables group continuous variables—such as weight, age, or body mass index— into categories. Other calculated variables regroup non-continuous variables to simplify analyses. The common focus of these variables is on health behaviors associated with a risk of illness or injury.

The tables in this report include a description of response meanings and a copy of the code used to calculate these variables in SAS®. The syntax of the code, as given, may or may not work in your statistical program.

NEW CALCULATED VARIABLES FOR 2021

_HLTHPLN was added in 2021.

CALCULATED VARIABLES WITH CHANGED NAMES FOR 2021

_CHOLCH2 changed to _CHOLCH3 due to CHOLCHK2 changing to CHOLCHK3
_DRDXAR2 changed to _DRDXAR3 due to HAVARTH4 changing to HAVARTH5
_INCOMG changed to _INCOMG1 because INCOME2 changing to INCOME3
_RFCHOL2 changed to _RFCHOL3 due to CHOLCHK2 changing to CHOLCHK3 and TOLDHI2 changing to TOLDHI3
_RFHYPE5 changed to _RFHYPE6 due to BPHIGH5 changing to BPHIGH6.
_LMTWRK2 changed to _LMTWRK3 due to HAVARTH4 changing to HAVARTH5
_LMTACT2 changed to _LMTACT3 due to HAVARTH4 changing to HAVARTH5
_HCVU651 changed to _HCVU652 due to HLTPLN1 changing to PRIMINSR
_CPRACE changed to _CPRACE1 due to RCSBRAC1 changing to RCSBRAC2.

Section 1: Health Status		
_RFHLTH	***Calculated variable for adults with good or better health.* _RFHLTH is derived from GENHLTH.**	
1	Good or Better Health	Respondents who reported having excellent, very good or good health. (GENHLTH =1, 2, 3)
2	Fair or Poor Health	Respondents who reported having fair or poor health. (GENHLTH =4, 5)
9	Don't know/Not Sure or Refused/Missing	Respondents who reported they didn't know, refused to answer, or had missing responses for the general health status question. (GENHLTH =7, 9, missing)

	SAS Code:	`IF 4 LE GENHLTH LE 5 THEN _RFHLTH=2;`
		` ELSE IF 1 LE GENHLTH LE 3 THEN _RFHLTH=1;`
		` ELSE _RFHLTH=9;`

Section 1: Health Status		
_METSTAT	***Calculated variable for metropolitan status.* _METSTAT is derived from _URBNRRL.**	
1	Metropolitan counties (_URBNRRL = 1,2,3,4)	_URBNRRL = 1,2,3,4 (_URBNRRL = 1,2,3,4)
2	Nonmetropolitan counties (_URBNRRL = 5,6)	_URBNRRL = 5,6 (_URBNRRL = 5,6)
.	Not defined or Missing	Not defined or Missing

	SAS Code:	`IF _URBNRRL IN (1,2,3,4) THEN _METSTAT=1;`
		`IF _URBNRRL IN (5,6) THEN _METSTAT=2;`
		`IF _STATE=09 and _IMPCTY=005 THEN _METSTAT=1;`
		`IF _STATE=25 and _IMPCTY=019 THEN _METSTAT=2;`
		`IF _STATE=33 and _IMPCTY=003 THEN _METSTAT=2;`

Section 1: Health Status		
_URBSTAT	***Calculated variable for urban rural status.* _URBSTAT is derived from _URBNRRL.**	
1	Urban counties (_URBNRRL = 1,2,3,4,5)	_URBNRRL = 1,2,3,4,5 (_URBNRRL = 1,2,3,4,5)
2	Rural counties (_URBNRRL = 6)	_URBNRRL = 6 (_URBNRRL = 6)
.	Not defined or Missing	Not defined or Missing

	SAS Code:	`IF _URBNRRL IN (1,2,3,4,5) THEN _URBSTAT=1;`
		`IF _URBNRRL IN (6) THEN _URBSTAT=2;`
		`IF _STATE=09 and _IMPCTY=005 THEN _URBSTAT=1;`
		`IF _STATE=25 and _IMPCTY=019 THEN _URBSTAT=1;`
		`IF _STATE=33 and _IMPCTY=003 THEN _URBSTAT=1;`

Section 2: Healthy Days		
_PHYS14D	***Calculated variable for 3 level not good physical health status: 0 days, 1-13 days, 14-30 days.*** **_PHYS14D is derived from PHYSHLTH.**	
1	Zero days when physical health not good	Respondents who reported no days when their physical health was not good (PHYSHLTH=88)
2	1-13 days when physical health not good	Respondents who reported 1-13 days when their physical health was not good (1 </= PHYSHLTH </= 13)
3	14+ days when physical health not good	Respondents who reported 14 or more days when their physical health was not good (14 </= PHYSHLTH </=30)
9	Don't know/Refused/ Missing	Respondents who reported they didn´t know, refused, or had missing values for PHYSHLTH (PHYSHLTH=77,99, or missing)

	SAS Code:	`IF PHYSHLTH IN (77,99,.) THEN _PHYS14D=9;`
		`ELSE IF PHYSHLTH=88 THEN _PHYS14D=1;`
		`ELSE IF 1 LE PHYSHLTH LE 13 THEN _PHYS14D=2;`
		`ELSE _PHYS14D=3;`

Section 2: Healthy Days		
_MENT14D	***Calculated variable for 3 level not good mental health status: 0 days, 1-13 days, 14-30 days.*** **_MENT14D is derived from MENTHLTH.**	
1	Zero days when mental health not good	Respondents who reported no days when their mental health was not good (MENTHLTH=88)
2	1-13 days when mental health not good	Respondents who reported 1-13 days when their mental health was not good (1 </= MENTHLTH </= 13)
3	14+ days when mental health not good	Respondents who reported 14 or more days when their mental health was not good (14 </= MENTHLTH </=30)
9	Don't know/ Refused/ Missing	Respondents who reported they didn´t know, refused, or had missing values for MENTHLTH (MENTHLTH=77,99, or missing)

	SAS Code:	`IF MENTHLTH IN (77,99,.) THEN _MENT14D=9;`
		`ELSE IF MENTHLTH=88 THEN _MENT14D=1;`
		`ELSE IF 1 LE MENTHLTH LE 13 THEN _MENT14D=2;`
		`ELSE _MENT14D=3;`

Section 3: Health Care Access		
_HLTHPLN	***Calculated variable for adults who had some form of health insurance.* _HLTHPLN is derived from PRIMINSR.**	
1	Have some form of insurance	Respondents who said they had some form of health insurance (PRIMINSR=1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
2	Do not have some form of health insurance	Respondents who said they did not have some form of health insurance (PRIMINSR=88)
9	Don´t know, refused or missing insurance response	Respondents who refused, didn´t know or were missing a response to having some form of health insurance (PRIMINSR=77, 99 or missing)

	SAS Code:	`IF PRIMINSR in (1,2,3,4,5,6,7,8,9,10) THEN _HLTHPLN=1;`
		`ELSE IF PRIMINSR=88 THEN _HLTHPLN=2;`
		`ELSE _HLTHPLN=9;`

Section 3: Health Care Access		
_HCVU652	***Calculated variable for respondents aged 18-64 who have any form of health insurance.* _HCVU652 is derived from AGE and PRIMINSR.**	
1	Have some form of health insurance	Respondents who reported having some form of health insurance (18 </= AGE </= 64 and PRIMINSR=1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
2	Do not have any form of health insurance	Respondents who reported not having any form of health insurance (18 </= AGE </= 64 and PRIMINSR=88)
9	Don’t know/Not Sure, Refused or Missing	Respondents who reported that they didn´t know, were not sure, refused to report or had missing responses for having health care coverage (18 </= AGE </= 64 and PRIMINSR=77, 99, or missing or AGE =/> 65)

	SAS Code:	`IF 18 LE AGE LE 64 THEN DO;`
		`IF PRIMINSR in (1,2,3,4,5,6,7,8,9,10) THEN _HCVU652=1;`
		`ELSE IF PRIMINSR=88 THEN _HCVU652=2;`
		`ELSE _HCVU652=9;`
		`END;`
		`ELSE _HCVU652 = 9;`

Section 4: Exercise		
_TOTINDA	***Calculated variable for adults who reported doing physical activity or exercise during the past 30 days other than their regular job.* _TOTINDA is derived from EXERANY2.**	
1	Had physical activity or exercise	Respondents who reported doing any physical activity or exercise. (EXERANY2=1)
2	No physical activity or exercise in last 30 days	Respondents who reported doing no physical activity or exercise. (EXERANY2=2)
9	Don't know/Refused/ Missing	Respondents who reported they didn't know or refused to answer, and those with missing responses for the physical activity/exercise question. (EXERANY2=7, 9, missing)

	SAS Code:	`IF EXERANY2 IN (1) THEN _TOTINDA=1;`
		`ELSE IF EXERANY2 IN (2) THEN _TOTINDA=2;`
		`ELSE IF EXERANY2 IN (.,7,9) THEN _TOTINDA=9;`

Section 5: Hypertension Awareness		
_RFHYPE6	***Calculated variable for adults who have been told they have high blood pressure by a doctor, nurse, or other health professional.* _RFHYPE6 is derived from BPHIGH6.**	
1	No	Respondents that were not told their pressure is high by a health professional (BPHIGH6=2, 3, or 4)
2	Yes	Respondents who were told their pressure is high by a health professional (BPHIGH6=1)
9	Don't know/Not Sure/ Refused/Missing	Respondents who reported they didn´t know if they were told if their blood pressure is high, those who refused to answer if they were told if their blood pressure is high, and those with missing responses (BPHIGH6=7, 9, or missing)

	SAS Code:	`IF BPHIGH6 = 1 THEN _RFHYPE6=2;`
		`ELSE IF BPHIGH6 = 2 THEN _RFHYPE6=1;`
		`ELSE IF BPHIGH6 = 3 THEN _RFHYPE6=1;`
		`ELSE IF BPHIGH6 = 4 THEN _RFHYPE6=1;`
		`ELSE IF BPHIGH6 IN (.,7,9) THEN _RFHYPE6=9 ;`

Section 6: Cholesterol Awareness		
_CHOLCH3	***Calculated variable for cholesterol check within past five years.*** **_CHOLCH3 is derived from CHOLCHK3.**	
1	Had cholesterol checked in past 5 years	Respondents who reported having had their cholesterol checked within the past five years (CHOLCH3=2, 3, 4, 5, or 6)
2	Did not have cholesterol checked in past 5 years	Respondents who reported not having had their cholesterol checked within the past five years (CHOLCH3=8)
3	Have never had cholesterol checked	Respondents who reported never having had their cholesterol checked (CHOLCH3=1)
9	Don't know/Not Sure or Refused/ Missing	Respondents who reported they didn´t know if they had their cholesterol checked by a health professional, those who refused to answer if they had their cholesterol checked by a health professional, and those with missing responses (CHOLCH3=7, 9 or missing)

	SAS Code:	`IF CHOLCHK3=1 THEN _CHOLCH3=3;`
		`ELSE IF CHOLCHK3 in (2, 3, 4, 5, 6) THEN _CHOLCH3=1;`
		`ELSE IF CHOLCHK3 = 8 THEN _CHOLCH3=2;`
		`ELSE _CHOLCH3=9;`

