Sueño Ancillary Study

Sleep Patterns as a Risk Factor for Disease in the Hispanic Community Health Study

DERIVED VARIABLE DICTIONARY

Version 2.1

July, 2015

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HCHS/SOL SUENO Ancillary Study
Derived Variable Dictionary V2.1 (July 2015)

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1. DESIGN

1.1 PSU_ID (Primary Sampling Unit ID Clustering Variable- masked)

HCHS/SOL sample design clustering variable used in statistical analyses as the CLUSTER variable (in SAS) that is a combination of field denter and selected block group identifier.

1.2. STRAT (Sampling Design Stratification Variable - masked)

HCHS/SOL sample design stratification variable used in statistical analyses as the STRATUM variable (in SAS) that is a combination of field center, Hispanic Household Proportion (high, low), and SES (high, low). The latter two were based on 2000 US Census for selected block groups within each field center.

1.3. WEIGHT_NORM_OVERALL_SUENO

The Sueño target population is defined as all Hispanic/Latino adults aged 18-64 years residing in the target areas (defined by census block groups) across the four participating sites. In HCHS/SOL, over-sampling at both stages of sample selection was used to increase the likelihood that a selected address yielded an eligible household with adults aged 45-74 years. As a result, participants included in HCHS/SOL cohort and in Sueño were selected with unequal probabilities of selection, and these probabilities need to be taken into account during data analysis to appropriately represent the target population. The use of sampling weights that reflect unequal probabilities of selection must be incorporated in all analyses to calculate appropriate estimates of population characteristics and their corresponding standard errors.

In Sueño, the sampling weights are the product of a 'base weight' and four adjustments: 1) multiplicative adjustment for differential non-response in HCHS/SOL at the household and person level relative to the sampling frame, 2) multiplicative adjustment for differential non-response in Sueño at the person level relative to the participants screened, 3) trimming to handle extreme values of weights and 4) a third multiplicative adjustment to calibrate the weights to the 2010 US Census Population in the target population according to age, sex and Hispanic background. Both in HCHS/SOL and Sueño, the non-response at the person level was done by gender and age group within site. The non-response adjusted, trimmed, and calibrated sampling weight for each sample respondent is referred to as its expanded sampling weight. The sum of expanded sampling weights overall and for a subgroup of interest equals the estimated number of persons in the target population and subgroup thereof.

Lastly, the expanded sampling weight was normalized to the overall Sueño sample size. The normalization procedure corresponds to multiplying all weights by a constant factor such that the sum of weights equals the Sueño sample size (N=2,189), and the average of the weights equals to 1. The normalized weight is primarily intended for use when analyzing data from all four field centers combined. Its use will avoid errors that can result if the statistical software package used for the analysis is not designed for probability sampling. In particular, incorrect standard errors and degrees of freedom for test statistics can result with use of the expanded weights in some software packages.

2. ADMINISTRATIVE

2.1 SUENO_ELIGIBLE (Eligible age group, Hispanic/Latino background and

This is a 0/1 numeric variable that indicates if a participant met the eligibility criteria for SUENO participation including: age ≤ 64, Hispanic/Latino background allowed for site, and within 30 months from HCHS/SOL baseline.

Response Format: 0=Not eligible
1=Eligible participant

Source variable(s):
FLAG_AGEGE65. Age ≥ 65
FLAG_BKGRD. Ineligible Hispanic/Latino background for site
FLAG_MONTHSGT30. Sueno visit date more than 31+ months since HCHS/SOL visit

2.2 SUENO_VISIT_DATE (Sueno clinic visit date)

This is the date of the SUENO clinic visit. In most cases is MQEA form completion date, but when missing it is MDEA form completion date.

Source variable(s):
MQEA0A. Date of MQEA form completion
MDEA0A. Date of MDEA form completion

2.3 DAYS_S1M1 (Days between HCHS/SOL clinic visit and SUENO clinic visit)

DAYS_S1M1= SUENO_VISIT_DATE – Clindate.

Source variable(s):
Clindate. HCHS/SOL baseline clinic visit date
SUENO_VISIT_DATE. Sueno clinic visit date

2.4 VALID_ACTIGRAPHY (Valid actigraphy data)

This indicator variable (0/1) flags participants with valid actigraphy data in the SAWA.

Response Format: 0 = NOT valid actigraphy data
1 = Valid actigraphy data

Source variable(s):
SAWA4. Valid/Invalid Status

2.5 FLAG_AGEGE65 (Age ≥ 65)

This indicator variable (0/1) flags participants that were 65 years or older at the time of the SUENO clinic visit.

Response Format: 0=Age at SUENO clinic visit between 18 and 64

1=Age >=65 at SUENO clinic visit

Source variable(s):
AGE_SUENO. Age in years at the time of participant's SUENO clinic visit

2.6 FLAG_AHIGT50 (AHI > 50 from HCHS/SOL main study sleep monitor)

This indicator variable (0/1) flags participants that had AHI>50 from the HCHS/SOL main study sleep monitor.

Response Format: 0= AHI <= 50
1= AHI >50 (Urgent referral from SLPA16)

Source variable(s):
SLPA16. Urgent Referral - AHI 3% > 50

2.7 FLAG_BKGRD (Ineligible Hispanic/Latino background for site)

This numeric (0/1) indicator variable flags participants that were ineligible for SUENO participation based on Hispanic background for each site. The following is the eligible Hispanic background criteria for each site:
Bronx: Dominican, Mexican (last 6 months of recruitment), Puerto Rican
Chicago: Central or South American, Mexican, Puerto Rican
Miami: Central or South American, Cuban
San Diego: Mexican

Response Format: 0= Eligible background
1= Ineligible background

Source variable(s):
Bkgrd1_c6. 6-level re-classification of Hispanic/Latino Background

2.8 FLAG_MONTHSGT30 (Sueno visit date > 31 mo since HCHS/SOL visit date)

This numeric (0/1) indicator variable flags participants that had a SUENO clinic visit more than 30 months after the HCHS/SOL main study clinic visit.

Response Format: 0=Sueno clinic visit within time frame
1=Sueno clinic visit 31+ months from HCHS/SOL main study clinic visit

Source variable(s):
Clindate. HCHS/SOL baseline clinic visit date
SUENO_VISIT_DATE. Sueno clinic visit date

2.9 FLAG_NARC (Self-report narcolepsy diagnosis from HCHS/SOL MHEA)

This numeric (0/1) indicator variable flags participants that had a self-reported narcolepsy diagnosis based on the HCHS/SOL main study MHEA form.

Response Format: 0= No self-reported narcolepsy diagnosis
1= Self-reported narcolepsy diagnosis

Source variable(s):
MHEA25c. Have you ever been told by a doctor that you have a sleep disorder? Which sleep disorder(s)? Narcolepsy?

2.10 FLAG_OSA (Self-report treated for OSA from HCHS/SOL MHEA)

This numeric (0/1) indicator variable flags participants that have been treated for OSA based on the HCHS/SOL main study self- report MHEA form.

Response Format: 0= Never treated for OSA
1= Treated for OSA

Source variable(s):
MHEA25d1. Have you been prescribed a CPAP or BIPAP machine, or a device to wear in your mouth to treat your sleep apnea?

3. SOCIO-DEMOGRAPHIC

3.1 Age_SUENO_SCRN (Age in years at SUENO screening)

Age in years (an integer variable) at the time the participant completed the SUENO screening form (ANEA). It is determined from the participant's date of birth (in the HCHS/SOL study) and the ANEA visit date.

Source variable(s):
PIEA2. Date of birth from HCHS/SOL PIE form
ANEA0A. ANEA form completion date (Sueno screening form)

3.2 Age_SUENO (Age in years at SUENO clinic visit)

Age (in years) at the time of the participant's SUENO clinic visit. It is determined from the participant's date of birth (in the HCHS/SOL study) and the SUENO clinic visit date.

Source variable(s):
PIEA2. Date of birth
SUENO_VISIT_DATE. Sueno clinic visit date

3.3 Agegroup_C2_SUENO (2-level grouped age of at SUENO clinic visit)

This is the categorical (grouped) age of the participant at the SUENO clinic visit. It is determined from the derived variable AGE_SUENO. Note, age >64 have missing values.

Response Format: 1=Ages 18-44
2=Ages 45-64

Source variable(s):
Age_Sueno. Age of participant at the time of their SUENO clinic visit

3.4 Agegroup_C5_SUENO (5-level grouped age at SUENO clinic visit)

This is the categorical (grouped) age of the participant at the SUENO clinic visit. It is determined from the derived variable AGE_SUENO. Note, age >64 have missing values.

