Official Title of the Study: The Role of Palliative Care Interventions to Reduce Circadian Rhythm Disorders in Persons With Dementia: The Healthy Patterns Study

NCT Number: NCT03682185

Date of the Document: November 2, 2020

Modification

Basic Info

Confirmation Number:	**dbjiagia**
Protocol Number:	**825000**
Created By:	**HODGSON, NANCY A**
Principal Investigator:	**HODGSON, NANCY A**
Protocol Title:	**The Role of Palliative Care Interventions to Reduce Circadian Rhythm Disorders in Persons with Dementia Healthy Patterns Study**
Short Title:	**Healthy Patterns Sleep Study**
Protocol Description:	**This Phase III efficacy trial of the Healthy Patterns intervention, a home-based activity intervention, is designed to improve symptoms of circadian rhythm disorders (CRD) and quality of life (QOL) in home dwelling person with dementia. We will use a randomized two-group parallel design of 200 people with dementia and their caregivers assigned to intervention or attention control intervention. Outcomes include measures of QOL as well as actigraphic and proxy reported measures of CRDs**
Submission Type:	**Social and Biological Sciences**
Application Type:	**EXPEDITED Category 7 and Category 3**

PennERA Protocol Status

Approved

Resubmission*
No

Are you submitting a Modification to this protocol?*

Yes

Current Status of Study

Study Status

Currently in Progress

If study is currently in progress, please enter the following

Number of subjects enrolled at Penn since the study was initiated

170

Actual enrollment at participating centers

170

If study is closed to further enrollment, please enter the following

Number of subjects in therapy or intervention

0

Number of subjects in long-term follow-up only

35

IRB Determination
If the change represents more than minimal risk to subjects, it must be reviewed and approved by the IRB at a convened meeting. For a modification to be considered more than minimal risk, the proposed change would increase the risk of discomfort or decrease benefit. The IRB must review and approve the proposed change at a convened meeting before the change can be implemented unless the change is necessary to eliminate an immediate hazard to the research participants. In the case of a change implemented to eliminate an immediate hazard to participants, the IRB will review the change to determine that it is consistent with ensuring the participant′s continued welfare. Examples: Convened Board Increase in target enrollment for investigator initiated research or potential Phase I research Expanding inclusion or removing exclusion criteria where the new population may be at increased risk Revised risk information with active participants Minor risk revisions that may affect a subject′s willingness to continue to participate Expedited Review Increase in target enrollment at Penn where overall enrollment target is not exceeded or potentially sponsored research Expanding inclusion or removing exclusion where the new population has the same expected risk as the previous, based on similarities of condition Revised risk information with subjects in long-term follow-up Minor risk revisions with no subjects enrolled to date
Expedited Review

Modification Summary
Please describe any required modification to the protocol. If you are using this form to submit an exception or report a deviation, enter 'N/A' in the box below.
We are adding a questionnaire to our three-month follow-up calls with our participants. This questionnaire is called the University of Pittsburgh COVID Caregiving Questionnaire and is attached. It seeks to ask persons with dementia and their caregivers about their experiences with the COVID-19 pandemic. We are also hoping to make the following personnel changes. Removing Personnel Remove Laurel Caffeé as Study Contact Adding Personnel Add Sarah Bujno as Study Contact o Department: 602, Biobehavioral Health Sciences o Role: Research Project Manager o Email: sbujno@upenn.edu o Address: Claire M. Fagin Hall 418 Curie Boulevard Philadelphia, PA 19104-4217 Add Yeji Hwang as Key Study Personnel o Department: School of Nursing o Role: Research Assistant o Email: yejih@nursing.upenn.edu Add Fanghong Dong as Key Study Personnel o Department: School of Nursing o Role: Research Assistant o Email: dofa@nursing.upenn.edu

Risk / Benefit
Does this amendment alter the Risk/Benefit profile of the study?
No

Change in Consent
Has there been a change in the consent documents?
No

If YES, please choose from the options below regarding re-consenting

Deviations

Are you reporting a deviation to this protocol?*

No

Exceptions

Are you reporting an exception to this protocol?*

No

Protocol Details

Resubmission*
Yes

Hospital Sites
Will any research activities and/or services be conducted at a Penn Medicine affiliated hospital site?
No