Section 6: Cholesterol Awareness		
_RFCHOL3	***Calculated variable for adults who have had their cholesterol checked and have been told by a doctor, nurse, or other health professional that it was high.*** **_RFCHOL3 is derived from CHOLCHK3 and TOLDHI3.**	
1	No	Respondents who reported having had their blood cholesterol checked but had not been told it was high (CHOLCHK3=2,3,4,5,6 or 8 and TOLDHI3=2)
2	Yes	Respondents who reported having had their blood cholesterol checked and had been told that they have high blood cholesterol (CHOLCHK3=2,3,4,5,6 or 8 and TOLDHI3=1)
9	Don't know/Not Sure or Refused/ Missing	Respondents who reported they didn´t know if they had their blood cholesterol checked, those who reported they didn´t know if they have been told their blood cholesterol was high, those who refused to answer if they had their blood cholesterol checked, those who refused to answer if they had been told that their blood cholesterol was high, and those with missing responses (CHOLCHK3=2,3,4,5,6 or 8 and TOLDHI3=7,9, or missing)
.	Missing	Respondents who reported they have not had their blood cholesterol checked (CHOLCHK3=1,7,9 or missing)

	SAS Code:	`IF CHOLCHK3 in (2,3,4,5,6,8) AND TOLDHI3=1 THEN _RFCHOL3=2;`
		`ELSE IF CHOLCHK3 in (2,3,4,5,6,8) AND TOLDHI3=2 THEN _RFCHOL3=1;`
		`ELSE IF CHOLCHK3 in (2,3,4,5,6,8) AND TOLDHI3 in (7,9,.) THEN _RFCHOL32=9;`

Section 7: Chronic Health Conditions		
_MICHD	***Calculated variable for respondents who have ever reported having coronary heart disease (CHD) or myocardial infarction (MI).* _MICHD is derived from CVDINFR4 and CVDCRHD4.**	
1	Reported having MI or CHD	Respondents who reported having had MI or CHD (CVDINFR4=1 OR CVDCRHD4=1)
2	Did not report having MI or CHD	Respondents who reported not having had MI and CHD (CVDINFR4=2 AND CVDCRHD4=2)
.	Not asked or Missing	Respondents who reported they didn´t know, refused, or had a missing value for the MI or CHD questions (CVDINFR4=7, 9 OR MISSING OR CVDCRHD4=7, 9, OR MISSING)
	SAS Code:	`IF CVDINFR4=1 OR CVDCRHD4=1 THEN _MICHD=1;` `ELSE IF CVDINFR4=2 AND CVDCRHD4=2 THEN _MICHD=2;`

Section 7: Chronic Health Conditions		
_LTASTH1	***Calculated variable for adults who have ever been told they have asthma.* _LTASTH1 is derived from ASTHMA3.**	
1	No	Respondents who have not been told by a doctor, nurse, or health professional that they had asthma. (ASTHMA3=2)
2	Yes	Respondents who have been told by a doctor, nurse, or health professional that they had asthma. (ASTHMA3=1)
9	Don’t know/Not Sure or Refused/Missing	Respondents who reported they did not know if they had been told by a doctor, nurse, or health professional that they had asthma, those who refused to answer if they had been told by a doctor, nurse. or health professional that they had asthma, or those with missing responses. (ASTHMA3=7, 9, missing)

	SAS Code:	`IF ASTHMA3=1 THEN _LTASTH1=2;`
		`ELSE IF ASTHMA3=2 THEN _LTASTH1=1;`
		`ELSE _LTASTH1=9;`

Section 7: Chronic Health Conditions		
_CASTHM1	***Calculated variable for adults who have been told they currently have asthma.*** **_CASTHM1 is derived from ASTHMA3 and ASTHNOW.**	
1	No	Respondents who have not been told by a doctor, nurse, or health professional that they had asthma or do not still have asthma. (ASTHMA3=2 or ASTHMA3=1 and ASTHNOW=2)
2	Yes	Respondents who have been told by a doctor, nurse, or health professional that they had asthma and that they still have asthma. (ASTHMA3=1 and ASTHNOW=1)
9	Don't know/Not Sure or Refused/Missing	Respondents who reported they did not know if they had been told by a doctor, nurse, or health professional that they had asthma, those who refused to answer if they had been told by a doctor, nurse, or health professional that they had asthma, those who did not know if they still had asthma, those who refused to answer if they still had asthma, or those with missing responses. (ASTHMA3=7, 9, missing; or ASTHNOW=7, 9, missing)

	SAS Code:	`IF ASTHMA3=2 THEN _CASTHM1=1;`
		` ELSE IF ASTHMA3=1 AND ASTHNOW=1 THEN _CASTHM1=2;`
		` ELSE IF ASTHMA3=1 AND ASTHNOW=2 THEN _CASTHM1=1;`
		` ELSE _CASTHM1=9;`

Section 7: Chronic Health Conditions		
_ASTHMS1	***Calculated variable for computed asthma status.*** **_ASTHMS1 is derived from ASTHMA3 and ASTHNOW.**	
1	Current	Respondents who have been told by a doctor, nurse, or health professional that they had asthma and that they still have asthma. (ASTHMA3=1and ASTHNOW=1)
2	Former	Respondents who have been told by a doctor, nurse, or health professional that they had asthma but do not still have asthma. (ASTHMA3=1 and ASTHNOW=2)
3	Never	Respondents who have not been told by a doctor, nurse, or health professional that they had asthma. (ASTHMA3=2)
9	Don't know/Not Sure or Refused/Missing	Respondents who reported they didn't know if they had been told by a doctor, nurse, or health professional that they had asthma, those who refused to answer if they had been told by a doctor, nurse, or health professional that they had asthma, those who didn't know if they still had asthma, those that refused to answer if they still had asthma, or those with missing responses. (ASTHMA3=7, 9, missing; or ASTHNOW=7, 9, missing)

	SAS Code:	`IF ASTHMA3=1 AND ASTHNOW=1 THEN _ASTHMS1=1;`
		` ELSE IF ASTHMA3=1 AND ASTHNOW=2 THEN _ASTHMS1=2;`
		` ELSE IF ASTHMA3=2 THEN _ASTHMS1=3;`
		` ELSE _ASTHMS1=9;`

Section 8: Arthritis		
_DRDXAR3	***Calculated variable for respondents who have had a doctor diagnose them as having some form of arthritis.* _DRDXAR3 is derived from HAVARTH5.**	
1	Diagnosed with arthritis	Respondents who have been told by a doctor they had arthritis (HAVARTH5=1)
2	Not diagnosed with arthritis	Respondents who have not been told by a doctor they had arthritis (HAVARTH5=2)
.	Don´t know/Not Sure/ Refused/Missing	Respondents who reported they didn´t know if they had been told by a doctor they had arthritis, those who refused to answer if they had been told by a doctor they had arthritis, and those with missing responses (HAVARTH5=7,9, or missing)

	SAS Code:	`IF HAVARTH5 = 1 THEN _DRDXAR3=1;`
		` ELSE IF HAVARTH5 = 2 THEN _DRDXAR3=2;`
		` ELSE IF HAVARTH5 IN (7,9,.) THEN _DRDXAR3=.;`

Section 8: Arthritis		
_LMTACT3	***Calculated variable for limited usual activities.* _LMTACT3 is derived from HAVARTH5 and LMTJOIN3.**	
1	Told have arthritis and have limited usual activities	Respondents who have been told they have arthritis and have limited usual activities (HAVARTH5=1 and LMTJOIN3=1)
2	Told have arthritis and no limited usual activities	Respondents who have been told they have arthritis and have no limited usual activities (HAVARTH5=1 and LMTJOIN3=2)
3	Not told they have arthritis	Respondents who have not been told they have arthritis (HAVARTH5=2)
9	Don´t know, refused or missing usual activities limited	Respondents who have been told they have arthritis and reported they didn´t know, refused, or had a missing value for limited usual activities (HAVARTH5=1 and LMTJOIN3=7, 9 or missing)
.	Don´t know, refused or missing arthritis or not asked	Respondents who refused, didn´t know or were missing a response to being told they had arthritis (HAVARTH5=7, 9 or missing)

	SAS Code:	`IF HAVARTH5=1 THEN DO;`
		` IF LMTJOIN3=1 THEN _LMTACT3=1;`
		` ELSE IF LMTJOIN3=2 THEN _LMTACT3=2;`
		` ELSE _LMTACT3=9;`
		` END;`
		` ELSE IF HAVARTH5=2 THEN _LMTACT3=3;`
		` ELSE _LMTACT3=.;`

Section 8: Arthritis		
_LMTWRK3	***Calculated variable for limited work activities.*** **_LMTWRK3 is derived from HAVARTH5 and ARTHDIS2.**	
1	Told have arthritis and have limited work	Respondents who have been told they have arthritis and have limited work (HAVARTH5=1 and ARTHDIS2=1)
2	Told have arthritis and no limited work	Respondents who have been told they have arthritis and have no limited work (HAVARTH5=1 and ARTHDIS2=2)
3	Not told they have arthritis	Respondents who have not been told they have arthritis (HAVARTH5=2)
9	Don´t know, refused or missing work limited	Respondents who have been told they have arthritis and reported they didn´t know, refused, or had a missing value for limited work (HAVARTH5=1 and ARTHDIS2=7, 9 or missing)
.	Don´t know, refused or missing arthritis, or not asked	Respondents who refused, didn´t know or were missing a response to being told they had arthritis (HAVARTH5=7, 9 or missing)

	SAS Code:	`IF HAVARTH5=1 THEN DO;`
		` IF ARTHDIS2=1 THEN _LMTWRK3=1;`
		` ELSE IF ARTHDIS2=2 THEN _LMTWRK3=2;`
		` ELSE _LMTWRK3=9;`
		` END;`
		` ELSE IF HAVARTH5=2 THEN _LMTWRK3=3;`
		` ELSE _LMTWRK3=.;`

Section 9: Demographics		
MRACORG1	***Calculated variable for mrace1 with 77,88,99s removed.*** **MRACORG1 is derived from MRACE1 in the original order in which the data were received from the state territory. If MRACE1 is greater than 99 then any 77, 80, 88, or 99 is removed. If MRACE1 is less than or equal to 99 then MRACORG1 is equal to MRACE1.**	
10 - 6.05E9	Race code(s)	Respondents reported race or races in original order (MRACE1=10, 20, 30, 40, 50, 60, or MRACE1 > 99)
77	Don't know/Not sure	Respondents who reported they didn´t know, or weren´t sure of their race. (MRACE1=77)
99	Refused	Respondents who refused to give their race. (MRACE1=99)

	SAS Code:	`IF (LEFT(COMPRESS(LENGTH(MRACE1)))) > 2 THEN DO;`
		`MRACORG77=PUT(LEFT(COMPRESS(TRANWRD(MRACE1,"77",""))),28.);`
		`MRACORG88=PUT(LEFT(COMPRESS(TRANWRD(MRACORG77,"88",""))),28.);`
		`MRACORG99=PUT(LEFT(COMPRESS(TRANWRD(MRACORG88,"99",""))),28.);`
		`MRACORG1=PUT(LEFT(COMPRESS(TRANWRD(MRACORG99,"80",""))),28.);`
		`END;`
		`ELSE DO;`
		`MRACORG1=MRACE1;`
		`END;`