Response Format: 1=Ages 18-24
2=Ages 25-34
3=Ages 35-44
4=Ages 45-54
5=Ages 55-64

Source variable(s):
Age_Sueno. Age of participant at the time of their SUENO clinic visit

4. ANTHROPOMETRY

4.1 BMI_SOL_SUENO (Body Mass Index (kg/m^2) at SUENO visit with SOL main study height)

BMI = APEA4 / (APEA3/100)^2

Missing if either APEA3 or APEA4 are missing.

Source variable(s):
APEA3. Standing height in centimeters
APEA4. Weight in kilograms

4.2 BMIGRP_C4_SOL_SUENO (WHO 4-level Body Mass Index at SUENO visit with SOL main study height)

This variable is created using the calculated body mass index at the SUENO clinic visit to define categories based on current WHO classifications.

Response format: 1 = Underweight (BMI_SUENO < 18.5)
2 = Normal (18.5 ≤ BMI_SUENO < 25)
3 = Overweight (25 ≤ BMI_SUENO < 30)
4 = Obese (BMI_SUENO ≥ 30)

Source variable(s):

BMI_SOL_SUENO. Body Mass Index (kg/m^2) at SUENO visit with SOL main study height.

4.3 BMIGRP_C6_SOL_SUENO (WHO 6-level Body Mass Index at SUENO visit with SOL main study height)

This variable is created using the calculated body mass index at the SUENO clinic visit to define categories based on current WHO classifications.

Response format: 1=Underweight (BMI_SUENO < 18.5)
2=Normal (18.5 ≤ BMI_SUENO < 25)
3=Overweight (25 ≤ BMI_SUENO < 30)
4=Obese I (30 ≤ BMI_SUENO < 35)
5=Obese II (35 ≤ BMI_SUENO < 40)
6=Obese III

Source variable(s):
BMI_SOL_SUENO. Body Mass Index (kg/m^2) at SUENO visit with SOL main study height.

5. WELL_BEING/QUALITY OF LIFE

5.1 CESD10_SUENO (CESD 10-item total summary score)

This is a numeric variable with values ranging from 0 to 30. It is scored as the sum of (WLEA1-WLEA10), where positively worded items (WLEA5, WLEA8) are reverse coded. It is missing if more than 2 of the 10 items (WLEA1-WLEA10) are missing. If only one or two items are missing then the sum is reweighted to account for the number of non-missing items (either by 10/9 or 10/8 for one or two missing items respectively).

Response format for WBEA1-WBEA10:
0 = rarely or none of the time
1 = some or a little of the time
2 = occasionally or a moderate amount of time
3 = all of the time

Source variable(s):
WLEA1. I was bothered by things that usually don't bother me
WLEA2. I had trouble keeping my mind on what I was doing
WLEA3. I felt depressed
WLEA4. I felt that everything I did was an effort
WLEA5. I felt hopeful about the future
WLEA6. I felt fearful
WLEA7. My sleep was restless
WLEA8. I was happy
WLEA9. I felt lonely
WLEA10. I could not "get going"

5.2 STAI10_SUENO (10-Item State Trait Anxiety Inventory)

This is a numeric variable with values ranging from 10 to 40. It is scored as the sum of (WLEA11-WLEA20), where positively worded items (WLEA12, WLEA17, WLEA19) are reverse coded, and 1 is added to all responses (converting from 0-3 to 1-4 scale to match the standardized instrument scoring). It is missing if more than 2 of the 10 items (WLEA11-WLEA20) are missing. If only one or two items are missing then the sum is reweighted to account for the number of non-missing items (either by 10/9 or 10/8 for one or two missing items respectively).

Response format for WLEA11-WLEA20:
0 = almost never
1 = sometimes
2 = often
3 = always

Source variable(s):
WLEA11. I feel nervous and restless.
WLEA12. I feel satisfied with myself.
WLEA13. I wish I could be as happy as others seem to be.
WLEA14. I feel like a failure.
WLEA15. I worry too much over something that really doesn't matter.
WLEA16. I lack self-confidence.
WLEA17. I feel secure.
WLEA18. I feel inadequate.
WLEA19. I am a steady person.
WLEA20. I get in a state of tension or turmoil as I think over my recent concerns and interests.

6. CLINICAL CHARACTERISTICS

6.1 CDCR_SUENO (Self-report cerebrovascular disease & carotid revascularization)

This is a 0/1 variable that checks for medical history of stroke, mini-stroke or TIA, or balloon angioplasty or surgery to the arteries in the neck, as follows:

```
If MQEA7=1 | MQEA8=1 | MQEA9=1 then CDCR_SUENO=1;
Else if MQEA7≤.Z & MQEA8≤.Z & MQEA9≤.Z then CDCR_SUENO=.;
Else CDCR_SUENO=0;
```

Response format: 0 = No CDCR (No)
1 = CDCR (Yes)

Source variable(s):
MQEA7. Has a doctor ever said that you had a stroke?
MQEA8. Has a doctor ever said that you had a mini-stroke or TIA (transient ischemic attack)?
MQEA9. Have you had a balloon angioplasty or surgery to the arteries of your neck to prevent or correct a stroke?

6.2 CHD_SELF_SUENO (Self-report CHD)

This is a 0/1 variable that combines the self-reports of coronary revascularization or heart attack.

```
If mqea3=1 | mqea6=1 then CHD_SELF_SUENO=1;
        Else if mqea3 in(.,.Q) & mqea6 in(.,.Q) then CHD_SELF_SUENO=.;
        Else CHD_SELF_SUENO=0;
```

Response format: 0=No CHD (No)
1= CHD (Yes)

Source variable(s):
MQEA3. Has a doctor ever said that you have had a heart attack?
MQEA6. Have you ever had a CABG, stent, or balloon angioplasty?

6.3 DIABETES_SELF_SUENO (Self-report diabetes)

This is a 0/1 numeric variable that indicates a self-report of diabetes.

```
if MQEA13=1 & MQEA13b in(0,.) then DIABETES_SELF_SUENO=1;
else if MQEA13<=.Z then DIABETES_SELF_SUENO=.;
else DIABETES_SELF_SUENO=0;
```

Response format: 0 = No
1 = Yes

Source variable(s):
MQEA13. Has a doctor ever said that you have diabetes.
MQEA13b. Was this during pregnancy only.

6.4 DIABETES _SUENO (Diabetes)

This is a 0/1 numeric variable that indicates diabetes.

```
if mqea13 = 1 and mqea13b ne 1 then dm_mddx = 1;
else if mqea13 = 1 and mqea13b = 1 then dm_mddx = 0;
else if mqea13 = 0 then dm_mddx = 0;

if mdea33c = 1 then dm_selfreport = 1;
else if mdea33c = 0 then dm_selfreport = 0;

if sueno_med_antidiab = 1 then dm_takingmed = 1;
```

```
else if sueno_med_antidiab = 0 then dm_takingmed = 0;

dm_sum = sum(dm_mddx, dm_selfreport, dm_takingmed);
dm_nmiss = nmiss(dm_mddx, dm_selfreport, dm_takingmed);

if diabetes2_indicator = 1 then diabetes_sueno = 1;
else if dm_sum >= 2 then diabetes_sueno = 1;
else if dm_nmiss in (0,1) then diabetes_sueno = 0;
else diabetes_sueno = .;
```

Response format: 0 = No
1 = Yes

Source variable(s):
MQEA13. Has a doctor ever said that you have diabetes?
MQEA13b. Was this during pregnancy only?
MDEA33c. Self-reported taking medications for diabetes.
Med_Antidiab_SUENO. Had used antidiabetics medication in the past 4 weeks.

