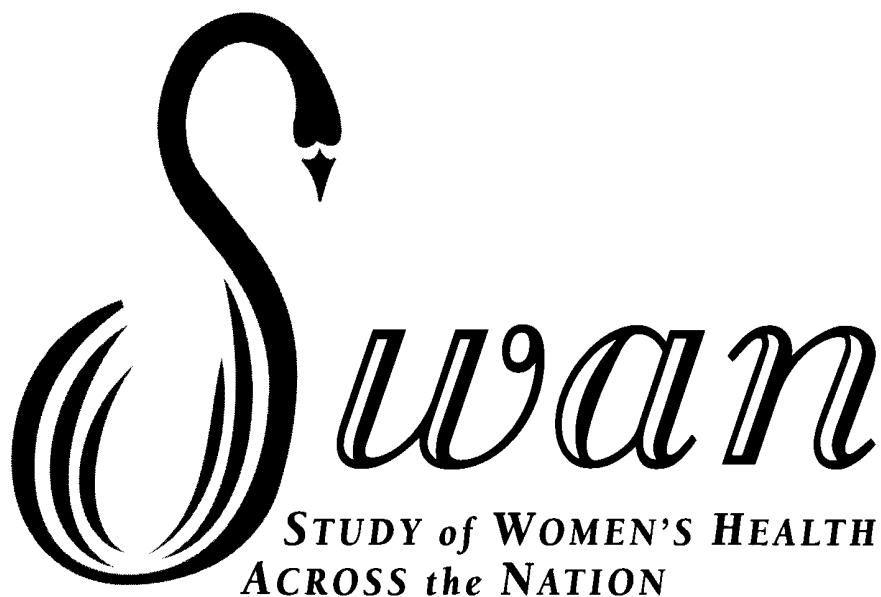




**Follow-Up 15
SWAN SLEEP & PHYSICAL ACTIVITY
DIARY COVER PAGE, DIARY and
SUMMARY DATA**

CODEBOOK

ARCHIVED DATASET 2019
Dataset file niaspad2019

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DOCUMENTATION FOR PUBLIC-USE SWAN VISIT 15 SLEEP & PHYSICAL ACTIVITY DIARY DATASET

1. Who is included in the public use dataset:

The dataset contains follow-up visit 15 information for the subset of the original cohort still participating in the SWAN longitudinal study from the seven clinical sites. The sites include 11, 12, 13, 14, 15, 16 and 17.

2. How this codebook is constructed:

Following this documentation section are copies of SWAN Visit 15 sleep & physical activity diary forms that were used at visit 15. A list of additional variables is also provided. The questionnaires include the variables available for public use next to the question in bold red uppercase underlined letters. Those variables not available for public use have a # before the variable and are in blue. Any special notes are indicated with footnotes at the bottom of the page.

The assigned participant ID has been replaced with a randomly generated ARCHID in order to protect participant privacy. The *baseline* interview date is denoted as day 0 and is used as the basis for all other dates. All other questionnaires or data collected that have a date attached have been converted to the number of days from the baseline interview. For example, if the Visit 15 sleep & physical activity diary forms were collected 15 years after the baseline interview, the day for the Visit 15 sleep & physical activity diary form completion date would be day 3,650 and the Baseline Interview would be day 0.

All variables for visit 15 have a 15 at the end of the variable name.

3. Missing data coding:

Original missing codes (-1: not applicable, -7: refused, -8: don't know, -9: missing) have been recoded to SAS missing codes (B: not applicable, D: refused, .C: don't know, and .A: missing).

4. Ways this data can be used and additional notes

Sleep & Physical Activity Diary (SPAD) Cover Page:

The cover page data ascertains when the ActiWatch and Activity Monitor was worn, and when the data was reviewed with the participant. Variables from the remaining diary pages (Sections B and C) are found on the Sleep & Physical Activity Diary form. The cover page was interviewer-administered and was completed by SWAN staff when monitors & diary were returned by participants.

Sleep & Physical Activity Diary (SPAD2):

Three form versions (03/18/2015, 06/15/2015 and 01/15/2016) were administered, with the changed questions indicated in another color.