Section 9: Demographics		
MRACASC1	***Calculated variable for mracorg1 with 77,88,99s removed, in ascending order.*** **MRACASC1 is derived from MRACORG1. The values that make up MRACORG1 are sorted from smallest to largest.**	
10 - 1.02E9	Race code(s)	Respondents reported race or races in ascending order (MRACE1=10, 20, 30, 40, 50, 60, or MRACORG1 > 99)
77	Don't know/Not sure	Respondents who reported they didn´t know or weren´t sure of their race. (MRACORG1=77)
99	Refused	Respondents who refused to give their race. (MRACORG1=99)
	SAS Code:	

```
IF (LEFT(COMPRESS(LENGTH(MRACORG1)))) > 2 THEN DO;
array pairs[14];
length MRAC_SORTED $28;
counter = .;
do pos = 1 to length(MRACORG1) by 2;
counter + 1;
pairs[counter] = input(substr(MRACORG1, pos, 2), 2.);
end;
do i = 1 to counter;
MRAC_SORTED = cats(MRAC_SORTED, smallest(i, of pairs[*]));
end;
drop pairs: i counter pos;
MRAC_VALID=MRAC_SORTED;
%macro swapthis;
%do M = 1 %to 14;
%LET R=%eval((&M.*2)-1);
%do s = 41 %to 47;
if substr(MRAC_VALID,&R.,2)=&s. then do;
MRAC_VALID = TRANWRD(MRAC_VALID,"&S.","40");
end;
%end;
%do t = 51 %to 54;
if substr(MRAC_VALID,&R.,2)=&t. then do;
MRAC_VALID = TRANWRD(MRAC_VALID,"&T.","50");
end;
%end;
%end;
%mend;
%swapthis;
DO Z=1 TO 4;
MRAC_5050=
PUT(LEFT(COMPRESS(TRANWRD(MRAC_VALID,"5050","50XX"))),28.);
MRAC_ONE50= PUT(LEFT(COMPRESS(TRANWRD(MRAC_5050,"XX",""))),28.);
END;
MRAC_ONE40=MRAC_ONE50;
DO Y=1 TO 7;
MRAC_4040=
PUT(LEFT(COMPRESS(TRANWRD(MRAC_ONE40,"4040","40XX"))),28.);
MRAC_ONE40= PUT(LEFT(COMPRESS(TRANWRD(MRAC_4040,"XX",""))),28.);
END;
MRACASC1=INPUT(MRAC_ONE40,28.0);
END;
ELSE DO;
MRACASC1=INPUT(MRACORG1,28.0);
END;
```

Section 9: Demographics		
_PRACE1	***Calculated variable for preferred race category.*** **_PRACE1 is derived from MRACASC1 and ORACE3. If MRACEASC1 has only one response, then _PRACE1=MRACASC1. If MRACASC1 has more than one response, then _PRACE1=ORACE3.**	
1	White	Respondents who reported their race as white. (MRACASC1=10 or MRACASC1>99 and ORACE3=10)
2	Black or African American	Respondents who reported their race as black. (MRACASC1=20 or MRACASC1>99 and ORACE3=20)
3	American Indian or Alaskan Native	Respondents who reported their race as American Indian or Alaska Native. (MRACASC1=30 or MRACASC1>99 and ORACE3=30)
4	Asian	Respondents who reported their race as Asian. (MRACASC1=40 or MRACASC1>99 and ORACE3=40)
5	Native Hawaiian or other Pacific Islander	Respondents who reported their race as Native Hawaiian or Pacific Islander. (MRACASC1=50 or MRACASC1>99 and ORACE3=50)
6	Other race	Respondents who report they are of some other race group not listed in the question responses. (MRACASC1=60 or MRACASC1>99 and ORACE3=60)
7	No preferred race	Respondents who reported they are of more than one race group but did not report a preference or the preferred race is missing (MRACASC1>99 and ORACE3=77 or 99)
8	Multiracial but preferred race not answered	Respondents who reported they are of more than one race group but did not answer the question about which race best represents them NOTE: This is a data collection error. (MRACASC1 >99 and ORACE3=80 or MRACASC1 >99 and ORACE3= Missing)
77	Don’t know/Not sure	Respondents who reported they didn´t know their race and did not answer the question about which race best represents them. (MRACASC1=77)
99	Refused	Respondents who refused to give their race and did not answer the question about which race best represents them. (MRACASC1=99)

	SAS Code:	`IF MRACASC1 EQ 10 THEN _PRACE1 = 1;`
		`ELSE IF MRACASC1 EQ 20 THEN _PRACE1 = 2;`
		`ELSE IF MRACASC1 EQ 30 THEN _PRACE1 = 3;`
		`ELSE IF 40 LE MRACASC1 LE 49 THEN _PRACE1=4;`
		`ELSE IF 50 LE MRACASC1 LE 59 THEN _PRACE1=5;`
		`ELSE IF MRACASC1 EQ 60 THEN _PRACE1=6;`
		`ELSE IF MRACASC1 EQ 77 THEN _PRACE1=77;`
		`ELSE IF MRACASC1 EQ 99 THEN _PRACE1=99;`
		`ELSE IF MRACASC1 GT 99 THEN DO;`
		`IF ORACE3=77 THEN _PRACE1=7;`
		`ELSE IF ORACE3=99 THEN _PRACE1=7;`
		`ELSE IF ORACE3=. THEN _PRACE1=8;`
		`ELSE IF ORACE3=80 THEN _PRACE1=8;`
		`ELSE IF ORACE3 EQ 10 THEN _PRACE1=1;`
		`ELSE IF ORACE3 EQ 20 THEN _PRACE1=2;`
		`ELSE IF ORACE3 EQ 30 THEN _PRACE1=3;`
		`ELSE IF 40 LE ORACE3 LE 49 THEN _PRACE1=4;`
		`ELSE IF 50 LE ORACE3 LE 59 THEN _PRACE1=5;`
		`ELSE IF ORACE3 EQ 60 THEN _PRACE1=6;`
		`END;`

Section 9: Demographics		
_MRACE1	***Calculated variable for calculated multiracial race categorization.*** **_MRACE1 is derived from MRACASC1. If respondents reported more than one race, they are assigned to the multiracial category. If MRACASC1 is less than 40 or equal to 60, then _MRACE1=MRACASC1. If MRACASC1 is 40–47 then _MRACE1=40. If MRACASC1 is 50–54 then _MRACE1=50.**	
1	White only	Respondents who reported they are white. (MRACASC1=10)
2	Black or African American only	Respondents who report they are black. (MRACASC1=20)
3	American Indian or Alaskan Native only	Respondents who reported they are American Indian or Alaska Native. (MRACASC1=30)
4	Asian Only	Respondents who reported they are Asian. (MRACASC1=40,41,42,43,44,45,46,47)
5	Native Hawaiian or other Pacific Islander only	Respondents who reported they are native Hawaiian or Pacific Islander. (MRACASC1=50,51,52,53,54)
6	Other race only	Respondents who reported they are of some other race group not listed in the question responses. (MRACASC1=60)
7	Multiracial	Respondents who reported they are of more than one race group (MRACASC1>99)
77	Don’t know/Not sure	Respondents who reported they did not know their race. (MRACASC1=77)
99	Refused	Respondents who refused to give their race information. (MRACASC1=99)

	SAS Code:	`IF MRACASC1 GT 99 THEN _MRACE1 = 7;`
		`ELSE IF MRACASC1 EQ 99 THEN _MRACE1 = 99;`
		`ELSE IF MRACASC1 EQ 77 THEN _MRACE1 = 77;`
		`ELSE IF MRACASC1 EQ 10 THEN _MRACE1 = 1;`
		`ELSE IF MRACASC1 EQ 20 THEN _MRACE1 = 2;`
		`ELSE IF MRACASC1 EQ 30 THEN _MRACE1 = 3;`
		`ELSE IF 40 LE MRACASC1 LE 47 THEN _MRACE1 = 4;`
		`ELSE IF 50 LE MRACASC1 LE 54 THEN _MRACE1 = 5;`
		`ELSE IF MRACASC1=60 THEN _MRACE1=6;`

Section 9: Demographics		
_M_RACE	***Calculated variable for calculated multiracial race categorization.*** **_M_RACE is derived from MRACASC1. If respondents reported more than one race they are assigned to the multiracial category. Otherwise _M_RACE=MRACASC1.**	
10	White	Respondents who reported being white (MRACASC1=10)
20	Black or African American	Respondents who reported being black or African American (MRACASC1=20)
30	American Indian or Alaska Native	Respondents who reported being American Indian or Alaska Native (MRACASC1=30)
40	Asian	Respondents who reported being Asian (MRACASC1=40)
41	Asian Indian	Respondents who reported being Asian Indian (MRACASC1=41)
42	Chinese	Respondents who reported being Chinese (MRACASC1=42)
43	Filipino	Respondents who reported being Filipino (MRACASC1=43)
44	Japanese	Respondents who reported being Japanese (MRACASC1=44)
45	Korean	Respondents who reported being Korean (MRACASC1=45)
46	Vietnamese	Respondents who reported being Vietnamese (MRACASC1=46)
47	Other Asian	Respondents who reported being Other Asian (MRACASC1=47)
50	Pacific Islander	Respondents who reported being Pacific Islander (MRACASC1=50)
51	Native Hawaiian	Respondents who reported being Native Hawaiian (MRACASC1=51)
52	Guamanian or Chamorro	Respondents who reported being Guamanian or Chamorro (MRACASC1=52)
53	Samoan	Respondents who reported being Samoan (MRACASC1=53)
54	Other Pacific Islander	Respondents who reported being Other Pacific Islander (MRACASC1=54)
60	Other	Respondents who reported being Other (MRACASC1=60)
70	Multiple responses	Respondents who reported being of multiple races/ethnicities (MRACASC1>99)
77	Don’t know/Not Sure	Respondents who reported they didn´t know their race (MRACASC1=77)
99	Refused	Respondents who refused to answer what race/ethnicity they were (MRACASC1=99)

	SAS Code:	`IF MRACASC1 GT 99 THEN _M_RACE = 70;`
		`ELSE IF MRACASC1 EQ 99 THEN _M_RACE = 99;`
		`ELSE IF MRACASC1 EQ 77 THEN _M_RACE = 77;`
		`ELSE IF 10 LE MRACASC1 LE 60 THEN _M_RACE=MRACASC1;`

Section 9: Demographics		
_HISPANC	***Calculated variable for Hispanic, Latino/a, or Spanish origin calculated variable.*** **_HISPANC is derived from HISPANC3**	
1	Hispanic, Latino/a, or Spanish origin	Respondents who reported being of Hispanic, Latino/a, or Spanish origin (HISPANC3=1,2,3,4 or HISPANC3 > 9)
2	Not of Hispanic, Latino/a, or Spanish origin	Respondents who reported they were not of Hispanic, Latino/a, or Spanish origin (HISPANC3=5)
9	Don´t Know, Refused, or Missing	Respondents who refused to report if they were of Hispanic, Latino/a, or Spanish origin (HISPANC3=7)
.	Not asked or Missing	Respondents who reported they did not know if they were of Hispanic, Latino/a, or Spanish origin (HISPANC3=9)

	SAS Code:	`HISPNUM=INPUT(HISPANC3,4.0);`
		`IF HISPNUM in (5,58) THEN _HISPANC=2;`
		`ELSE IF HISPNUM in (7,9,.) THEN _HISPANC=9;`
		`ELSE _HISPANC=1;`

Section 9: Demographics		
_RACE	***Calculated variable for race ethnicity categories.* _RACE is derived from _MRACE1 and _HISPANC. All respondents who reported they are of Hispanic or Latino origin are coded as Hispanic.**	
1	White only, non-Hispanic	Respondents who reported they are white and not of Hispanic origin. (_MRACE1=1 and _HISPANC=2)
2	Black only, non-Hispanic	Respondents who reported they are black and not of Hispanic origin. (_MRACE1=2 and _HISPANC=2)
3	American Indian or Alaskan Native only, Non-Hispanic	Respondents who reported they are American Indian or Alaska Native and not of Hispanic origin. (_MRACE1=3 and _HISPANC=2)
4	Asian only, non-Hispanic	Respondents who reported they are Asian and not of Hispanic origin. (_MRACE1=4 and _HISPANC=2)
5	Native Hawaiian or other Pacific Islander only, Non-Hispanic	Respondents who reported they are Native Hawaiian or Pacific Islander and not of Hispanic origin. (_MRACE1=5 and _HISPANC=2)
6	Other race only, non-Hispanic	Respondents who reported they are of some other race group not listed in the question responses and are not of Hispanic origin. (_MRACE1=6 and _HISPANC=2)
7	Multiracial, non-Hispanic	Respondents who reported they are of more than one race group and are not of Hispanic origin. (_MRACE1=7 and _HISPANC=2)
8	Hispanic	Respondents who reported they are of Hispanic origin. (_HISPANC=1)
9	Don’t know/Not sure/ Refused	Respondents who reported they did not know or refused to give their race and are not of Hispanic origin or did not know or refused to answer if they are of Hispanic origin. (_MRACE1 =77, 99 and _HISPANC=2 or _HISPANC=7, 9)