6.5 DM_AWARE_SUENO (Diabetes awareness)

This is a 0/1 numeric variable that describes the awareness of diabetes.

```
if DIABETES_SELF_SUENO=. & (MDEA33c<=.Z | mdea33c=9) then
DM_Aware_SUENO=.;
else if DIABETES_SELF_SUENO=1 | mdea33c=1 then DM_Aware_SUENO=1;
else DM_Aware_SUENO=0;
```

Response format: 0=Not aware (No)
1=Aware (Yes)

Source variable(s):
MDEA33c. High blood sugar or diabetes – self-reported med use
DIABETES_SELF_SUENO. Diabetes – self-report only

6.6 Hypertension_SUENO (Hypertension)

This is a 0/1 numeric variable that indicates hypertension status.

```
if mqea1 = 1 and mqea1a ne 1 then htn_mddx = 1;
else if mqea1 = 1 and mqea1a = 1 then htn_mddx = 0;
else if mqea1 = 0 then htn_mddx = 0;

if mdea33d = 1 then htn_selfreport = 1;
else if mdea33d = 0 then htn_selfreport = 0;

if med_antihypert_sueno = 1 then htn_takingmed = 1;
else if med_antihypert_sueno = 0 then htn_takingmed = 0;
```

```
htn_sum = sum(htn_mddx, htn_selfreport, htn_takingmed);
htn_nmiss = nmiss(htn_mddx, htn_selfreport, htn_takingmed);

if hypertension2 = 1 then hypertension_sueno = 1;
else if htn_sum >= 2 then hypertension_sueno = 1;
else if htn_nmiss in (0,1) then hypertension_sueno = 0;
else hypertension_sueno = .;
```

Response format: 0 = No
1 = Yes

Source variable(s):
MQEA1. Has a doctor ever said that you have high blood pressure or hypertension?.
MQEA1a. Was this during pregnancy only?
MDEA33d. Self-reported taking medications for hypertension or high blood pressure.
Med_Antihypert _SUENO. Had used Antihypertensives medication in the past 4 weeks.

6.7 STROKE_SUENO (Self-report prevalent stroke)

This is a 0/1 variable that checks for a self-report medical history of stroke as follows:

```
STROKE_SUENO=MQEA7;
```

Response format: 0=No Prevalent Stroke (No)
1= Prevalent Stroke (Yes)

Source variable(s):
MQEA7. Has a doctor ever said that you had a stroke?

6.8 STROKE_TIA_SUENO (Self-report prevalent stroke or TIA)

This is a 0/1 variable that checks for medical history of stroke or mini-stroke or TIA as follows:

```
if MQEA7=1 | MQEA8=1 then STROKE_TIA_SUENO=1;
else if MQEA7<=.Z & MQEA8<=.Z then STROKE_TIA_SUENO=.;
else STROKE_TIA_SUENO=0;
```

Response format: 0 = No Prevalent Stroke/TIA (No)
1 = Prevalent Stroke/TIA (Yes)

Source variable(s):
MQEA7. Has a doctor ever said that you had a stroke?
MQEA8. Has a doctor ever said that you had a mini-stroke of TIA (transient ischemic attack)?

7. SOCIOCULTURAL

7.1 HSI_EXTRAFAM_SUENO (Hispanic Stress Inventory: Extrafamilial stress)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.7 for details. Based on ATEA form. HSI_EXTRAFAM_CNT_SUENO has the number of non-missing items in the score.

7.2 HSI_FAM_CUL_SUENO (Hispanic Stress Inventory: Familial/cultural conflict)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.5 for details. Based on ATEA form. HSI_FAM_CUL_CNT_SUENO has the number of non-missing items in the score.

7.3 HSI_IMMIG_SUENO (Hispanic Stress Inventory: Immigration stress)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.4 for details. Based on ATEA form. HSI_IMMIG_CNT_SUENO **ha**s the number of non-missing items in the score.

7.4 HSI_INTRAFAM_SUENO (Hispanic Stress Inventory: Intrafamilial stress)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.6 for details. Based on ATEA form. HSI_ INTRAFAM_CNT_SUENO has the number of non-missing items in the score.

7.5 HSI_MARITAL_SUENO (Hispanic Stress Inventory: Marital stress)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.3 for details. Based on ATEA form. HSI_ MARITAL _CNT_SUENO has the number of non-missing items in the score**.**

7.6 HSI_OCC_ECO_SUENO (Hispanic Stress Inventory: Occupational/economic stress)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.1 for details. Based on ATEA form. HSI_ OCC _CNT_SUENO has the number of non-missing items in the score.

7.7 HSI_PARENTAL_SUENO (Hispanic Stress Inventory: Parental stress)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.2 for details. Based on ATEA form. HSI_ PARENTAL _CNT_SUENO has the number of non-missing items in the score.

7.8 HSI_TOT_SUENO (Hispanic Stress Inventory: Total score)

This is a numeric variable with values ranging from 0 to 76.
Sum of items 1-17. HSI_ TOT _CNT_SUENO has the number of non-missing items in the score.

<u>Source variable(s):</u>
ATEA1- ATEA17: whether the particular stressor was occurred in the last three months or not (or N/A for some items).
ATEA1a – ATEA17a: the degree of the particular stressor (1 - 5).

7.9 IND_SUENO_ATE1-IND_SUENO_ATE17 (HSI Individual score, 0-5)

See Sociocultural Ancillary Study Derived Dictionary section 2.1.9 for details. Based on ATEA form.

7.10 NEIGHBOR_COHESION_SUENO (Neighborhood Social Cohesion Score)

See Sociocultural Ancillary Study Derived Dictionary section 2.2.6 for details. Based on NSEA form. NEIGHBOR_COHESION_CNT_SUENO has the number of non-missing items in the score.

Source variable(s):
NSEA3 – NSEA7. statements for particular neighborhood social cohesion

7.11 NEIGHBOR_PROBLEM_SUENO (Neighborhood Problem Score)

See Sociocultural Ancillary Study Derived Dictionary section 2.2.7 for details. Based on NSEA form. NEIGHBOR_PROBLEM_CNT_SUENO has the number of non-missing items in the score.

Source variable(s):
NSEA9 – NSEA15. particular neighborhood problem.

8. SLEEP SELF-REPORT (SPEA)

8.1 ESS_SUENO (Epworth Sleepiness Scale)

This is an integer value with range from 0-24. The Epworth Sleepiness Scale assesses the daytime sleepiness of patients. Dr Murray W Johns owns the copyright in the ESS (Copyright © M.W.Johns 1990-1997). The website is http://epworthsleepinessscale.com

Algorithm: The ESS_SUENO is computed by adding ALL 8 ITEMS (SPEA12A TO SPEA12H). If any item is missing then ESS_SUENO is missing.

Warning: The levels of each item need to be recoded as follows: No chance (from 1 to 0), slight chance (from 2 to 1), moderate chance (from 3 to 2) and high chance (from 4 to 3).

Source variable(s):
What is the chance that you would doze off or fall asleep (not just "feel tired") in each of the following situations?
SPEA12a. Sitting and reading
SPEA12b. Watching TV
SPEA12c. Sitting inactive in a public place (such as a theater or a meeting)
SPEA12d. Riding as a passenger in a car for an hour without a break
SPEA12e. Lying down to rest in the afternoon when circumstances permit
SPEA12f. Sitting and talking to someone
SPEA12g. Sitting quietly after a lunch without alcohol
SPEA12h. In a car, while stopped for a few minutes in traffic

8.2 ESS_GE10_SUENO (Excessive sleepiness (ESS_SUENO ≥10))

Indicator variable (0/1) that flags Epworth Sleepiness Scale scores ≥ 10.

0= ESS_SUENO is less than10
1= ESS_SUENO is greater or equal than10

Source variable(s):
ESS_SUENO. Epworth Sleepiness Scale

8.3 SLPDUR_WKDAY_SUENO (Weekday sleep duration, hours)

Sleep duration during weekdays calculated from self-reported bed time and wake time. Any SLPDUR_WKDAY_SUENO value < 3 or >14 is set to missing.

Source variable(s):
SPEA1A_2401. What time do you usually go to bed? (on weekdays)
SPEA2A_2401. What time do you usually wake up? (on weekdays)

8.4 SLPDUR_WKEND_SUENO (Weekend sleep duration, hours)

Sleep duration during weekends calculated from self-reported bed time and wake time. Any SLPDUR_WKEND_SUENO value < 3 or >14 is set to missing.

Source variable(s):
SPEA1B_2401. What time do you usually go to bed? (on weekends)
SPEA2B_2401. What time do you usually wake up? (on weekends)

8.5 SLPDUR_SUENO (Average sleep duration, hours)

This is a numeric variable that calculates the weighted average daily sleep duration during an entire week (five weekdays and two weekend days), using self-reported sleep data. Any SLPDUR _SUENO value < 3 or >14 is set to missing.

Source variable(s):
SLPDUR_WKDAY_SUENO. Weekday sleep duration (hours)
SLPDUR_WKEND_SUENO. Weekend sleep duration (hours)

8.6 MID_SLEEP_TIME_WKDAY_SUENO (WEEKDAY: Avg of Bed Time and Wakeup Time, in Hours (00-23.99))

This is a numeric variable that calculates the average mid sleep time during weekdays.

Source variable(s):
SPEA1A_2401. What time do you usually go to bed? (on weekdays)
SPEA2A_2401. What time do you usually wake up? (on weekdays)

8.7 MID_SLEEP_TIME_WKEND_SUENO (WEEKEND: Avg of Bed Time and Wakeup Time, in Hours (00-23.99))

This is a numeric variable that calculates the average mid sleep time during weekend days.