Additional information and created variables:

A total of 3273 records with null AM or PM data fields (**INBEDA15**, **SLEPA15**, **WOKEA15** and **OUTBEDA15** have been imputed and updated, and four additional variables indicating whether the record was imputed (**INBEDFLG15**, **SLEPFLG15**, **WOKEFLG15** and **OUTBEDFLG15**) were added in the dataset. Without the AM or PM value in the records it is not possible to calculate Total Sleep Time. When working with daily/nightly diary information it is very common for participants to miss circling AM or PM and accepted practice in sleep research to impute the value based on the non-missing values during those 7 days (i.e.: if a person is waking at 7:15 AM for 5 mornings, it is likely that 7:15 on the 6th morning is also AM) of the diary or use actigraphy times. The created variables and diary records selection criteria are as follows:

- **INBEDFLG15** (Imputed Time Got in Bed (AM&PM) flag): is a flag variable to indicate whether INBEDA15 was imputed or not. If INBEDH15 and INBEDM15 are not null and INBEDA15 is null, INBEDA15 was updated to either 1=AM or 2=PM based on the available Diary INBEDA times with AM or PM circled, or check against actigraphy times and use 1=AM or 2=PM from these sources.
- **SLEPFLG15** (Imputed Time Tried to Go to Sleep (AM&PM) flag): is a flag variable to indicate whether SLEPA15 was imputed or not. If SLEPH15 and SLEPM15 are not null and SLEPA15 is null, SLEPA15 was updated to either 1=AM or 2=PM based on the available Diary SLEPA15 times with AM or PM circled, or check against actigraphy times and use 1=AM or 2=PM from these sources.

- **WOKEFLG15** (Imputed Time Woke Up (AM&PM) flag): is a flag variable to indicate whether WOKEA15 was imputed or not. If WOKEH15 and WOKEM15 are not null and WOKEA15 is null, WOKEA15 was updated to either 1=AM or 2=PM based on the available Diary WOKEA15 with AM or PM circled, or checked against actigraphy times and use 1=AM or 2=PM from these sources.
- **OUTBEDFLG15** (Imputed Time Got out of Bed (AM&PM) flag): is a flag variable to indicate whether OUTBEDA15 was imputed or not. If OUTBEDH15 and OUTBEDM15 are not null and OUTBEDA15 is null, OUTBEDA15 was updated to either 1=AM or 2=PM based on the available Diary OUTBEDA15 with AM or PM circled, or check against actigraphy times and use 1=AM or 2=PM from these sources.

Time variables **STARTIME15**, **ENDTIME15**, **INBEDT15**, **WAKET15** and **OUTBEDT15** were created by taking imputed variables indicating hours (**WORKSTH15**, **WRKENDH15**, **INBEDH15**, **WOKEH15** and **OUTBEDH15**), minutes (**INBEDM15**, **WOKEM15**, and **OUTBEDM15**), AM or PM (**WORKSTA15**, **WRKENDA15**, **INBEDA15**, **WOKEA15**, and **OUTBEDA15**) and transforming them into military time format. Variables indicating Hours, Minutes, AM/PM were then dropped from the final dataset.

If participants answered “No” for Question A.6 (Do you work at a paid job?) in Sleep & Physical Activity Diary Cover Page form, then all the B3 questions on the subsequent Bedtime/ Night Diary form pages were not answered.

Sleep aids (**SLEPMEDS15**) including prescription medications, over the counter sleep medications and any other sleep supplements were corrected for typographic errors and recoded into uniform medication format and categories for further analysis.

Sleep & Physical Activity Diary Summary:

Summary variables were created from individual items completed on the Visit 15 Sleep & Physical Activity Diary. The mean and standard deviation variables were created using non-missing data for each participant across the whole observational period. If all the related information was unavailable, the created variable would be set to missing.