	SAS Code:	`IF _HISPANC=9 OR (_MRACE1 IN(77,99) AND HISPANC3 EQ 2) THEN DO;`
		`_RACE = 9 ;`
		`END;`
		`ELSE IF _HISPANC =2 THEN DO;`
		`IF _MRACE1 = 1 THEN _RACE = 1 ;`
		`ELSE IF _MRACE1 = 2 THEN _RACE = 2 ;`
		`ELSE IF _MRACE1 = 3 THEN _RACE = 3 ;`
		`ELSE IF _MRACE1 = 4 THEN _RACE = 4 ;`
		`ELSE IF _MRACE1 = 5 THEN _RACE = 5 ;`
		`ELSE IF _MRACE1 = 6 THEN _RACE = 6 ;`
		`ELSE IF _MRACE1 = 7 THEN _RACE = 7 ;`
		`END;`
		`ELSE IF _HISPANC=1 THEN DO;`
		`_RACE = 8 ;`
		`END;`

Section 9: Demographics		
_RACEG21	***Calculated variable for white Non-Hispanic race group.* _RACEG21 is derived from _RACE.**	
1	Non-Hispanic White	Respondents who reported they are white and not of Hispanic origin. (_RACE=1)
2	Non-White or Hispanic	Respondents who reported they are non-white or of Hispanic origin. (_RACE=2, 3, 4, 5, 6, 7, 8)
9	Don't know/Not sure/ Refused	Respondents who reported they did not know or refused to give their race and are not of Hispanic origin or did not know or refused to answer if they are of Hispanic origin. (_RACE=9)

	SAS Code:	`IF _RACE = 1 THEN _RACEG21 = 1;`
		`ELSE IF _RACE IN (2,3,4,5,6,7,8) THEN _RACEG21 = 2;`
		`ELSE IF _RACE=9 THEN _RACEG21 = 9;`

Section 9: Demographics		
_RACEGR3	***Calculated variable for five-level race ethnicity category.* _RACEGR3 is derived from _RACE.**	
1	White only, Non-Hispanic	Respondents who reported they are white and not of Hispanic origin. (_RACE=1)
2	Black only, Non-Hispanic	Respondents who reported they are black and not of Hispanic origin. (_RACE=2)
3	Other race only, Non-Hispanic	Respondents who reported they are not white and not black and not of Hispanic origin. (_RACE=3, 4, 5, 6)
4	Multiracial, Non-Hispanic	Respondents who reported being multiracial but not of Hispanic origin. (_RACE=7)
5	Hispanic	Respondents who reported they are of Hispanic origin. (_RACE=8)
9	Don't know/Not sure/ Refused	Respondents who reported they did not know or refused to give their race and are not of Hispanic origin or did not know or refused to answer if they are of Hispanic origin. (_RACE=9)

	SAS Code:	`IF _RACE=1 THEN _RACEGR3=1;`
		`ELSE IF _RACE=2 THEN _RACEGR3=2;`
		`ELSE IF 3 LE _RACE LE 6 THEN _RACEGR3=3;`
		`ELSE IF _RACE=7 THEN _RACEGR3=4;`
		`ELSE IF _RACE=8 THEN _RACEGR3=5;`
		`ELSE IF _RACE=9 THEN _RACEGR3=9;`

Section 9: Demographics		
_RACEPRV	***Calculated variable for computed race groups used for internet prevalence tables*** **. _RACEPRV is derived from _RACE and _IMPRACE**	
1	White only, non-Hispanic	Respondents who reported they are white and not of Hispanic origin or were imputed to be white and not of Hispanic origin. (_RACE=1 or _RACE=9 and _IMPRACE=1)
2	Black only, non-Hispanic	Respondents who reported they are black and not of Hispanic origin or were imputed to be black and not of Hispanic origin. (_RACE=2 or _RACE=9 and _IMPRACE=2)
3	American Indian or Alaskan Native only, Non-Hispanic	Respondents who reported they are American Indian or Alaska Native and not of Hispanic origin or were imputed to be American Indian or Alaska Native and not of Hispanic origin. (_RACE=3 or _RACE=9 and _IMPRACE=4)
4	Asian only, non-Hispanic	Respondents who reported they are Asian and not of Hispanic origin or were imputed to be Asian and not of Hispanic origin. (_RACE=4 or _RACE=9 and _IMPRACE=3)
5	Native Hawaiian or other Pacific Islander only, Non-Hispanic	Respondents who reported they are Native Hawaiian or Pacific Islander and not of Hispanic origin. (_RACE=5)
6	Other race only, non-Hispanic	Respondents who reported they are of some other race group not listed in the question responses and are not of Hispanic origin or were imputed to be some other race group and not of Hispanic origin. (_RACE=6 or _RACE=9 and _IMPRACE=6)
7	Multiracial, non-Hispanic	Respondents who reported they are of more than one race group and are not of Hispanic origin. (_RACE=7)
8	Hispanic	Respondents who reported they are of Hispanic origin or were imputed to be of Hispanic origin. (_RACE=8 or _RACE=9 and _IMPRACE==5)

	SAS Code:	`IF _RACE < 9 THEN _RACEPRV=_RACE;`
		`IF _RACE=9 THEN DO;`
		`IF _IMPRACE IN (1,2,6) THEN _RACEPRV=_IMPRACE;`
		`ELSE IF _IMPRACE=3 THEN _RACEPRV=4;`
		`ELSE IF _IMPRACE=4 THEN _RACEPRV=3;`
		`ELSE IF _IMPRACE=5 THEN _RACEPRV=8;`
		`END;`

Section 9: Demographics		
_SEX	***Calculated variable for calculated sex variable.*** **_SEX is derived from BIRTHSEX and SEXVAR**	
1	Male	Male respondent (BIRTHSEX=1 or BIRTHSEX notin (1,2) and SEXVAR=1)
2	Female	Female respondent (BIRTHSEX=2 or BIRTHSEX notin (1,2) and SEXVAR=2)

	SAS Code:	`IF BIRTHSEX IN (1,2) THEN DO;`
		`_SEX=BIRTHSEX;`
		`END;`
		`ELSE DO;`
		`_SEX=SEXVAR;`
		`END;`

Section 9: Demographics		
_AGEG5YR	***Calculated variable for fourteen-level age category.*** **_AGEG5YR is derived from AGE.**	
1	Age 18 to 24	Respondents with reported age between 18 and 24 years (18 </= AGE </= 24)
2	Age 25 to 29	Respondents with reported age between 25 and 29 years (25 </= AGE </= 29)
3	Age 30 to 34	Respondents with reported age between 30 and 34 years (30 </= AGE </= 34)
4	Age 35 to 39	Respondents with reported age between 35 and 39 years (35 </= AGE </= 39)
5	Age 40 to 44	Respondents with reported age between 40 and 44 years (40 </= AGE </= 44)
6	Age 45 to 49	Respondents with reported age between 45 and 49 years (45 </= AGE </= 49)
7	Age 50 to 54	Respondents with reported age between 50 and 54 years (50 </= AGE </= 54)
8	Age 55 to 59	Respondents with reported age between 55 and 59 years (55 </= AGE </= 59)
9	Age 60 to 64	Respondents with reported age between 60 and 64 years (60 </= AGE </= 64)
10	Age 65 to 69	Respondents with reported age between 65 and 69 years (65 </= AGE </= 69)
11	Age 70 to 74	Respondents with reported age between 70 and 74 years (70 </= AGE </= 74)
12	Age 75 to 79	Respondents with reported age between 75 and 79 years (75 </= AGE </= 79)
13	Age 80 or older	Respondents with reported age between 80 and 99 years (80 </= AGE </= 99)
14	Don’t know/Refused/ Missing	Respondents who reported they didn´t know, were not sure, refused to report or had missing responses for their age. (AGE=7, 9, missing)

	SAS Code:	`IF 18 LE AGE LE 24 THEN _AGEG5YR = 1;`
		`ELSE IF 25 LE AGE LE 29 THEN _AGEG5YR = 2;`
		`ELSE IF 30 LE AGE LE 34 THEN _AGEG5YR = 3;`
		`ELSE IF 35 LE AGE LE 39 THEN _AGEG5YR = 4;`
		`ELSE IF 40 LE AGE LE 44 THEN _AGEG5YR = 5;`
		`ELSE IF 45 LE AGE LE 49 THEN _AGEG5YR = 6;`
		`ELSE IF 50 LE AGE LE 54 THEN _AGEG5YR = 7;`
		`ELSE IF 55 LE AGE LE 59 THEN _AGEG5YR = 8;`
		`ELSE IF 60 LE AGE LE 64 THEN _AGEG5YR = 9;`
		`ELSE IF 65 LE AGE LE 69 THEN _AGEG5YR = 10;`
		`ELSE IF 70 LE AGE LE 74 THEN _AGEG5YR = 11;`
		`ELSE IF 75 LE AGE LE 79 THEN _AGEG5YR = 12;`
		`ELSE IF 80 LE AGE LE 99 THEN _AGEG5YR = 13;`
		`ELSE _AGEG5YR = 14;`

Section 9: Demographics		
_AGE65YR	***Calculated variable for two-level age category.* _AGE65YR is derived from AGE.**	
1	Age 18 to 64	Respondents with reported ages 18–64. (18 </= AGE </=64)
2	Age 65 or older	Respondents with reported ages 65–99. (65 >/= AGE >/= 99)
3	Don't know/Refused/ Missing	Respondents who reported they didn´t know, were not sure, refused, or had a missing value for AGE. (AGE=7,9, or missing)

	SAS Code:	`IF 18 LE AGE LE 64 THEN _AGE65YR=1;`
		`ELSE IF 65 LE AGE LE 99 THEN _AGE65YR=2;`
		`ELSE _AGE65YR = 3;`

Section 9: Demographics		
_AGE80	***Calculated variable for imputed age value collapsed above 80.* _AGE80 is derived from _IMPAGE.**	
18–24	Imputed Age 18 to 24	Respondents with reported Imputed Age between 18 and 24 years (18 </= Imputed Age </= 24)
25–29	Imputed Age 25 to 29	Respondents with reported Imputed Age between 25 and 29 years (25 </= Imputed Age </= 29)
30–34	Imputed Age 30 to 34	Respondents with reported Imputed Age between 30 and 34 years (30 </= Imputed Age </= 34)
35–39	Imputed Age 35 to 39	Respondents with reported Imputed Age between 35 and 39 years (35 </= Imputed Age </= 39)
40–44	Imputed Age 40 to 44	Respondents with reported Imputed Age between 40 and 44 years (40 </= Imputed Age </= 44)
45–49	Imputed Age 45 to 49	Respondents with reported Imputed Age between 45 and 49 years (45 </= Imputed Age </= 49)
50–54	Imputed Age 50 to 54	Respondents with reported Imputed Age between 50 and 54 years (50 </= Imputed Age </= 54)
55–59	Imputed Age 55 to 59	Respondents with reported Imputed Age between 55 and 59 years (55 </= Imputed Age </= 59)
60–64	Imputed Age 60 to 64	Respondents with reported Imputed Age between 60 and 64 years (60 </= Imputed Age </= 64)
65–69	Imputed Age 65 to 69	Respondents with reported Imputed Age between 65 and 69 years (65 </= Imputed Age </= 69)
70–74	Imputed Age 70 to 74	Respondents with reported Imputed Age between 70 and 74 years (70 </= Imputed Age </= 74)
75–79	Imputed Age 75 to 79	Respondents with reported Imputed Age between 75 and 79 years (75 </= Imputed Age </= 79)
80–99	Imputed Age 80 or older	Respondents with reported Imputed Age between 80 and 99 years (80 </= Imputed Age </= 99)
	SAS Code:	`IF 18 LE _IMPAGE LE 80 THEN _AGE80=_IMPAGE;` `ELSE IF _IMPAGE GE 80 THEN _AGE80=80;`