Source variable(s):
SPEA1B_2401. What time do you usually go to bed? (on weekends)
SPEA2B_2401. What time do you usually wake up? (on weekends)

8.8 WHIIRS_SUENO (Womens' Health Initiative Insomnia Rating Scale)

The score is calculated from non-missing values for any of the following five items: SPEA4, SPEA5, SPEA6, SPEA7 and SPEA11. The original items range from 0 to 4 and the total

score from 0 to 20. In SUENO, SPEA form the scoring for questions 4 to 7 each ranged from 1 to 5 so 1 should be subtracted from each of these items to obtain the score for use in calculating WHIIRS. For example, No, not in the past 4 weeks should give you a score of 0, etc. The scoring for SPEA11 ranges from 0 to 4 and does not need to be modified. Another way to think about it is:

WHIIRS_SUENO = SPEA4 + SPEA5 + SPEA6 + SPEA7 + SPEA11 – 4

Reference:
Levine DW, Kripke DF, Kaplan RM, Lewis MA, Naughton MJ, Bowen DJ, Shumaker SA.Reliability and validity of the Women's Health Initiative Insomnia Rating Scale. Psychol Assess. 2003 Jun;15(2):137-48.

Source variable(s):
SPEA4. Did you have trouble falling asleep?
SPEA5. Did you wake up several times at night?
SPEA6. Did you wake up earlier than you planned to?
SPEA7. Did you have trouble getting back to sleep after you woke up too early?
SPEA11. Overall, was your typical night's sleep during the past 4 weeks:

9. SLEEP II SELF-REPORT (SQEA)

9.1 Caffeine_Intake (Cups of caffeinated beverages on a typical day)

This is a numeric variable based on the Sleep Questionnaire II form. It is missing if any item (SQEA21-SQEA24) is missing.

Source variable(s):
SQEA21. On a typical day, how many cups of regular coffee (with caffeine) do you drink?
SQEA22. On a typical day, how many cups of regular tea (with caffeine) do you drink?
SQEA23. On a typical day, how many glasses or cans of cola or other soda with caffeine do you drink?
SQEA24. One a typical day, how many shots, cans or bottles of a caffeinated energy drink do you drink?

9.2 ISI (Insomnia Severity Index)

This is a numeric variable with values ranging from 0-28 based on the Sleep Questionnaire II form.

Missing if did not answer any of following: SQEA6, SQEA7, SQEA8, SQEA9. If SQEA10 answered "Yes 1," but any of following missing: SQEA11, SQEA12, SQEA13, then missing. Missing if did not answer SQEA10 *and* SQEA11-SQEA13.

NOTE: If SQEA10 is "No 0" then SQEA11-SQEA13 are also "No 0."

Source variable(s):

SQEA6. Please rate the current severity of your difficulty falling asleep.

SQEA7. Please rate the current severity of your difficulty staying asleep.
SQEA8. Please rate the current severity of your problem of waking up too early.
SQEA9. How satisfied/dissatisfied are you with your current sleep pattern?
SQEA10. In the past 2 weeks, have you had a problem with your sleep?
SQEA11. To what extent do you consider your sleep problem to interfere with your daily functioning (e.g. daytime fatigue, ability to function at work/daily chores, concentration, memory, mood, etc.)?
SQEA12. How noticeable to others do you think your sleeping problem is in terms of impairing the quality of your life?
SQEA13. How worried/distressed are you about your current sleep problem?

Reference:

Bastien CH, Vallieres A, Morin CM. Validation of the Insomnia Severity Index as an outcome measure for insomnia research. Sleep Med 2001; 2: 297-307. C Morin, G Belleville, L Belanger, H Ivers. The Insomnia Severity Index: Psychometric Indicators to detect Insomnia Cases and Evaluate Treatment Response. SLEEP 2011: 34(5): 601—608.

9.3 ISI_C4 (4-level grouped Insomnia Severity Index)

This derived variable groups each subject to one insomnia severity index category.

Response format: 1= No clinically significant insomnia (0<=ISI<=7)
2= Subthreshold insomnia (8<=ISI<=14)
3= Clinical insomnia (moderate severity) (15<=ISI<=21)
4= Clinical insomnia (severe) (22<=ISI<=28)

Source variable(s):
ISI. Insomnia severity index

9.4 rMEQ (Reduced Morningness Eveningness Questionnaire Raw Score)

This is a numeric variable with values ranging from 4-25 based on the Sleep Questionnaire II form. Missing if any item (SQEA1-SQEA5) is missing.

NOTE: Items SQEA1, SQEA3, SQEA4 and SQEA5 are reversed coded.

References:
Adan A, Almirall H. Horne et Ostberg morningness-eveningness questionnaire: A reduced scale. Pers Individ Diff 1991;12: 241-53.
Chelminski I, Petros TV, Plaud JJ, Ferraro FR. Psychometric properties of the reduced Horne and Ostberg questionnaire. Person Individ Diff 2000;29: 469-78.

Source variable(s):
SQEA1. Considering only your own “feeling best” rhythm, at what time would you get up if you were entirely free to plan your day?
SQEA2. During the first half hour after having woken in the morning, how tired do you feel?
SQEA3. At what time in the evening do you feel tired and, as a result, in need of sleep?
SQEA4. At what time of the day do you think that you reach your “feeling best” peak?

SQEA5. One hears about “morning” and “evening” types of people. Which ONE of these types do you consider yourself to be?

9.5 rMEQ_C5 (5-level Reduced Morningness Eveningness Questionnaire Score)

This derived variable groups each subject to one reduced morningness eveningness category.

Response format:
1= Definitely morning type (DM) (22<=rMEQ<=25)
2= Moderately morning type (MM) (18<=rMEQ<=21)
3= Neither type (NT) (12<=rMEQ<=17)
4= Moderately evening type (ME) (8<=rMEQ<=11)
5= Definitely evening type (DE) (4<=rMEQ<=7)

Source variable(s):
rMEQ. Reduced Morningness Eveningness Questionnaire Raw Score

9.6 Sleep_Med (Highest reported frequency of sleeping medication use)

This is a numeric variable with values ranging from 0-4 Based on the Sleep Questionnaire II form. Missing if any item (SQEA18-SQEA20) missing.

Highest numeric answer among items SQEA18-SQEA20 is value for this variable. For example, if SQEA18 = 0, SQEA19 = 3, and SQEA20 = 2, then Sleep_Med = 3.

Response format:
0= Not in the past 4 weeks
1= Less than once a week
2= 1-2 times a week
3= 3-4 times a week
4= 5 or more times a week

Source variable(s):
SQEA18. Do you ever use a natural or herbal medicine (like melatonin or valerian) to help you sleep?
SQEA19. Do you ever use an over-the-counter medicine (like Benadryl or Tylenol PM) to help you sleep?
SQEA20. Do you ever use a prescription medicine (like trazodone or Ambien) to help you sleep?

10. Work Schedule SELF-REPORT (WSEA)

10.1 Commutework (Commute time to work, mins)

This is a numeric variable that calculates the total amount of time a participant reported commuting from home to work.

Source variable(s):

WSEA16A. On average, how long does it take for you to travel from home to work each day? (Hours)
WSEA16B. On average, how long does it take for you to travel from home to work each day? (Minutes)

10.2 Commutehome (Commute time to home, mins)

This is a numeric variable that calculates the total amount of time a participant reported commuting from work to home.

Source variable(s):
WSEA17A. On average, how long does it take for you to travel from work to home each day? (Hours)
WSEA17B. On average, how long does it take for you to travel from work to home each day? (Minutes)

10.3 ShiftworkerYN (Shift Worker Yes No)

Indicator variable for participant reporting being shift worker. Missing if WSEA11, WSEA12, and WSEA13 are missing. Also missing if WSEA11=4 and WSEA12, WSEA13 are missing.

Response format: 0= No
1= Yes

Source variable(s):
WSEA11. Which of the following best describes your usual work schedule?
WSEA12. At your current job(s), do you ever work the late night shift (after midnight)?
WSEA13. Do you work the late night shift (after midnight)…?

10.4 Shift_length (Shift length, hours)

This is numeric variable that calculates self-reported shift length. It is missing if WSEA1, WSEA8, or WSEA9 is missing. If WSEA1= 0 (No) then Shift_length=0.