Explanation of Questionnaire Variables and Summaries

- The Visit 15 SWAN Sleep & Physical Activity datasets was provided as daily basis data reported by the participants up to 14 days/nights. Total number of days the participant had an event was calculated by counts that participant provided as a positive answer to the specific question across the observational period. Variables created in this category including: **DAYCONT15**, **ACTUSL_T15**, **BEDSWT_T15**, **SLPINT_T15**, **INTFML_T15**, **INTNOS_T15**, **INTPAN_T15**, **INTWRY_T15**, **INTCLD_T15**, **INTBTH_T15**, **INTOTH_T15**, **SLPMED_T15** and **SLPUSL_T15**.
- Time variables **INBEDT**, **WAKET** and **OUTBEDT** (not included in the frozen dataset) were created by taking variables indicating hours (**INBEDH15**, **WOKEH15** and **OUTBEDH15**), minutes (**INBEDM15**, **WOKEM15**, and **OUTBEDM15**), AM or PM (**INBEDA15**, **WOKEA15**, and **OUTBEDA15**) and transforming them into military time format. The mean and SD of those variables (**INBEDT_M15**, **INBEDT_SD15**, **WKT_M15**, **WKT_M15**, **WKT_M15**, **WKT_M15**, **OTBEDT_M15**, and **OTBEDT_SD15**) were calculated and included in the frozen datasets.
- Total number of medications taken to help sleep (**MEDNUM_T15**) was created using variables **SLEPMED15** and **SLEPMEDS15**. The original medication data from Visit 15 SPAD2 datasets was cleaned and categorized based on the specified medication names and brands provided by the participants.
- When no medication was reported (**MEDSNUM_T15 = 0**), it could be due to either no meds taken (**SLEPMED15 = 1**) or missing (**SLEPMED15 = .A**). Variable **ANYSLEPMED15** was created to illustrate the situation if the participant took any medication to help sleep (**ANYSLEPMED15 = 2**) or not (**ANYSLEPMED15 = 1**) during the observational period. If all the sleep medication data was missing, **ANYSLEPMED15** for this participant would be assigned as “Missing (.A)”.

Created variables:

- **ANYSLEPMED15** (Took Any Sleep Meds) indicates whether the participant took any medication to help sleep during the entire observation period (1=No, 2=Yes). This variable was created by **SLPMED_T15** (Total # of Days Took Meds to Help Sleep) and **MEDNUM_T15** (# of Meds Took to Help Sleep).
- **DAYCONT15** (Total # of Valid Days of Diary Data) indicates the total number of valid days of Visit 15 Sleep & Physical Activity Diary completed by each participant across the entire observation. This variable was created by number of days (**DAYNUM15**, all equal to **NIGHTNUM15** in this visit).