Section 9: Demographics		
_AGE_G	***Calculated variable for six-level imputed age category.*** **_AGE_G is derived from _IMPAGE (imputed age).**	
1	Age 18 to 24	Respondents with imputed ages between 18–24 years of age. (18 </= _IMPAGE </= 24)
2	Age 25 to 34	Respondents with imputed ages between 25–34 years of age. (25 </= _IMPAGE </= 34)
3	Age 35 to 44	Respondents with imputed ages between 35–44 years of age. (35 </= _IMPAGE </= 44)
4	Age 45 to 54	Respondents with imputed ages between 45–54 years of age. (45 </= _IMPAGE </= 54)
5	Age 55 to 64	Respondents with imputed ages between 55–64 years of age. (55 </= _IMPAGE </= 64)
6	Age 65 or older	Respondents with imputed ages between 65–99 years of age. (_IMPAGE =/> 65)

	SAS Code:	`IF (18<=_IMPAGE<=24) THEN _AGE_G = 1;`
		`ELSE IF (25<=_IMPAGE<=34) THEN _AGE_G = 2;`
		`ELSE IF (35<=_IMPAGE<=44) THEN _AGE_G = 3;`
		`ELSE IF (45<=_IMPAGE<=54) THEN _AGE_G = 4;`
		`ELSE IF (55<=_IMPAGE<=64) THEN _AGE_G = 5;`
		`ELSE IF (_IMPAGE >= 65) THEN _AGE_G = 6;`

Section 9: Demographics		
HTIN4	***Calculated variable for reported height in inches.*** **HTIN4 is derived from HEIGHT3. HTIN4 is calculated by adding the foot portion of HEIGHT3 multiplied by 12, to the inch portion.**	
36–95	Height in inches	Respondents calculated height in inches. (HTIN4=(height in feet x 12) + height in inches)
.	Don't know/Refused/ Not asked or Missing	Respondents who reported they didn´t know, were not sure, refused or had missing responses for their height.

	SAS Code:	`IF 300<=HEIGHT3<=311 THEN HTIN4=((HEIGHT3-300)+36);`
		`ELSE IF 400<=HEIGHT3<=411 THEN HTIN4=((HEIGHT3-400)+48);`
		`ELSE IF 500<=HEIGHT3<=511 THEN HTIN4=((HEIGHT3-500)+60);`
		`ELSE IF 600<=HEIGHT3<=611 THEN HTIN4=((HEIGHT3-600)+72);`
		`ELSE IF 700<=HEIGHT3<=711 THEN HTIN4=((HEIGHT3-700)+84);`

Section 9: Demographics		
HTM4	***Calculated variable for reported height in meters.*** **HTM4 is derived from the variable HTIN4 by multiplying HTIN4 by 2.54 cm per in and dividing by 100 cm per meter. HTM4 is derived from HEIGHT2 metric values by dividing by 100.**	
91–244	Height in meters [2 implied decimal places]	Respondents reported or calculated height in meters. (HTM4=HTIN4 x 0.0254 or HTM4 = (HEIGHT3 - 9000) ÷ 100)
.	Don't know/Refused/ Not asked or Missing	Respondents who reported they didn´t know, were not sure, refused or had missing responses for their height.
	SAS Code:	`IF 300 <= HEIGHT3 <= 711 THEN HTM4=HTIN4*0.0254;` `ELSE IF 9091 <= HEIGHT3 < 9244 THEN HTM4=(HEIGHT3-9000)/100;`

Section 9: Demographics		
WTKG3	***Calculated variable for reported weight in kilograms.* WTKG3 is derived from WEIGHT2 by multiplying WEIGHT2 by 0.4535924 kg per lb.**	
2300 - 29500	Weight in kilograms [2 implied decimal places]	Respondents reported or calculated weight in kilograms.
.	Don't know/Refused/ Not asked or Missing	Respondents who reported they didn´t know, were not sure, or refused or had missing responses for their weight.

	SAS Code:	`** CONVERSION FACTOR = 0.4535924 kg/lb **;`
		` IF WEIGHT2 NOT IN (777,999,7777,9999,.) THEN DO;`
		` IF 0050 LE WEIGHT2 < 0650 THEN WTKG3=WEIGHT2*0.4535924;`
		` ELSE IF 9023 LE WEIGHT2 < 9295 THEN WTKG3=WEIGHT2-9000;`
		`END;`

Section 9: Demographics		
_BMI5	***Calculated variable for body mass index (bmi).* _BMI5 is derived from WTKG3 and HTM4. It is calculated by dividing WTKG3 by HTM4².**	
1 - 9999	1 or greater	Respondents calculated body mass index (BMI) {units=kilograms per meter squared}. (_BMI5 = WTKG3 / (HTM4xHTM4))
.	Don't know/Refused/ Missing	Respondents who had a missing value for their height in meters or weight in kilograms. (WTKG3=missing or HTM4=missing or _BMI5<12.00 or _BMI5>=100 or PREGNANT=1)

	SAS Code:	`IF (WTKG3 NOTIN (.)) AND (HTM4 NOTIN (.)) THEN _BMI5=WTKG3/(HTM4 ** 2);`
		` ELSE _BMI5=.;`
		`IF _BMI5 NE . THEN _BMI5=ROUND(_BMI5,.01);`
		` IF _BMI5 > 99.99 THEN _BMI5=.;`
		` IF _BMI5 < 12.00 THEN _BMI5=.;`
		`IF PREGNANT=1 THEN _BMI5=.;`

Section 9: Demographics		
_BMI5CAT	***Calculated variable for four-categories of body mass index (BMI).* _BMI5CAT is derived from _BMI5.**	
1	Underweight	Respondents classified as underweight based on body mass index. (_BMI5 < 18.50)
2	Normal Weight	Respondents classified as normal weight based on body mass index. (18.50 </= _BMI5 < 25.00)
3	Overweight	Respondents classified as overweight based on body mass index. (25.00 </= _BMI5 < 30.00)
4	Obese	Respondents classified as obese based on body mass index. (30.00 </= _BMI5 < 99.99)
.	Don't know/Refused/ Missing	Respondents with an unknown, refused, or missing value for body mass index. (_BMI5=.)

	SAS Code:	`IF (0.00 LE _BMI5 < 18.50) THEN _BMI5CAT=1;`
		` ELSE IF (18.50 LE _BMI5 < 25.00) THEN _BMI5CAT=2;`
		` ELSE IF (25.00 LE _BMI5 < 30.00) THEN _BMI5CAT=3;`
		`ELSE IF _BMI5 GE 30.00 THEN _BMI5CAT=4;`

Section 9: Demographics		
_RFBMI5	***Calculated variable for adults who have a body mass index greater than 25.00 (overweight or obese). _RFBMI5 is derived from _BMI5.***	
1	No	Respondents not classified as overweight or obese based on body mass index. (12 </= _BMI5 < 25.00)
2	Yes	Respondents classified as overweight or obese based on body mass index. (25.00 </= _BMI5 </= 99.99)
9	Don't know/Refused/ Missing	Respondents with an unknown, refused, or missing value for body mass index. (_BMI5=missing)

	SAS Code:	`IF (12.00 LE _BMI5 < 25.00) THEN _RFBMI5=1;`
		` ELSE IF (25.00 <= _BMI5 < 99.99) THEN _RFBMI5=2;`
		` ELSE _RFBMI5=9;`
		`** Round off HTM4, WTKG3 and _BMI5 to 2 decimal places and remove the decimal **;`
		` HTIN4 = round(HTIN4,1);`
		` HTM4 = round((HTM4*100),1);`
		` WTKG3 = round((WTKG3*100),1);`
		` IF _BMI5 NE . THEN _BMI5 = ROUND((_BMI5*100),1);`

Section 9: Demographics		
_CHLDCNT	***Calculated variable for number of children in household. _CHLDCNT is derived from CHILDREN.***	
1	No children in household	Respondents who reported having no children. (CHILDREN=88)
2	One child in household	Respondents who reported having one child. (CHILDREN=1)
3	Two children in household	Respondents who reported having two children. (CHILDREN=2)
4	Three children in household	Respondents who reported having three children. (CHILDREN=3)
5	Four children in household	Respondents who reported having four children. (CHILDREN=4)
6	Five or more children in household	Respondents who reported having five or more children. (5 </= CHILDREN < 87)
9	Don't know/Not sure/ Missing	Respondents who reported they didn´t know, were not sure, refused or had a missing value for CHILDREN. (CHILDREN=99)

	SAS Code:	`IF CHILDREN = 88 THEN _CHLDCNT = 1;`
		` ELSE IF CHILDREN = 01 THEN _CHLDCNT = 2;`
		` ELSE IF CHILDREN = 02 THEN _CHLDCNT = 3;`
		` ELSE IF CHILDREN = 03 THEN _CHLDCNT = 4;`
		` ELSE IF CHILDREN = 04 THEN _CHLDCNT = 5;`
		`ELSE IF 05 <= CHILDREN < 88 THEN _CHLDCNT = 6;`
		` ELSE IF CHILDREN = 99 THEN _CHLDCNT = 9;`
		` ELSE IF CHILDREN = . THEN _CHLDCNT = 9;`

Section 9: Demographics		
_EDUCAG	***Calculated variable for level of education completed.*** **_EDUCAG is derived from EDUCA.**	
1	Did not graduate High School	Respondents who reported they did not graduate high school. (EDUCA=1,2,3)
2	Graduated High School	Respondents who reported they graduated high school. (EDUCA=4)
3	Attended College or Technical School	Respondents who reported they attended college or technical school. (EDUCA=5)
4	Graduated from College or Technical School	Respondents who reported they graduated from college or technical school. (EDUCA=6)
9	Don’t know/Not sure/ Missing	Respondents who reported they didn´t know, were not sure, refused, or had a missing value for EDUCA. (EDUCA=9, missing)

	SAS Code:	`IF EDUCA IN (1,2,3) THEN _EDUCAG = 1;`
		`ELSE IF EDUCA IN (4) THEN _EDUCAG = 2;`
		`ELSE IF EDUCA IN (5) THEN _EDUCAG = 3;`
		`ELSE IF EDUCA IN (6) THEN _EDUCAG = 4;`
		`ELSE IF EDUCA IN (.,9) THEN _EDUCAG = 9;`

Section 9: Demographics		
_INCOMG1	***Calculated variable for income categories.* _INCOMG1 is derived from INCOME3.**	
1	Less than $15,000	Respondents whose reported income is less than $15,000. (INCOME3=1,2)
2	$15,000 to less than $25,000	Respondents whose reported income is $15,000 to less than $25,000. (INCOME3=3,4)
3	$25,000 to less than $35,000	Respondents whose reported income is $25,000 to less than $35,000. (INCOME3=5)
4	$35,000 to less than $50,000	Respondents whose reported income is $35,000 to less than $50,000. (INCOME3=6)
5	$50,000 to less than $100,000	Respondents whose reported income is $50,000 to less than $100,000. (INCOME3=7,8)
6	$100,000 to less than $200,000	Respondents whose reported income is $100,000 to less than $200,000. (INCOME3=9,10)
7	$200,000 or more	Respondents whose reported income is $200,000 or more. (INCOME3=11)
9	Don’t know/Not sure/ Missing	Respondents who refused to answer, didn´t know or had a missing value for INCOME3. (INCOME3=77, 99, or missing)

	SAS Code:	`IF INCOME3 IN (1,2) THEN _INCOMG1 = 1;`
		`ELSE IF INCOME3 IN (3,4) THEN _INCOMG1 = 2;`
		`ELSE IF INCOME3 IN (5) THEN _INCOMG1 = 3;`
		`ELSE IF INCOME3 IN (6) THEN _INCOMG1 = 4;`
		`ELSE IF INCOME3 IN (7,8) THEN _INCOMG1 = 5;`
		`ELSE IF INCOME3 IN (9,10) THEN _INCOMG1 = 6;`
		`ELSE IF INCOME3 IN (11) THEN _INCOMG1 = 7;`
		`ELSE IF INCOME3 IN (77,99,.) THEN _INCOMG1 = 9;`
		`ELSE IF INCOME3 IN (11)  THEN _INCOMG1 = 7;`
		`ELSE IF INCOME3 IN (77,99,.) THEN _INCOMG1 = 9;`

Section 10: Disability

There are no calculated variables for Section 10.