Source variable(s):
WSEA1. Are you currently employed?
WSEA8A_2401. When do you usually begin work? (24 hour)
WSEA9A_2401. When do you usually end work? (24 hour)

10.5 Totcommute_day (Total commute time/workday, mins)

This is numeric variable that calculates the total commute time per workday. It is missing if either Commutework or Commutehome are missing.

Source variable(s):
Commutework. Commute time to work (mins)
Commutehome. Commute time to home (mins)

10.6 Totcommute_week (Total commute time/week, hours)

This is numeric variable that calculates the total commute time per week. It is missing if either Totcommute_day or WSEA7 are missing.

Source variable(s):
WSEA6. In a typical week, how many days do you go to work per week?
Totcommute_day. Total commute time/workday (mins)

10.7 Work_hrs_day (Calculated work hours per workday)

This is a numeric variable that calculates the self-reported number of work hours per workday based on the Work Schedule Questionnaire.

Missing if WSEA1, WSEA3, or WSEA6 is missing. If WSEA1= 0 (No) then Work_hrs_day =0.

Source variable(s):
WSEA1. Are you currently employed?
WSEA3. In a typical week, how many hours do you work per week?
WSEA6. In a typical week, how many days do you go to work per week?

10.8 Work_hrs_week (Weekly work, hours)

This is a numeric variable that calculates the number of work hours per week based on self-reported times usually begin and end work.

If WSEA1=0 (No) then Work_hrs_week=0. Missing if WSEA1, WSEA6, WSEA8, or WSEA9 is missing.

Source variable(s):
WSEA1. Are you currently employed?
WSEA6. In a typical week, how many days do you go to work per week?
Shift_length. Shift length (hrs)

11. Actigraphy derived variables (from SAWA)

11.1 Wsleeptime_actigraphy (Weighted average of sleep time from actigraphy, hrs/day)

sleeptime_actigraphy_weighted = ((5*(SAWA101/60)) + (2*(SAWA148/60))) / 7;

Source variable(s):
SAWA101. Average Weekday Sleep Time
SAWA148. Average Weekend Sleep Time

12. MEDICATIONS – SCANNED/TRANSCRIBED ONLY

All participants are asked to bring in all prescribed or over-the-counter medications taken in the past 4 weeks to the baseline examination for inventory. MDEA1 and MDEA2 are used to define individuals who did/did not bring in any medications as well as those who have/have not taken any medications in the past 4 weeks in order to determine absence of

medication use. Medications are then scanned or transcribed into medication coding fields MDEA5A-MDEA5D to MDEA29A-MDEA29D and MDEA39A-MDEA39D (up to 26 possible medications). For the derived indicator variables below, participants were set to missing unless the reported MDEA2=1 (took no medication) or reported at least 1 medication in the fields above.

The medication information is them compared to the HCHS master drug file which draws data from several sources:

1. Medi-Span's Master Drug Data Base (MDDB ®, version 2, 2003)
2. Lexi-Comp ® Online value-added version of Index Nominum Drug Data Base (version 2009)
3. Ovid's Martindale Complete Drug Reference (version 2009)

Mexican (MX) and Dominican (DO) medications from (2-3) above were extracted and then assigned therapeutic classification codes associated with their generic ingredients in (1). Assignments were automatic when data retrieval from (2-3) was fully electronic and generic ingredients in the source files matched exactly. Assignments were manual when data retrieval from (2-3) was semi-manual or generic ingredients in the source files did not match exactly and required review by a health professional.

The HCHS master drug file "contains basic drug names, National Drug Codes (NDCs), and assorted descriptive information used to uniquely identify drug products. From this data, generic product identifiers (GPI) are obtained which groups drug products by a hierarchical therapeutic classification scheme. The 14-character GPI consists of a hierarchy of seven subsets, each providing increasingly more specific information about drug products. These subsets are structured and identified below" (from MDDB ®, version 2, 2003):

GPI Subset	Record Type	Size	Representation	Example
12-xx-xx-xx-xx-xx-xx	1	2	Drug Group	*MISC. ENDOCRINE*
12-34-xx-xx-xx-xx-xx	2	4	Drug Class	*Posterior Pituitary**
12-34-56-xx-xx-xx-xx	3	6	Drug Subclass	*Vasopressin***
12-34-56-78-xx-xx-xx		8	Drug Name	Desmopressin
12-34-56-78-90-xx-xx	4	10	Drug Name	Acetate
12-34-56-78-90-12-xx		12	Dosage Form	Tablet
12-34-56-78-90-12-34	5	14	Strength	0.1MG

*NOTE: The below medications were indicated for use within the last 4 weeks from baseline examination.

Hormone Replacement Therapies:

12.1 Med_Current_HRT_SUENO (Any Hormone Repl. Therapy)

This is a 0/1 numeric variable that indicates use of at least one of the following HRT medications:

Med_Estrogens
Med_Estrogen_Combo
Med_Contraceptives
Med_Progestins
Med_SERM
Med_Fertility_Reg
Med_LHRH
Med_LHRH_AG
Med_LHRH_ANT

12.2 Med_Estrogens_SUENO (Estrogens)

This is a 0/1 numeric variable.

Medication Codes:
The “24xxxx” group of medications: *ESTROGENS*

12.3 Med_Estrogen_Combo_SUENO (Estrogens – Combinations Only)

This is a 0/1 numeric variable.

Medication Codes:
The “2499xx” class of medications: *Estrogen Combinations**

12.4 Med_Contraceptives_SUENO (Contraceptives)

This is a 0/1 numeric variable.

Medication Codes:
The “25xxxx” group of medications: *CONTRACEPTIVES*

12.5 Med_Progestins_SUENO (Progestins)

This is a 0/1 numeric variable.

Medication Codes:
The “26xxxx” group of medications: *PROGESTINS*

12.6 Med_SERM_SUENO (Selective Estrogen Receptor Modulators)

This is a 0/1 numeric variable.

Medication Codes:
The “300530” subclass of medications: *Selective Estrogen Receptor Modulators (SERMs)***

12.7 Med_Fertility_Reg_SUENO (Fertility Regulators)

This is a 0/1 numeric variable.

Medication Codes:
The “3006xx” class of medications:

12.8 Med_LHRH_SUENO (LHRH/GnRH Only)

This is a 0/1 numeric variable.

Medication Codes:
The “300700” class of medications: *Luteinizing Hormone Releasing-Hormones (LHRH/GnRH)**

12.9 Med_LHRH_AG_SUENO (LHRH/GnRH Agonist Analog)

This is a 0/1 numeric variable.

Medication Codes:
The “300800” subclass of medications: *LHRH/GnRH Agonist Analog Pituitary Suppressants**

12.10 Med_LHRH_ANT_SUENO (LHRH/GnRH Antagonists)

This is a 0/1 numeric variable.

Medication Codes:
The “300900” subclass of medications: *GnRH/LHRH Antagonists**

Other Medications:

12.11 Med_Antianginal_SUENO (Antianginals)

This is a 0/1 numeric variable.

Medication Codes:
The “32xxxx” group of medications: *ANTIANGINAL AGENTS*

12.12 Med_Antiarrhythmics_SUENO (Antiarrythmics)

This is a 0/1 numeric variable.

Medication Codes:
The “35xxxx” group of medications: *ANTIARRHYTHMICS*

12.13 Med_Antiasthmatics_SUENO (Antiasthmatic or bronchodilator agents)

This is a 0/1 numeric variable.

Medication Codes:
The “44xxxx” group of medications: *ANTIASTHMATIC AND BRONCHODILATOR AGENTS*

12.14 Med_Anticoag_SUENO_SUENO (Anticoagulants)

This is a 0/1 numeric variable.

Medication Codes:
Any “83xxxx” group of medications: *ANTICOAGULANTS*

12.15 Med_Anticoag_Coumarin_SUENO (Coumarin anticoagulants)

This is a 0/1 numeric variable.

Medication Codes:
Any “8320xx” class of medications: *Coumarin Anticoagulants**

12.16 Med_Anticoag_Heparin_SUENO (Heparin anticoagulants)

This is a 0/1 numeric variable.

Medication Codes:
Any “8310xx” class of medications: *Heparins And Heparinoid-Like Agents**

12.17 Med_Antidiab_SUENO (Antidiabetics)

This is a 0/1 numeric variable.

Medication Codes:
Any “27xxxx” group of medications: *ANTIDIABETICS*

12.18 Med_Antihypert_SUENO (Antihypertensives)

This is a 0/1 numeric variable.

Medication Codes:

Any “36xxxx” group of medications: *ANTIHYPERTENSIVES*

12.19 Med_Antihypert_ACEI_SUENO (ACE Inhibitors)

This is a 0/1 numeric variable.