- **NAPS_M15, NAPS_SD15** (Total # of Naps Taken) indicates the mean and standard deviation of mean number of naps taken across the entire observation, and were created by **NAPSNUM15** (Number of naps taken today).
- **ACTUSL_T15** (Total # of Days with Physical Activity as Usual) indicates the number of days that participants had the similar physical activity level as usual across the entire observation, and was created by **ACTUSUL15** (Physical Activity as Usual Today).
- **INBEDT_M15, INBEDT_SD15** (Time Got in Bed) indicates the mean and the standard deviation of the mean diary reported time got in bed each night across the entire observation.
- **SLEPTM_M15, SLEPTM_SD15** (Time Tried Go to Sleep) indicates the mean and the standard deviation of the mean diary reported time tried to go to sleep each night across the entire observation.
- **SLPMIN_M15, SLPMIN_SD15** (Minutes Took to Fall Asleep) indicates the mean and standard deviation of the mean diary reported minutes took to fall asleep each night across the entire observation. These variables were created by **SLEPMIN15** (Number of Minutes Took to Fall Asleep Last Night).
- **WKNUM_M15, WKNUM_SD15** (Times Remember Waking up during Night) indicates the mean and standard deviation of the mean diary reported number of times remembered woke up each night across the entire observation. These variables were created by **WAKENUM15** (Number of Times Remember Waking up Last Night).
- **WKMIN_M15, WKMIN_SD15** (Minutes Awake during Night) indicates the mean and standard deviation of the mean diary reported minutes awake each night across the entire observation. These variables were created by **WAKEMIN15** (Number of Minutes Awake during Last Night).
- **WKTM_M15, WKTM_SD15** (Time Woke up) indicates the mean and the standard deviation of the mean diary reported time woke up each day across the entire observation.
- **OTBEDT_M15, OTBEDT_SD15** (Time Got out of Bed) indicates the mean and the standard deviation of the mean diary reported time got out of bed each day across the entire observation.
- **(BEDSWT_T15** (Total # of Days Had Night Sweats/Hot Flashes after Bed) indicates the number of days that participants had night sweats/hot flashes after bed across the entire observation, and was created by **BEDSWET15** (Night Sweats/Hot Flashes after Bed Last Night).
- **SLPINT_T15** (Total # of Days Reported Sleep Interrupted) indicates the number of days that participants' sleep was interrupted for any reason across the entire observation, and was created by **SLEPINT15** (Sleep Interrupted Last Night).
- **INTFML_T15** (Total # of Days Sleep Interrupted - Family Member) indicates the number of days that participants' sleep was interrupted by a family member across the entire observation, and was created by **INTFMLY15** (Sleep Was Interrupted by A Family Member).
- **INTNOS_T15** (Total # of Days Sleep Interrupted - Noise) indicates the number of days that participants' sleep was interrupted because of noise across the entire observation, and was created by **INTNOIS15** (Sleep Was Interrupted Because of Noise).
- **INTPAN_T15** (Total # of Days Sleep Interrupted - Pain) indicates the number of days that participants' sleep was interrupted because of pain across the entire observation, and was created by **INTPAIN15** (Sleep Was Interrupted Because of Pain).
- **INTWRY_T15** (Total # of Days Sleep Interrupted - Worry) indicates the number of days that participants' sleep was interrupted because of worry across the entire observation, and was created by **INTWORY15** (Sleep Was Interrupted Because of Worry).
- **INTCLD_T15** (Total # of Days Sleep Interrupted - Cold/Hot) indicates the number of days that participants' sleep was interrupted because of cold or hot across the entire observation, and was created by **INTCOLD15** (Sleep Was Interrupted Because of Cold or Hot).
- **INTBTH_T15** (Total # of Days Sleep Interrupted - Bathroom) indicates the number of days that participants' sleep was interrupted because she woke to use the bathroom across the entire observation, and was created by **INTBATH15** (Sleep Was Interrupted Because Woke to Use the Bathroom).

- **INTOTH_T15** (Total # of Days Sleep Interrupted - Other) indicates the number of days that participants' sleep was interrupted because of other reason across the entire observation, and was created by **INTOTH15** (Sleep Was Interrupted Because of other Reason).
- **SLPMED_T15** (Total # of Days Took Meds to Help Sleep) indicates the number of days that participant took any sleep meds to help sleep across the entire observation, and was created by **SLEPMED15** (Took Prescription or over the Counter Medication to Help Sleep Last Night).
- **MEDNUM_T15** (Total # of Meds Took to Help Sleep) indicates the number of medication that participant took to help sleep across the entire observation, and was created by **SLEPMED15** (Took Med to Help Sleep Last Night: 1=No, 2=Yes) and **SLEPMEDS15** (Took Med to Help Sleep Last Night: Specify).
- **SLPQU_M15, SLPQU_SD15** (Sleep Quality Rating) indicates the mean and standard deviation of the mean diary reported quality of sleep each night across the entire observation. These variables were created by **SLEPQUAL15** (Sleep Quality Last Night: 1 = very poor, 2 = poor, 3 = fair, 4= good, 5 = very good).
- **NIGTSFT15** (Night-Shift Worker) indicates whether the participant was a night-shift worker (1 = Yes, 0 = No) started a work shift between 23:00 and 05:00. This variable was created from work start time variables (**WORKSTA15** and **WORKSTH15**).