Section 11: Tobacco Use		
_SMOKER3	***Calculated variable for four-level smoker status: everyday smoker, someday smoker, former smoker, non-smoker.*** **_SMOKER3 is derived from SMOKE100 and SMOKDAY2.**	
1	Current smoker–now smokes every day	Respondents who reported having smoked at least 100 cigarettes in their lifetime and now smoke every day. (SMOKE100=1 and SMOKDAY2=1)
2	Current smoker–now smokes some days	Respondents who reported having smoked at least 100 cigarettes in their lifetime and now smoke some days. (SMOKE100=1 and SMOKDAY2=2)
3	Former smoker	Respondents who reported having smoked at least 100 cigarettes in their lifetime and currently do not smoke. (SMOKE100=1 and SMOKDAY2=3)
4	Never smoked	Respondents who reported they had not smoked at least 100 cigarettes in their lifetime. (SMOKE100=2)
9	Don't know/Refused/ Missing	Respondents who reported they didn't know if they had smoked 100 cigarettes in their lifetime, those who refused to answer if they had smoked 100 cigarettes in their lifetime, those who didn't know if they now smoked every day, some days or not at all, those who refused to answer if they now smoked every day, some days or not at all, or those with missing responses. (SMOKE100=7, 9, missing; or SMOKDAY2=7, 9, missing)

	SAS Code:	`IF SMOKE100=2 THEN _SMOKER3=4;`
		`ELSE IF SMOKE100=1 THEN DO;`
		`IF SMOKDAY2=1 THEN _SMOKER3=1;`
		`ELSE IF SMOKDAY2=2 THEN _SMOKER3=2;`
		`ELSE IF SMOKDAY2 = 3 THEN _SMOKER3=3;`
		`ELSE _SMOKER3=9;`
		`END;`
		`ELSE _SMOKER3=9;`

Section 11: Tobacco Use		
_RFSMOK3	***Calculated variable for adults who are current smokers.*** **_RFSMOK3 is derived from _SMOKER3.**	
1	No	Respondents who reported they had not smoked at least 100 cigarettes in their lifetime, those who reported having smoked 100 cigarettes in their lifetime but do not currently smoke. (_SMOKER3=3, 4)
2	Yes	Respondents who reported having smoked at least 100 cigarettes in their lifetime and currently smoke. (_SMOKER3=1, 2)
9	Don't know/Refused/ Missing	Respondents who reported they did not know if they had smoked 100 cigarettes in their lifetime, those who refused to answer if they had smoked 100 cigarettes in their lifetime, those who didn't know if they now smoked every day, some days or not at all, those who refused to answer if they now smoked every day, some days or not at all, or those with missing responses. (_SMOKER3=9)

	SAS Code:	`IF _SMOKER3 IN (1,2) THEN _RFSMOK3=2;`
		`ELSE IF _SMOKER3 IN (3,4) THEN _RFSMOK3=1;`
		`ELSE _RFSMOK3=9;`

Section 11: Tobacco Use		
_CURECI1	***Calculated variable for adults who are current e-cigarette users.*** **_CURECI1 is derived from ECIGNOW1.**	
1	Not currently using E-cigarettes	Respondents who reported they had not used E-cigarettes in their lifetime, those who reported having used E-cigarettes in their lifetime but do not currently use E-cigarettes. (ECIGNOW1=3, 4)
2	Current E-cigarette user	Respondents who reported having used E-cigarettes in their lifetime and currently use E-cigarettes. (ECIGNOW1=1, 2)
9	Don't know/Refused/ Missing	Respondents who reported they did not know if they had used E-cigarettes in their lifetime, those who refused to answer if they had used E-cigarettes in their lifetime, those who didn't know if they now used E-cigarettes every day, some days or not at all, those who refused to answer if they now used E-cigarettes every day, some days or not at all, or those with missing responses. (ECIGNOW1=7,9, or missing)

	SAS Code:	`IF ECIGNOW1 IN (1,2) THEN _CURECI1=2;`
		`ELSE IF ECIGNOW1 IN (3,4) THEN _CURECI1=1;`
		`ELSE _CURECI1=9;`

Section 12: Alcohol Consumption		
DRNKANY5	***Calculated variable for adults who reported having had at least one drink of alcohol in the past 30 days.*** **DRNKANY5 is derived from AKCDAY5**	
1	Yes	Respondents who reported drinking at least one alcoholic beverage in the past 30 days. (1 </= ALCDAY5 </= 231)
2	No	Respondents who reported drinking no alcoholic beverages in the past 30 days. (ALCDAY5=888)
7	Don't know/Not Sure	Respondents who reported not knowing if they drank at least one alcoholic beverage in the past 30 days. (ALCDAY5=777)
9	Refused/Missing	Respondents who refused to answer or had a missing value for drinking at least one alcoholic beverage in the past 30 days. (ALCDAY5=999, Missing)

	SAS Code:	`IF 1 <= ALCDAY5 < 231 THEN DRNKANY5=1;`
		`ELSE IF ALCDAY5=888 THEN DRNKANY5=2;`
		`ELSE IF ALCDAY5=777 THEN DRNKANY5=7;`
		`ELSE DRNKANY5=9;`

Section 12: Alcohol Consumption		
DROCDY3_	***Calculated variable for drink-occasions-per-day.*** **DROCDY3_ is derived from ALCDAY5 by dividing the ALCDAY5 variable by 7 days per week or 30 days per month.**	
0	No Drink-Occasions per day	Respondents reported no occasions per day that they consumed alcohol. (ALCDAY5=888)
1 - 899	Drink-Occasions per day	Respondents reported number of occasions per day that they consumed alcohol. (ALCDAY5 not equal to 777, 888, 999, or missing)
900	Don't know/Not Sure or Refused/Missing	Respondents who reported they did not know how many days they had at least one drink of alcohol, those who refused to answer how many days they had at least one drink of alcohol, those with missing responses. (ALCDAY5=777, 999, or missing)

	SAS Code:	`IF ALCDAY5 NOTIN (888,777,999,.) THEN DO;`
		` IF 101 LE ALCDAY5 LE 107 THEN DROCDY3_=(ALCDAY5-100)/7;`
		` ELSE IF 201 LE ALCDAY5 LE 230 THEN DROCDY3_=(ALCDAY5-200)/30;`
		` END;`
		`ELSE IF ALCDAY5 EQ 888 THEN DROCDY3_=0;`
		` ELSE DROCDY3_=9;`
		`* DROCDY3_=round((DROCDY3_*100),1);`
		` *This is done after all of the alcohol calculations but the code is included here;`

Section 12: Alcohol Consumption		
_RFBING5	***Calculated variable for binge drinkers (males having five or more drinks on one occasion, females having four or more drinks on one occasion).*** **_RFBING5 is derived from DRNK3GE5 and ALCDAY5.**	
1	No	Respondents who reported they did not drink in the past 30 days, or those who reported that they did drink alcohol in the past 30 days but did not report having five or more drinks of alcohol on an occasion. (ALCDAY5<231 and DRNK3GE5=88; or ALCDAY5=888)
2	Yes	Respondents who reported they did drink in the past 30 days and had five or more drinks on one or more occasions in the past month. (ALCDAY5<231 and 1</=DRNK3GE5</=76)
9	Don't know/Refused/ Missing	Respondents who reported that they did not know if they had consumed five or more drinks of alcohol on one occasion or refused to answer if they had consumed five or more drinks of alcohol on one occasion or those with missing responses. (DRNK3GE5=77, 99, missing; or ALCDAY5=777, 999, missing)

	SAS Code:	`IF ALCDAY5 NOTIN (888) THEN DO;`
		` IF 1 LE DRNK3GE5 LE 76 THEN _RFBING5=2;`
		` ELSE IF DRNK3GE5 IN (.,77,99) THEN _RFBING5=9;`
		` ELSE IF DRNK3GE5 IN (88) THEN _RFBING5=1;`
		` END;`
		`ELSE IF ALCDAY5 = 888 THEN _RFBING5=1;`
		`  ELSE _RFBING5=9;`

Section 12: Alcohol Consumption		
_DRNKWK1	***Calculated variable for calculated total number of alcoholic beverages consumed per week.*** **_DRNKWK1 is derived from DROCDY3_ and AVEDRNK3 by multiplying the total number of drink occasions per day (DROCDY3_) by the average number of drinks per occasion (AVEDRNK3) times seven days.**	
0	Did not drink	Respondents who did not drink in the past month. (DROCDY3_=0 or AVEDRNK3=88)
1 - 98999	Number of drinks per week	Respondents reported number of alcoholic drinks in the past week. (0 < DROCDY3_ < 990)
99900	Don't know/Not sure/ Refused/ Missing	Respondents who refused to report the number of alcohol drinks consumed per day or respondents who did not know the number of alcohol drinks consumed per day or those with missing responses or respondents who refused to report the number drink occasions per day or respondents who did not know the number of drink occasions per day or those with missing responses. (AVEDRNK3=.,77,99 or DROCDY3_=900)

	SAS Code:	`IF DROCDY3_=0 THEN _DRNKWK1=0;`
		`ELSE IF DROCDY3_=9 THEN _DRNKWK1=999;`
		`ELSE IF AVEDRNK3 IN (.,77,99) THEN _DRNKWK1=999;`
		`ELSE IF AVEDRNK3=88 THEN _DRNKWK1=0;`
		`ELSE _DRNKWK1=AVEDRNK3*DROCDY3_*7;`
		`* _DRNKWK1=ROUND((_DRNKWK1*100),1);`
		`*This is done after all of the alcohol calculations but the code is included here;`