Medication Codes:
Any “3610xx” class of medications: *ACE Inhibitors**
Any “369915” subclass of medications: *ACE Inhibitor & Calcium Channel Blocker Combinations***
Any “369918” subclass of medications: *ACE Inhibitors & Thiazide/Thiazide-Like***

12.20 Med_Antihypert_AT2RAs_SUENO (Angiotension II Receptor Antagonists)

This is a 0/1 numeric variable.

Medication Codes:
Any “361500” subclass of medications: *Angiotensin II Receptor Antagonists**
Any “369940” subclass of medications: *Angiotensin II Receptor Antagonists & Thiazides***

12.21 Med_Antiplatelet_SUENO (Antiplatelets)

This is a 0/1 numeric variable.

Medication Codes:
Any “8515xx” class of medications: *Platelet Aggregation Inhibitors**

12.22 Med_Aspirin_SUENO (Aspirin-containing analgesics)

This is a 0/1 numeric variable.

Medication Codes:
Any “6410xx” class of medications: *Salicylates**
Any “6420xx” class of medications: *Analgesics Other**
Any “6499xx” class of medications: *Analgesic Combinations**
Any “6599xx” class of medications: *Narcotic Combinations**

12.23 Med_BB_SUENO (Beta Blockers)

This is a 0/1 numeric variable.

Medication Codes:
Any “33xxxx” group of medications: *BETA BLOCKERS*
Any “369920” subclass of medications: *Beta Blocker & Diuretic Combinations***
Any “369925” subclass of medications: *Beta Blocker & Calcium Channel Blocker Combinations***

12.24 Med_BB_Ophthalmic_SUENO (Ophthalmic Beta Blockers)

This is a 0/1 numeric variable.

Medication Codes:
Any “862500” subclass of medications: *Beta-blockers - Ophthalmic**
Any “862599” subclass of medications: *Beta-blockers - Ophthalmic Combinations***

12.25 Med_CACB_SUENO (Calcium Channel Blockers)

This is a 0/1 numeric variable.

Medication Codes:
Any “34xxxx” group of medications:
Any “369915” subclass of medications: *CALCIUM CHANNEL BLOCKERS*
Any “369925” subclass of medications: *Beta Blocker & Calcium Channel Blocker Combinations***
Any “409925” subclass of medications: *Calcium Channel Blocker & HMG CoA Reductase Inhibit Comb***

12.26 Med_Cardiacglycosides_SUENO (Cardiac Glycosides)

This is a 0/1 numeric variable.

Any “312000” subclass of medications: *Cardiac Glycosides**

12.27 Med_Chemo_SUENO (Chemotherapy)

This is a 0/1 numeric variable.

Medication Codes:
Any “21xxxx” group of medications: *ANTINEOPLASTICS*

12.28 Med_Clopid_SUENO (Clopidogrel (Plavix))

This is a 0/1 numeric variable.

Medication Codes:
The “851580201” subclass of medications: *Thienopyridine Derivatives***

12.29 Med_COX2_SUENO (COX-2 inhibitors)

This is a 0/1 numeric variable.

Medication Codes:
Any “661005” subclass of medications: *Cyclooxygenase 2 (COX-2) Inhibitors***

12.30 Med_Diuretic_SUENO (Diuretics)

This is a 0/1 numeric variable.

Medication Codes:
Any “369918” subclass of medications: *ACE Inhibitors & Thiazide/Thiazide-Like***
Any “369920” subclass of medications: *Beta Blocker & Diuretic Combinations***
Any “369940” subclass of medications: *Angiotensin II Receptor Antagonists & Thiazides***
Any “369950” subclass of medications: *Adrenolytics-Central & Thiazide Combinations***
Any “369955” subclass of medications: *Adrenolytics-Peripheral & Thiazides***
Any “369970” subclass of medications: *Antihypertensives-MAOIs & Thiazides***
Any “369980” subclass of medications: *Antihypertensives-MISC & Thiazides***
Any “369990” subclass of medications: *Vasodilators & Thiazides***
Any “37xxxx” group of medications: *DIURETICS*

12.31 Med_Diuretic_Thiazide_SUENO (Thiazide Diuretics)

This is a 0/1 numeric variable.

Medication Codes:
Any “369918” subclass of medications: *ACE Inhibitors & Thiazide/Thiazide-Like***
Any “369920” subclass of medications: *Beta Blocker & Diuretic Combinations***
Any “369940” subclass of medications: *Angiotensin II Receptor Antagonists & Thiazides***
Any “369950” subclass of medications: *Adrenolytics-Central & Thiazide Combinations***
Any “369955” subclass of medications: *Adrenolytics-Peripheral & Thiazides***
Any “369970” subclass of medications: *Antihypertensives-MAOIs & Thiazides***
Any “369980” subclass of medications: *Antihypertensives-MISC & Thiazides***
Any “369990” subclass of medications: *Vasodilators & Thiazides***
Any “376000” subclass of medications: *Thiazides and Thiazide-Like Diuretics**

12.32 Med_Fibares_Nicoacid_SUENO (Fibric/Nicotinic Acids (trt of TG and HDL))

This is a 0/1 numeric variable.

Medication Codes:
Any “392000” subclass of medications: *Fibric Acid Derivatives**
Any “394500” subclass of medications: *Nicotinic Acid Derivatives**
Any “399920” subclass of medications: *Fibric Acid Derivative Combinations***

12.33 Med_Insulin_SUENO (Insulins)

This is a 0/1 numeric variable.

Medication Codes:
Any “2710xx” class of medications: *Insulin**

12.34 Med_LLD_SUENO (Lipid lowering drugs/Antihyperlipidemics (LLD))

This is a 0/1 numeric variable.

Medication Codes:
Any “39xxxx” group of medications: *ANTIHYPERLIPIDEMICS* plus the class of “409925” (*Calcium Channel Blocker & HMG CoA Reductase Inhibit Comb***).

12.35 Med_Metformin_SUENO (Metformins)

This is a 0/1 numeric variable.

Medication Codes:
Any “2725xx” class of medications: *Biguanides**
Any “2799xx” class of medications: *Antidiabetic Combinations**

12.36 Med_NSAID_SUENO (NSAIDs)

This is a 0/1 numeric variable.

Medication Codes:
Any “6610xx” class of medications: *Nonsteroidal Anti-inflammatory Agents (NSAIDs)**

12.37 Med_OI_Steroid_SUENO (Oral/inhalable Glucocorticosteroids)

This is a 0/1 numeric variable. Does not include not including mineralocorticoids, androgens, estrogens, and progestagens.

Medication Codes:
The “221000” subclass of medications: *Glucocorticosteroids**
The “221099” subclass of medications: *Steroid Combinations***
The “444000” subclass of medications: *Steroid Inhalants**
The “449947” subclass of medications: *Sympathomimetic-Steroid w/ Anti-infective***
The “449980” subclass of medications: *Steroid-Antihistamines***
The “449982” subclass of medications: *Steroid-Antihistamine-Expectorants***
The “449984” subclass of medications: *Steroid-Sympathomimetic-Antihistamine-&/or Expectorant***
The “449988” subclass of medications: *Xanthine-Steroids***

12.38 Med_Statin_SUENO (Statins)

This is a 0/1 numeric variable.

Medication Codes:
Any “3940xx” class of medications: *HMG CoA Reductase Inhibitors**

12.39 MED_ANTIANXI_SUENO (Antianxiety agents)

This is a 0/1 numeric variable.

Medication Codes:
Any “57xxxx” class of medications: "ANTIANXIETY AGENTS"

12.40 MED_ANTIDEPRESS_SUENO (Antidepressants)

This is a 0/1 numeric variable.

Medication Codes:
Any “58xxxx” class of medications: "ANTIDEPRESSANTS"

12.41 MED_ANTIDEPRE_SSRI_SUENO (Antidepressants - selective serotonin re-uptake inhibitors)

This is a 0/1 numeric variable.

Medication Codes:
Any “5816xx” class of medications: "SELECTIVE SEROTONIN REUPTAKE INHIBITORS"

12.42 MED_ANTIDEPRE_TRICYC_SUENO (Antidepressants - tricyclic antidepressants)

This is a 0/1 numeric variable.

Medication Codes:
Any “5820xx” class of medications: "TRICYCLIC AGENTS"

12.43 MED_ANTIPSYCHO_SUENO (Antipsychotics)

This is a 0/1 numeric variable.

Medication Codes:
Any “59xxxx” class of medications: "ANTIPSYCHOTICS"

12.44 MED_CORTICO_INHALED_SUENO (Inhaled Corticosteroid medication)

This is a 0/1 numeric variable.