SWAN SLEEP & PHYSICAL ACTIVITY DIARY

AFFIX ID LABEL HERE

A1. Participant ID:

ARCHID~

A2. SWAN Study Visit

15

VISIT

A3. Form Version

03/18/2015

06/15/2015

01/15/2016

#FORM_V

A4. Date Reviewed with Participant

__ __ / __ __ / __ __ __ __
m m d d y y y y

DREVIEWDAY15+

A5. Reviewer's Initials

__ __ __

#INITS

A7-A10: TO BE COMPLETED BY SWAN STAFF WHEN MONITORS & DIARY ARE RETURNED.

A7. Participant started wearing ActiWatch on:

DSTARTWAT15+

__ __ / __ __ / __ __ __ __
m m d d y y y y

A8. Participant stopped wearing ActiWatch on:

DSTOPWAT15+

__ __ / __ __ / __ __ __ __
m m d d y y y y

A9. Participant started wearing Activity Monitor on:

DSTARTMON15+

__ __ / __ __ / __ __ __ __
m m d d y y y y

A10. Participant stopped wearing Activity Monitor on:

DSTOPMON15+

__ __ / __ __ / __ __ __ __
m m d d y y y y

A6. Do you work at a paid job?

PAIDJOB15

1 = No [If NO, cross out Question 3 on all diary pages with the



.]

2 = Yes

~ A randomly generated ID will be provided that is different from the original ID

† This date is given in days since the initial baseline interview, which is day zero.

Note: Questions in black are shared by all three form versions

B. Please fill this out LAST thing at NIGHT, before going to sleep. [CIRCLE AM OR PM FOR ALL TIMES.]

3. Did you work at your paid job today? 1 = No, it's my day off [GO TO 4.] 2 = Yes **WORKJOB15**

b. Today I ended paid work at.... ____:____ AM or PM ENDTIME15†

a. Today I took... _____ Number of Naps [If no naps put "0" and then GO TO 7.] #NAPSNUM15

Page 10

#WAISTWOR

a. Showering/ bathing 1 2 → ____:____ AM or PM ____:____ AM or PM
#REMSHOW15 #SHOWOFH15. SHOWOFM15. SHOWOFA15 #SHOWONH15. SHOWONM15. SHOWONA15

6. Last night after I finally fell asleep, I remember waking up..... _____ number of times **WAKENUM15**
7. Altogether, I think I was awake for..... _____ minutes during the night **WAKEMIN15**
8. This morning, I finally woke at..... ____:____ AM or PM **WOKET15**
9. This morning, I actually got out of bed to start my day at..... ____:____ AM or PM **OUTBEDT15**
10. Last night I experienced hot flashes or night sweats after I went to bed. 1 = No 2 = Yes **BEDSWET15**
11. Was your last night's sleep interrupted for any reason? 1 = No [GO TO 12.] 2 = Yes **SLEPINT15**

If YES...

	NO	YES
--	----	-----

- | | | | |
|--|------------------|---|---|
| a. Last night my sleep was interrupted by a family member... | INTFMLY15 | 1 | 2 |
| b. Last night my sleep was interrupted because of noise... | INTNOIS15 | 1 | 2 |
| c. Last night my sleep was interrupted because of pain... | INTPAIN15 | 1 | 2 |
| d. Last night my sleep was interrupted because I was worried... | INTWORY15 | 1 | 2 |
| e. Last night my sleep was interrupted because I was cold or hot... | INTCOLD15 | 1 | 2 |
| f. Last night my sleep was interrupted because I woke to use the bathroom... | INTBATH15 | 1 | 2 |
| g. Last night my sleep was interrupted for another reason... | INTOTH15 | 1 | 2 |

Specify, _____ **#INTOTHS15**

12. Last night I took prescription or over the counter medication (including supplements) to help me sleep...

1 = No [GO TO 13.] 2 = Yes

SLEPMED15

a. If YES, medication/supplement name _____

#SLEPMEDS15

13. Last night the quality of my sleep was: (Circle One.)

SLEPQUAL15

1 = very poor 2 = poor 3 = fair 4 = good 5 = very good

14. Was last night similar to your usual sleep? 1 = No 2 = Yes

SLPUSUL15

(Form Version 06/15/2015 & 01/15/2016)

15. This morning, I put my waist monitor on at ... ____:____ AM or PM [END this page] **#WASTONH, WASTONM, WASTONA**