Section 12: Alcohol Consumption		
_RFDRHV7	***Calculated variable for heavy drinkers (adult men having more than 14 drinks per week and adult women having more than 7 drinks per week).* _RFDRHV7 is derived from _DRNKWK1, ALCDAY5, and SEXVAR.**	
1	No	Male Respondents who reported having 14 drinks per week or less, or Female Respondents who reported having 7 drinks per week or less. ((SEXVAR=1 or BIRTHSEX=1) and _DRNKWK1 </= 1400 or (SEXVAR=2 or BIRTHSEX=2) and _DRNKWK1 </= 700 or ALCDAY5=888)
2	Yes	Male Respondents who reported having more than 14 drinks per week, or Female Respondents who reported having more than 7 drinks per week. ((SEXVAR=1 or BIRTHSEX=1) and _DRNKWK1 > 1400 or (SEXVAR=2 or BIRTHSEX=2) and _DRNKWK1 > 700)
9	Don't know/Refused/ Missing	Respondents with don´t know, refused or missing responses for ALCDAY5 or _DRNKWK1. (ALCDAY5=777, 999, or missing, or _DRNKWEK=99, or missing)

	SAS Code:	`IF (SEXVAR=1 or BIRTHSEX=1) AND _DRNKWK1 NOTIN (999,.) THEN DO;`
		`IF _DRNKWK1 GT 14 THEN _RFDRHV7=2;`
		`ELSE IF _DRNKWK1 LE 14 THEN _RFDRHV7=1;`
		`END;`
		`ELSE IF (SEXVAR=2 or BIRTHSEX=2) AND _DRNKWK1 NOTIN (999,.) THEN DO;`
		`IF _DRNKWK1 GT 7 THEN _RFDRHV7=2;`
		`ELSE IF _DRNKWK1 LE 7 THEN _RFDRHV7=1;`
		`END;`
		`ELSE IF ALCDAY5 EQ 888 THEN _RFDRHV7=1;`
		`ELSE _RFDRHV7=9;`
		`** ROUND OFF TO NO DECIMAL PLACES ** MULTIPLY BY 100 AND THEN ROUND OFF TO NO DECIMAL PLACES AND THEN REMOVE THE DECIMAL PLACES **;`
		`DROCDY3_=round((DROCDY3_*100),1);`
		`_DRNKWK1=ROUND((_DRNKWK1*100),1);`

Section 13: Immunization		
_FLSHOT7	***Calculated variable for adults aged 65+ who have had a flu shot within the past year.*** **_FLSHOT7 is derived from FLUSHOT7.**	
1	Yes	Respondents aged 65 or older who reported having a flu shot within the past 12 months. (AGE >= 65 and FLUSHOT7=1)
2	No	Respondents aged 65 or older who reported not having had a flu shot within the past 12 months. (AGE >= 65 and FLUSHOT7=2)
9	Don't know/Not Sure or Refused/ Missing	Respondents who did not know their age, those who refused to report their age, those who didn't know if they had a flu shot in the past 12 months, or those who refused to answer if they had a flu shot in the past 12 months, or those with missing responses. (AGE >= 65 and FLUSHOT7=7,9, or missing or AGE=7,9, or missing)
.	Age Less Than 65	Respondents aged 18-64. (18 </= AGE </= 64)

	SAS Code:	`IF AGE GE 65 THEN DO;`
		`IF FLUSHOT7=1 THEN _FLSHOT7=1;`
		`ELSE IF FLUSHOT7=2 THEN _FLSHOT7=2;`
		`ELSE IF FLUSHOT7 IN (.,7,9) THEN _FLSHOT7=9;`
		`END;`
		`ELSE IF AGE IN (.,7,9) THEN _FLSHOT7=9;`
		`ELSE _FLSHOT7=.;`

Section 13: Immunization		
_PNEUMO3	***Calculated variable for adults aged 65+ who have ever had a pneumonia vaccination.*** **_PNEUMO3 is derived from PNEUVAC4.**	
1	Yes	Respondents aged 65 or older who reported having a pneumonia shot. (AGE >/= 65 and PNEUVAC4=1)
2	No	Respondents aged 65 or older who reported not having had a pneumonia shot. (AGE >/= 65 and PNEUVAC4=2)
9	Don't know/Not Sure or Refused/ Missing	Respondents who did not know their age, those who refused to report their age, those who did not know if they ever had a pneumonia shot, those who refused to answer if they had a pneumonia shot, or those with missing responses. (AGE >= 65 and PNEUVAC3=7,9, or missing or AGE=7,9, or missing)
.	Age Less than 65	Respondents aged 18–64. (18 </= AGE </= 64)

	SAS Code:	`IF AGE GE 65 THEN DO;`
		`IF PNEUVAC4=1 THEN _PNEUMO3=1;`
		`ELSE IF PNEUVAC4=2 THEN _PNEUMO3=2;`
		`ELSE IF PNEUVAC4 IN (.,7,9) THEN _PNEUMO3=9;`
		`ELSE _PNEUMO3=.;`
		`END;`
		`ELSE IF AGE IN (.,7,9) THEN _PNEUMO3=9;`
		`ELSE _PNEUMO3=.;`

Section 14: HIV/AIDS		
_AIDTST4	***Calculated variable for adults who have ever been tested for hiv.*** **_AIDTST4 is derived from HIVTST7.**	
1	Yes	Respondents who reported to having been tested for HIV. (HIVTST7=1)
2	No	Respondents who did not report having been tested for HIV. (HIVTST7=2)
9	Don't know/Not Sure/ Refused	Respondents who reported they did not know if they had been tested for HIV, or those who refused to answer if they had been tested for HIV. (HIVTST7=7,9)
.	Not asked or missing	Respondents with missing responses for HIVTST7. (HIVTST7=missing)

	SAS Code:	`IF HIVTST7=1 THEN _AIDTST4=1;`
		`ELSE IF HIVTST7=2 THEN _AIDTST4=2;`
		`ELSE IF HIVTST7 IN (7,9) THEN _AIDTST4=9;`
		`ELSE IF HIVTST7=. THEN _AIDTST4=.;`

Section 15: Fruits & Vegetables		
FTJUDA2_	***Calculated variable for fruit juice intake in times per day.*** **FTJUDA2_ converts the FRUITJU2 variable to a per day response. (Two implied decimal places)**	
0 - 9999	Times per day (two implied decimal places)	Respondents reported intake of fruit juice per day (FRUITJU2 not equal to 777,999, or missing)
.	Don't know/Not Sure or Refused/Missing	Respondents who reported they didn´t know the number of times fruit juice was consumed per day, those who refused to answer, and those with missing responses (FRUITJU2=777,999, or missing)

	SAS Code:	`IF 100 < FRUITJU2 < 200 THEN FTJUDA2_=FRUITJU2-100;`
		`ELSE IF 200 < FRUITJU2 < 300 THEN`
		`FTJUDA2_=(ROUND((FRUITJU2-200)/7,0.01));`
		`ELSE IF 300 < FRUITJU2 < 400 THEN`
		`FTJUDA2_=(ROUND((FRUITJU2-300)/30,0.01));`
		`ELSE IF FRUITJU2 = 555 THEN FTJUDA2_=0;`
		`ELSE IF FRUITJU2 = 300 THEN FTJUDA2_=0.02;`
		`ELSE IF FRUITJU2 IN (.,777,999) THEN FTJUDA2_=.;`
		`** ROUND OFF **;`
		`FTJUDA2_=round((FTJUDA2_*100),1);`

Section 15: Fruits & Vegetables		
FRUTDA2_ ***Calculated variable for fruit intake in times per day.*** **FRUTDA2_ converts the FRUIT2 variable to a per day response. (Two implied decimal places)**		
0 - 9999	Times per day (two implied decimal places)	Respondents reported intake of fruit per day (FRUIT2 not equal to 777,999, or missing)
.	Don't know Not Sure or Refused/Missing	Respondents who reported they didn´t know the number of times fruit was consumed per day, those who refused to answer, and those with missing responses (FRUIT2=777, 999, or missing)

	SAS Code:	`IF 100 < FRUIT2 < 200 THEN FRUTDA2_=FRUIT2-100;`
		`ELSE IF 200 < FRUIT2 < 300 THEN`
		`FRUTDA2_=(ROUND((FRUIT2-200)/7,0.01));`
		`ELSE IF 300 < FRUIT2 < 400 THEN`
		`FRUTDA2_=(ROUND((FRUIT2-300)/30,0.01));`
		`ELSE IF FRUIT2 = 555 THEN FRUTDA2_=0;`
		`ELSE IF FRUIT2 = 300 THEN FRUTDA2_=0.02;`
		`ELSE IF FRUIT2 IN (.,777,999) THEN FRUTDA2_=.;`
		`** ROUND OFF **;`
		`FRUTDA2_=round((FRUTDA2_*100),1);`

Section 15: Fruits & Vegetables		
GRENDA1_ ***Calculated variable for dark green vegetable intake in times per day.*** **GRENDA1_ converts the FVGREEN1 variable to a per day response (Two implied decimal places)**		
0 - 9999	Times per day (two implied decimal places)	Respondents reported intake of dark green vegetables per day (FVGREEN1 not equal to 777,999, or missing)
.	Don't know/Not Sure or Refused/Missing	Respondents who reported they didn´t know the number of times dark green vegetables were consumed per day, those who refused to answer, and those with missing responses (FVGREEN1=777,999, or missing)

	SAS Code:	`IF 100 < FVGREEN1 < 200 THEN GRENDA1_=FVGREEN1-100;`
		`ELSE IF 200 < FVGREEN1 < 300 THEN`
		`GRENDA1_=(ROUND((FVGREEN1-200)/7,0.01));`
		`ELSE IF 300 < FVGREEN1 < 400 THEN`
		`GRENDA1_=(ROUND((FVGREEN1-300)/30,0.01));`
		`ELSE IF FVGREEN1 = 555 THEN GRENDA1_=0;`
		`ELSE IF FVGREEN1 = 300 THEN GRENDA1_=0.02;`
		`ELSE IF FVGREEN1 IN (.,777,999) THEN GRENDA1_=.;`
		`** ROUND OFF **;`
		`GRENDA1_=round((GRENDA1_*100),1);`

Section 15: Fruits & Vegetables		
FRNCHDA_	***Calculated variable for French-fry intake in times per day.*** **FRNCHDA_ converts the FRENCHF1 variable to a per day response. (Two implied decimal places)**	
0 - 9999	Times per day (two implied decimal places)	Respondents reported intake of French fries per day (FRENCHF1 not equal to 777,999, or missing)
.	Don't know/Not Sure or Refused/ Missing	Respondents who reported they didn´t know the number of time French fries were consumed per day, those who refused to answer, and those with missing responses (FRENCHF1=777, 999, or missing)

	SAS Code:	`IF 100 < FRENCHF1 < 200 THEN FRNCHDA_=FRENCHF1-100;`
		`ELSE IF 200 < FRENCHF1 < 300 THEN`
		`FRNCHDA_=(ROUND((FRENCHF1-200)/7,0.01));`
		`ELSE IF 300 < FRENCHF1 < 400 THEN`
		`FRNCHDA_=(ROUND((FRENCHF1-300)/30,0.01));`
		`ELSE IF FRENCHF1 = 555 THEN FRNCHDA_=0;`
		`ELSE IF FRENCHF1 = 300 THEN FRNCHDA_=0.02;`
		`ELSE IF FRENCHF1 IN (.,777,999) THEN FRNCHDA_=.;`
		`** ROUND OFF **;`
		`FRNCHDA_=round((FRNCHDA_*100),1);`

Section 15: Fruits & Vegetables		
POTADA1_	***Calculated variable for potato servings per day.*** **POTADA1_ converts the POTATOE1 variable to a per-day response.**	
0 - 9999	Times per day	Respondents reported servings of potatoes per day (POTATOE1 not equal to 777, 999, or missing)
.	Don't know/Not Sure or Refused/Missing	Respondents who reported they didn´t know the quantity of potato servings consumed per day, those who refused to answer, and those with missing responses (POTATOE1=777, 999, or missing)