Medication Codes:
The “221000” subclass of medications: "GLUCOCORTICOSTEROIDS"
The “221099” subclass of medications: "STEROID COMBINATIONS"

12.45 MED_PDE4_SUENO (Phosphodiesterase IV Inhibitor Medication)

This is a 0/1 numeric variable.

Medication Codes:
Any “311000” subclass of medications: "PHOSPHODIESTERASE INHIBITORS"

12.46 MED_BRONCHODILATOR_SUENO (Bronchodilator and Antiasthmatic Agents medication)

This is a 0/1 numeric variable.

Medication Codes:
The "441000" subclass of medications: "BRONCHODILATORS - ANTICHOLINERGICS"
The “442010” subclass of medications: "BETA ADRENERGICS"
The “442020” subclass of medications: "MIXED ADRENERGICS"
The “443000” subclass of medications: "XANTHINES"
The “444000” subclass of medications: "STEROID INHALANTS"

The “445000” subclass of medications: "LEUKOTRIENE MODULATORS"
The “445040” subclass of medications: "5-LIPOXYGENASE INHIBITORS"
The “445050” subclass of medications: "LEUKOTRIENE RECEPTOR ANTAGONISTS"
The “446000” subclass of medications: "ANTIASTHMATIC - MONOCLONAL ANTIBODIES"
The “446030” subclass of medications: "ANTI-IGE MONOCLONAL ANTIBODIES"
The "449900” subclass of medications: "ASTHMA AND BRONCHODILATOR AGENT COMBINATIONS"
The “449905” subclass of medications: "XANTHINE MIXTURES"
The “449910” subclass of medications: "XANTHINE - EXPECTORANTS"
The “449920” subclass of medications: "XANTHINE - SYMPATHOMIMETICS"
The “449922” subclass of medications: "XANTHINE – SYMPATHOMIMETIC - EXPECTORANT"
The “449925” subclass of medications: "XANTHINE - BARBITURATES"
The “449927” subclass of medications: "SYMPATHOMIMETIC - BARBITURATE"
The “449928” subclass of medications: "XANTHINE-ANTIHISTAMINE-EXPECTORANT"
The “449930” subclass of medications: "XANTHINE – SYMPATHOMIMETIC - BARBITURATE"
The “449931” subclass of medications: "Xanthine-Sympathomimetic-Barbiturate-Antihistamine"
The “449932” subclass of medications: "XANTHINE – SYMPATHO – BARBIT - EXPECTOR"
The “449950” subclass of medications: "XANTHINE - ANTITUSSIVE"
The “449952” subclass of medications: "XANTHINE-ANTITUSSIVE-ANTIHISTAMINE"
The “449955” subclass of medications: "XANTHINE-ANTITUSSIVE-EXPECTORANT"
The “449985” subclass of medications: "XANTHINE-ANTIHISTAMINES"
The “449988” subclass of medications: "Xanthine-Steroids"
The “449990” subclass of medications: "Xanthine-Sympathomimetic-Antihistamine-&/or Expectorant"
The “449993” subclass of medications: "Xanthine-Sympathomimetic-Antitussive-Expectorant"
The “449995” subclass of medications: "Xanthine-Sympath-Antihistamine-Antitussive-Expectorant"

12.47 MED_PULMONARY_SUENO (Pulmonary medication)

This is a 0/1 numeric variable.

Medication Codes:
The “221000” subclass of medications: "GLUCOCORTICOSTEROIDS"
The “221099” subclass of medications: "STEROID COMBINATIONS"

The “311000” subclass of medications: "PHOSPHODIESTERASE INHIBITORS"

The "441000" subclass of medications: "BRONCHODILATORS - ANTICHOLINERGICS"
The “442010” subclass of medications: "BETA ADRENERGICS"
The “442020” subclass of medications: "MIXED ADRENERGICS"
The “443000” subclass of medications: "XANTHINES"
The “444000” subclass of medications: "STEROID INHALANTS"
The “445000” subclass of medications: "LEUKOTRIENE MODULATORS"
The “445040” subclass of medications: "5-LIPOXYGENASE INHIBITORS"
The “445050” subclass of medications: "LEUKOTRIENE RECEPTOR ANTAGONISTS"
The “446000” subclass of medications: "ANTIASTHMATIC - MONOCLONAL ANTIBODIES"
The “446030” subclass of medications: "ANTI-IGE MONOCLONAL ANTIBODIES"

The "449900” subclass of medications: "ASTHMA AND BRONCHODILATOR AGENT COMBINATIONS"
The “449905” subclass of medications: "XANTHINE MIXTURES"
The “449910” subclass of medications: "XANTHINE - EXPECTORANTS"
The “449920” subclass of medications: "XANTHINE - SYMPATHOMIMETICS"
The “449922” subclass of medications: "XANTHINE – SYMPATHOMIMETIC - EXPECTORANT"
The “449925” subclass of medications: "XANTHINE - BARBITURATES"
The “449927” subclass of medications: "SYMPATHOMIMETIC - BARBITURATE"
The “449928” subclass of medications: "XANTHINE-ANTIHISTAMINE-EXPECTORANT"
The “449930” subclass of medications: "XANTHINE – SYMPATHOMIMETIC - BARBITURATE"
The “449931” subclass of medications: "Xanthine-Sympathomimetic-Barbiturate-Antihistamine"
The “449932” subclass of medications: "XANTHINE – SYMPATHO – BARBIT - EXPECTOR"
The “449950” subclass of medications: "XANTHINE - ANTITUSSIVE"
The “449952” subclass of medications: "XANTHINE-ANTITUSSIVE-ANTIHISTAMINE"
The “449955” subclass of medications: "XANTHINE-ANTITUSSIVE-EXPECTORANT"
The “449985” subclass of medications: "XANTHINE-ANTIHISTAMINES"
The “449988” subclass of medications: "Xanthine-Steroids"
The “449990” subclass of medications: "Xanthine-Sympathomimetic-Antihistamine-&/or Expectorant"
The “449993” subclass of medications: "Xanthine-Sympathomimetic-Antitussive-Expectorant"
The “449995” subclass of medications: "Xanthine-Sympath-Antihistamine-Antitussive-Expectorant"

Variable Modifications

Date of Release	Variable	# participants changed	Notes
6/24/2014	*WEIGHT_NORM_OVERALL_SUENO*	All	Sueno sampling weight released for the 1st time. Only eligible participants have sampling weight (N=2,189 participants).
6/24/2014	FLAG_BKGRD	15	Mexicans at the Bronx will not be considered eligible (DSA & SP made final decision on SC call on 6/17/2014)
6/24/2014	FLAG_AHIGT50	1	Corrected due to inconsistency in HCHS/SOL main study between SLPA16 and SLPA54
6/24/2014	SUENO_ELIGIBLE	16	Changes due to FLAG_BKGRD and FLAG_AHIGT50
6/24/2014	SASH_ALL	All	Removed based on Psychosocial/Sociocultural Committee recommendations on 5/30/2014
3/13/2015	*WEIGHT_NORM_OVERALL_SUENO*	All	One sueno participant from the Bronx had by mistake an ID from another HCHS/SOL participant. Hence, sampling weights were recalculated. They are almost identical. Only eligible participants have sampling weight (N=2,189 participants).
3/13/2015	SASH_LANG	All	Update done in HCHS/SOL after Sueno INV1 release. Added item SCEA6, set to missing if more than 1 item is missing
3/13/2015	BMI_SUENO, BMIGRP_C4_SUENO, BMIGRP_C6_SUENO	15	15 data entry errors in APEA4 (measured weight at Sueno visit) discovered while conduction analyses for MS269.
3/13/2015	WSLEEPTIME_ACTIGRAPHY	All	New variable requested

APPENDIX

Following table has pseudo code for variables created specifically for SUENO Ancillary Study. For variables created following HCHS/SOL main study or Sociocultural Ancillary Study variables (any variable with '_SUENO' in the name) please refer to the appropriate derived variable dictionary for more details.

#	Variable	Label	Response format	Definition
	2. Administrative			
1.	SUENO_ELIGIBLE	Eligible SUENO participant	0=Not eligible based on flag variables 1=Eligible participant	If FLAG_ BKGRD=0 AND FLAG_AGEGE65=0 AND FLAG_MONTHSGT30=0 then SUENO_ELIGIBLE =1; Otherwise SUENO_ELIGIBLE =0
2.	SUENO_VISIT_DATE	Sueno clinic visit date		If MQEA0A is nonmissing then SUENO_VISIT_DATE= MQEA0A; If MQEA0A is missing then SUENO_VISIT_DATE= MDEA0A
3.	DAYS_S1M1	Days between HCHS clinic visit and SUENO clinic visit		= SUENO_VISIT_DATE - CLINDATE
4.	FLAG_AGEGE65	Age ge 65 or lt 18	0= Age between 18 and 64 1= Age >=65	IF AGE_SUENO (age at SUENO visit) >=65 OR <18 then FLAG_AGEGE65=1; Otherwise FLAG_AGEGE65=0
5.	FLAG_AHIGT50	AHI >50 from main study sleep monitor (SLPA16)	0= AHI <=50 1= AHI>50 (Urgent referral)	IF SLPA16=1 (main study SLPA form) then FLAG_AHIGT50=1; Otherwise FLAG_AHIGT50=0;
6.	FLAG_BKGRD	Ineligible Hispanic background for site	0= Eligible background 1= Ineligible background	=0 for the following cases (these are the eligible backgrounds): For Bronx: if bkgrd1_c6 IN (0,4) (Dominican, Puerto Rican) For Chicago: if bkgrd1_c6 IN (1,3,4) (CA/SA., Mexican, Puerto Rican) For Miami: if bkgrd1_c6 IN (1,2) (CA/SA, Cuban) For SD: if bkgrd1_c6 IN (3) (Mexican) =1 otherwise
7.	FLAG_MONTHSGT30	Sueno visit date more than 31+ months since HCHS visit date	0= Within time frame 1= 31+ months	If SUENO_VISIT_DATE is >=31 months from the main study clinic visit date CLINDATE then FLAG_MONTHS=1; Otherwise FLAG_MONTHS=0
8.	FLAG_NARC	Narcolepsy diagnosis Main study MHEA (self-report)	0= No diagnosis 1= Diagnosis	If MHEA25c =1 (main study MHEA form) then FLAG_NARC=1; Otherwise FLAG_NARC=0;
9.	FLAG_OSA	Treated for OSA. Main study MHEA (self-report)	0= Never treated for OSA 1= Treated for OSA	If MHEA25d1 =1 (main study MHEA form) then FLAG_OSA=1; Otherwise FLAG_OSA=0;
10.	VALID_ACTIGRA	Valid actigraphy	0= No valid record	=1 if there is a record in the SAWA dataset with SAWA4=1 (valid status)

#	Variable	Label	Response format	Definition
	PHY	record	1=Valid record	=0 otherwise
	9. Sleep II Self- Report (SQEA)			
1.	Caffeine_Intake	Cups of caffeinated beverages on a typical day		IF any item (SQEA21-SQEA24) is missing, then Caffeine_Intake is missing; otherwise Caffeine_Intake= SQEA21 + SQEA22 + SQEA23 + SQEA24
2.	ISI	Insomnia Severity Index	0-28	IF any item (SQEA6-SQEA9) is missing then ISI is missing; IF (SQEA10=1 OR MISSING) AND any item (SQEA11-SQEA13) is missing then ISI is missing; Otherwise ISI= SUM(SQEA6, SQEA7, SQEA8, SQEA9, SQEA11, SQEA12, SQEA13)
3.	ISI_C4	4-level grouped Insomnia Severity Index	1= No clinically significant insomnia 2= Subthreshold insomnia 3= Clinical insomnia (moderate severity) 4= Clinical insomnia (severe)	If ISI is missing, then ISI_C4 is missing; Else if 0<=ISI<=7 then ISI_C4= 1; Else if 8<=ISI<=14 then ISI_C4= 2; Else if 15<=ISI<=21 then ISI_C4= 3; Else if 22<=ISI<=28 then ISI_C4= 4;
4.	rMEQ	Reduced Morningness Eveningness Questionnaire Raw Score	4-25	IF any item (SQEA1-SQEA5) is missing, then rMEQ is missing; Otherwise rMEQ = (6- SQEA1) + SQEA2 + (6- SQEA3) + (6- SQEA4) + (8 – (2*SQEA5)) NOTE that questions 1, 3, 4 and 5 are being reversed and that is the reason for the subtraction.
5.	rMEQ_C5	5-level grouped Reduced Morningness Eveningness Questionnaire Score	1= Definitely morning type (DM) 2= Moderately morning type (MM) 3= Neither type (NT) 4= Moderately evening type (ME) 5= Definitely evening type (DE)	If rMEQ is missing then rMEQ_C5 is missing; Else If 22<= rMEQ <=25 then rMEQ_C5 =1; Else If 18<= rMEQ <=21 then rMEQ_C5 =2; Else If 12<= rMEQ <=17 then rMEQ_C5 =3; Else If 8<= rMEQ <=11 then rMEQ_C5 =4; Else If 4<= rMEQ <=7 then rMEQ_C5 =5;
6.	Sleep_Med	Highest reported frequency of sleeping medication use	0=Not in the past 4 weeks 1=Less than once a week 2= 1-2 times a week 3=3-4 times a week	If any item (SQEA18-SQEA20) is missing then Sleep_Med is missing; Otherwise, Sleep_Med is the highest value from SQEA18, SQEA19, SQEA20

#	Variable	Label	Response format	Definition
			4= 5 or more times a week	
	10. Work Schedule Self-Report (WSEA)			
1.	CommuteWork	Commute time to work (mins)		If WSEA16A AND WSEA16B are missing then CommuteWork is missing; Else CommuteWork = SUM ((WSEA16A*60), WSEA16B);
2.	CommuteHome	Commute time to home (mins)		If WSEA17A AND WSEA17B are missing then CommuteHome is missing; Else CommuteHome = SUM ((WSEA17A*60), WSEA17B);
3.	ShiftworkerYN	Shift Worker YN	0=No 1= Yes	If WSEA11 AND WSEA12 AND WSEA13 are missing then ShiftworkerYN is missing; ELSE IF (WSEA11=4 OR MISSING) AND (WSEA12 OR WSEA13 is missing) then ShiftworkerYN is missing; ELSE IF (WSEA11= 3, 5, or 6) OR (WSEA12=1 AND WSEA13=1 or 2) then ShiftworkerYN=1; ELSE ShiftworkerYN=0;
4.	Shift_length	Shift length (hrs)		If WSEA1=0 then Shift_length=0; Else if any item (WSEA1, WSEA8A_2401, WSEA9A_2401) is missing then Shift_length is missing; Else if WSEA=1 AND (WSEA8A_2401 or WSEA9A_2401 is missing) then Shift_length is missing; Else If (WSEA9A_2401 – WSEA8A_2401) <0 then Shift_length = (WSEA9A_2401 – WSEA8A_2401)/(60*60) + 24 Else If (WSEA9A_2401 – WSEA8A_2401) =0 then Shift_length = (WSEA9A_2401 – WSEA8A_2401) /(60*60) + 12 Otherwise Shift_length = (WSEA9A_2401 – WSEA8A_2401) /(60*60)
5.	Totcommute_day	Total commute time/workday (mins)		If CommuteWork OR CommuteHome is missing then Totcommute_day is missing; ELSE Totcommute_day = CommuteWork + CommuteHome
6.	Totcommute_week	Total commute time/week (hrs)		If WSEA6 OR Totcommute_day is missing then Totcommute_week is missing; ELSE Totcommute_week= (Totcommute_day/ 60) * WSEA6
7.	Work_Hrs_day	Calculated work hours per workday		If WSEA1=0 then Work_Hrs_day=0; Else If WSEA1, WSEA3 and WSEA6 are missing then Work_Hrs_day is missing; Else If WSEA1=1 AND (WSEA3 OR WSEA6 is missing) then Work_Hrs_day is missing;

#	Variable	Label	Response format	Definition
				Else Work_Hrs_day= WSEA3/ WSEA6; IF WORK_HRS_DAY>=24 then set to missing
8.	Work_Hrs_Week	Weekly work hours		If WSEA1=0 then Work_Hrs_Week=0; Else if WSEA1 AND WSEA6 AND WSEA8A_2401 AND WSEA9A_2401 are missing then Work_Hrs_Week is missing; Else if WSEA1=1 AND (WSEA6 OR WSEA8A_2401 OR WSEA9A_2401 is missing) then Work_Hrs_Week is missing; Otherwise Work_Hrs_Week= WSEA6 * Shift_length
11. Actigraphy Derived Variables (SAWA)				
1	wsleeptime_actigraphy	Avg sleep time from actigraphy (weighted avg of wkday/wkend), hrs/day		((**5***(SAWA101/**60**)) + (**2***(SAWA148/**60**))) / **7**;