	SAS Code:	`IF 100 < POTATOE1 < 200 THEN POTADA1_=POTATOE1-100;`
		`ELSE IF 200 < POTATOE1 < 300 THEN`
		`POTADA1_=(ROUND((POTATOE1-200)/7,0.01));`
		`ELSE IF 300 < POTATOE1 < 400 THEN`
		`POTADA1_=(ROUND((POTATOE1-300)/30,0.01));`
		`ELSE IF POTATOE1 = 555 THEN POTADA1_=0;`
		`ELSE IF POTATOE1 = 300 THEN POTADA1_=0.02;`
		`ELSE IF POTATOE1 IN (.,777,999) THEN POTADA1_=.;`
		`** ROUND OFF **;`
		`POTADA1_=round((POTADA1_*100),1);`

Section 15: Fruits & Vegetables		
VEGEDA2_ ***Calculated variable for other vegetable intake in times per day.*** **VEGEDA2_ converts the VEGETAB2 variable to a per day response. (Two implied decimal places)**		
0 - 9999	Times per day (two implied decimal places)	Respondents reported intake of other vegetables per day (VEGETAB2 not equal to 777, 999, or missing)
.	Don't know/Not Sure or Refused/Missing	Respondents who reported they didn´t know the number of times other vegetables were consumed per day, those who refused to answer, and those with missing responses (VEGETAB2=777, 999, or missing)

	SAS Code:	`IF 100 < VEGETAB2 < 200 THEN VEGEDA2_=VEGETAB2-100;`
		`ELSE IF 200 < VEGETAB2 < 300 THEN`
		`VEGEDA2_=(ROUND((VEGETAB2-200)/7,0.01));`
		`ELSE IF 300 < VEGETAB2 < 400 THEN`
		`VEGEDA2_=(ROUND((VEGETAB2-300)/30,0.01));`
		`ELSE IF VEGETAB2 = 555 THEN VEGEDA2_=0;`
		`ELSE IF VEGETAB2 = 300 THEN VEGEDA2_=0.02;`
		`ELSE IF VEGETAB2 IN (.,777,999) THEN VEGEDA2_=.;`
		`** ROUND OFF **;`
		`VEGEDA2_=round((VEGEDA2_*100),1);`

Section 15: Fruits & Vegetables		
_MISFRT1 ***Calculated variable for the number of missing fruit responses.*** **_MISFRT1 is derived from MFTJUDA2_ and MFRUTDA2_**		
0	No missing fruit responses	Respondents with no missing fruit responses
1 - 2	Has 1 or 2 missing fruit responses	Respondents with missing fruit responses

	SAS Code:	`IF FTJUDA2_=. THEN MFTJUDA2_=1;`
		`ELSE MFTJUDA2_=0;`
		`IF FRUTDA2_=. THEN MFRUTDA2_=1;`
		`ELSE MFRUTDA2_=0;`
		`_MISFRT1=SUM(MFTJUDA2_, MFRUTDA2_);`

Section 15: Fruits & Vegetables		
_MISVEG1	***Calculated variable for the number of missing vegetable responses.* _MISVEG1 is derived from MGRENDA1_, MFRNCHDA_, MPOTADA1_ and MVEGEDA2_.**	
0	No missing vegetable responses	Respondents with no missing vegetable responses
1 - 4	Has 1, 2, 3, or 4 missing vegetable responses	Respondents with missing vegetable responses

	SAS Code:	`IF GRENDA1_=. THEN MGRENDA1_=1;`
		`ELSE MGRENDA1_=0;`
		`IF FRNCHDA_=. THEN MFRNCHDA_=1;`
		`ELSE MFRNCHDA_=0;`
		`IF POTADA1_=. THEN MPOTADA1_=1;`
		`ELSE MPOTADA1_=0;`
		`IF VEGEDA2_=. THEN MVEGEDA2_=1;`
		`ELSE MVEGEDA2_=0;`
		`_MISVEG1=SUM(MGRENDA1_, MFRNCHDA_, MPOTADA1_, MVEGEDA2_);`

Section 15: Fruits & Vegetables		
_FRTRES1	***Calculated variable for missing any fruit responses.* _FRTRES1 is derived from _MISFRT1**	
0	Not Included–Missing Fruit Responses	Respondents with a missing value for one of the fruit variables (1</=_MISFRT1</=2)
1	Included–Not Missing Fruit Responses	Respondents with no missing fruit variables (_MISFRT1=0)

	SAS Code:	`_FRTRES1=0;`
		`IF 1<=_MISFRT1<=2 THEN _FRTRES1=0;`
		`ELSE IF _MISFRT1=0 THEN _FRTRES1=1;`

Section 15: Fruits & Vegetables		
_VEGRES1	***Calculated variable for missing any vegetable responses.* _VEGRES1 is derived from GRENDA1_, FRNCHDA_, POTADA1_, VEGEDA1_ and _MISVEG1.**	
0	Not Included–Missing Vegetable Responses	Respondents with missing vegetable per day values (1</=_MISVEG1</=4)
1	Included–Not Missing Vegetable Responses	Respondents with no missing vegetable per day values (_MISVEG1=0)
.	Not asked or Missing	Respondents with a 99 value for all vegetable per day variables.

	SAS Code:	`_VEGRES1=0;`
		`IF 1<=_MISVEG1<=4 THEN _VEGRES1=0;`
		`ELSE IF _MISVEG1=0 THEN _VEGRES1=1;`

Section 15: Fruits & Vegetables		
_FRUTSU1	***Calculated variable for total fruits consumed per day.*** **_FRUTSU1 is derived from the individual fruit variables (FTJUDA2_, FRUTDA2_). Values for don´t know, refused, or missing" (99) are excluded from the sum.**	
0 - 99998	Number of Fruits consumed per day (two implied decimal places)	Number of Fruits consumed per day (two implied decimal places) (FTJUDA2_+FRUTDA2_)
.	Not asked or Missing	Respondents with a 99 value for all four fruits per day variables.
	SAS Code:	`_FRUTSU1=(FTJUDA2_/100) + (FRUTDA2_/100);` `_FRUTSU1=round((_FRUTSU1*100),1);`

Section 15: Fruits & Vegetables		
_VEGESU1	***Calculated variable for total vegetables consumed per day.*** **_VEGESU1 is derived from the individual vegetable variables (GRENDA1_, FRNCHDA_, POTADA1_, and VEGEDA2_). Values for don´t know, refused, or missing" (99) are excluded from the sum.**	
0 - 99998	Number of Vegetables consumed per day (two implied decimal places)	Sum of all vegetable per day values (two implied decimal places) (GRENDA1_+FRNCHDA_+POTADA1_+VEGEDA2_)
.	Not asked or Missing	Respondents with a 99 value for all vegetable per day variables.
	SAS Code:	`_VEGESU1=(GRENDA1_/100) + (FRNCHDA_/100) + (POTADA1_/100) + (VEGEDA2_/100);` `_VEGESU1=round((_VEGESU1*100),1);`

Section 15: Fruits & Vegetables		
_FRTLT1A	***Calculated variable for consume fruit 1 or more times per day.*** **_FRTLT1A is derived from _FRUTSU1**	
1	Consumed fruit one or more times per day	Respondents who reported consuming Fruit 1 or more times a day (_FRUTSU1/100 >=1)
2	Consumed fruit less than one time per day	Respondents who reported consuming Fruit less than 1 time a day (_FRUTSU1/100 < 1)
9	Don´t know, refused or missing values	Respondents with don´t know, not sure, refused, or missing responses (_FRUTSU1=.)

	SAS Code:	`IF 0 <= (_FRUTSU1/100) < 1 THEN _FRTLT1A=2;`
		`ELSE IF (_FRUTSU1/100) >= 1 THEN _FRTLT1A=1;`
		`ELSE _FRTLT1A=9;`

Section 15: Fruits & Vegetables		
_VEGLT1A	***Calculated variable for consume vegetables 1 or more times per day.*** **_VEGLT1A is derived from _VEGESU1**	
1	Consumed vegetables one or more times per day	Respondents that reported consuming vegetables 1 or more times a day (_VEGESU1/100 >=1)
2	Consumed vegetables less than one time per day	Respondents that reported consuming vegetables less than 1 time a day (_VEGESU1/100 < 1)
9	Don´t know, refused or missing values	Respondents with don´t know, not sure, refused or missing responses (_VEGESU1=.)

	SAS Code:	`IF 0 <= (_VEGESU1/100) < 1 THEN _VEGLT1A=2;`
		`ELSE IF (_VEGESU1/100) >= 1 THEN _VEGLT1A=1;`
		`ELSE _VEGLT1A=9;`

Section 15: Fruits & Vegetables		
_FRT16A	***Calculated variable for reported consuming fruit >16 per day.*** **_FRT16A is derived from _FRUTSU1**	
0	Not Included - Values are too high	Respondents with an out-of-range value for sum of fruits per day (_FRUTSU1>16)
1	Included–Values are in accepted range	Respondents with value for sum of fruits per day in acceptable range (_FRUTSU1</=16)
.	Not asked or Missing	Respondents with a 99 value for both fruit per day variables.
	SAS Code:	`IF (_FRUTSU1/100)>16 THEN _FRT16A=0;` `ELSE IF (_FRUTSU1/100)<=16 THEN _FRT16A=1;`

Section 15: Fruits & Vegetables		
_VEG23A	***Calculated variable for reported consuming vegetables >23 per day.*** **_VEG23A is derived from _VEGESU1**	
0	Not Included–Values are too high	Respondents with an out-of-range value for sum of vegetables per day (_VEGESU1>23)
1	Included–Values are in accepted range	Respondents with value for sum of vegetables per day in acceptable range (_VEGESU1</=23)
.	Not asked or Missing	Respondents with a 99 value for all vegetable per day variables.
	SAS Code:	`IF (_VEGESU1/100)>23 THEN _VEG23A=0;` `ELSE IF (_VEGESU1/100)<=23 THEN _VEG23A=1;`

Section 15: Fruits & Vegetables		
_FRUITE1	***Calculated variable for fruit exclusion from analyses.* _FRUITE1 is derived from _FRTRES1 and _FRT16A**	
0	No missing values and in accepted range	Respondents with no missing fruit values and in accepted range (_FRTRES1=1 AND _FRT16A=1)
1	Missing Fruit responses	Respondents missing at least one fruit per day value (_FRTRES1=0)
2	Fruit values out of range	Respondents with an out-of-range value for sum of fruits per day (_FRTRES1=1 AND _FRT16A=0)
.	Not asked or Missing	Respondents with a 99 value for both fruit per day variables.

	SAS Code:	`IF _FRTRES1=1 AND _FRT16A=0 THEN _FRUITE1=2;`
		`ELSE IF _FRTRES1=1 AND _FRT16A=1 THEN _FRUITE1=0;`
		`ELSE _FRUITE1=1;`

Section 15: Fruits & Vegetables		
_VEGETE1	***Calculated variable for vegetable exclusion from analyses.* _VEGETE1 is derived from _VEGRES1 and _VEG23A.**	
0	No missing values and in accepted range	Respondents with no missing vegetable per day values and in all accepted range (_VEGRES1=1 AND _VEG23A=1)
1	Missing Vegetable responses	Respondents with missing vegetable per day values (_VEGRES1=0)
2	Vegetable values out of range	Respondents with out-of-range vegetable-per day-values (_VEGRES1=1 AND _VEG23A=0)
.	Not asked or Missing	Respondents with a 99 value for all vegetable per day variables.

	SAS Code:	`IF _VEGRES1=1 AND _VEG23A=0 THEN _VEGETE1=2;`
		`ELSE IF _VEGRES1=1 AND _VEG23A=1 THEN _VEGETE1=0;`
		`ELSE _VEGETE1=1;`