Study Personnel

Principal Investigator

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HS Training Completed:	**Yes**
Training Expiration Date:	**04/26/2019**
Name of course completed :	**CITI Protection of Human Subjects Research Training - ORA**

Study Contacts

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HS Training Completed:	**No**
Training Expiration Date:	
Name of course completed :	

Name:	**BUJNO, SARAH J**
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HS Training Completed:	**Yes**
Training Expiration Date:	
Name of course completed :	**CITI Protection of Human Subjects Research Training - ORA**

Other Investigator

Name:	**PEREZ, GLORIA A**
Dept / School / Div:	**603 - Family and Community Health**
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HS Training Completed:	**Yes**
Training Expiration Date:	**01/13/2022**
Name of course completed :	**CITI Protection of Human Subjects Research Training - ORA**

Responsible Org (Department/School/Division):

600 - School of Nursing

Key Study Personnel

Name:	**PETROVSKY, DARINA**
Department/School/Division:	**Family and Community Health**
HS Training Completed:	**Yes**
Training Expiration Date:	**01/14/2019**
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**NATHANSON, GRACE A**
Department/School/Division:	**DM-Geriatrics**
HS Training Completed:	**Yes**
Training Expiration Date:	**06/27/2018**
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**RAJPARA, ANJALI**
Department/School/Division:	**Health System**
HS Training Completed:	**No**
Training Expiration Date:	
Name of course completed:	

Name:	**CONNELL, LASHAUNA M**
Department/School/Division:	**Nursing Office of Diversity Affairs**
HS Training Completed:	**Yes**
Training Expiration Date:	**12/11/2020**
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**DUBINER, BENJAMIN**
Department/School/Division:	**Health System**
HS Training Completed:	**No**
Training Expiration Date:	
Name of course completed:	

Name:	**MCPHILLIPS, MIRANDA V**
Department/School/Division:	**Biobehavioral and Health Sciences**
HS Training Completed:	**Yes**
Training Expiration Date:	**02/09/2018**
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**PEREZ, GLORIA A**
Department/School/Division:	**Family and Community Health**
HS Training Completed:	**Yes**
Training Expiration Date:	**01/10/2019**
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**HWANG, YEJI**
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HS Training Completed:	**Yes**
Training Expiration Date:	
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**BOATENG, AUGUSTINE C**
Department/School/Division:	**School of Nursing**
HS Training Completed:	**Yes**
Training Expiration Date:	
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**FOLEY, KIERRA A**
Department/School/Division:	**School of Nursing**
HS Training Completed:	**Yes**
Training Expiration Date:	**11/17/2019**
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**GOONERATNE, NALAKA**
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HS Training Completed:	**Yes**
Training Expiration Date:	**08/19/2019**
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**RAMIREZ, KATIE A**
Department/School/Division:	**Biobehavioral and Health Sciences**
HS Training Completed:	**Yes**
Training Expiration Date:	
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Name:	**DONG, FANGHONG**
Department/School/Division:	**Biobehavioral and Health Sciences**
HS Training Completed:	**Yes**
Training Expiration Date:	
Name of course completed:	**CITI Protection of Human Subjects Research Training - ORA**

Disclosure of Significant Financial Interests*
Does any person who is responsible for the design, conduct, or reporting of this research protocol have a **FINANCIAL INTEREST**?
No

Penn Intellectual Property*
To the best of the Principal Investigator's knowledge, does this protocol involve the testing, development or evaluation of a drug, device, product, or other type of intellectual property (IP) that is owned by or assigned to the University of Pennsylvania?
No

Certification
I have reviewed the *Financial Disclosure and Presumptively Prohibited Conflicts for Faculty Participating in Clinical Trials* and the *Financial Disclosure Policy for Research and Sponsored Projects* with all persons who are responsible for the design, conduct, or reporting of this research; and all required Disclosures have been attached to this application.
Yes

Study Instruments

Discuss the particulars of the research instruments, questionnaires and other evaluation instruments in detail. Provide validation documentation and or procedures to be used to validate instruments. For well know and generally accepted test instruments the detail here can be brief. More detail may be required for a novel or new instrument. For ethnographic studies identify any study instruments to be used (i.e. for deception studies) and describe in detail where, when and how the study will be conducted and who or what are the subjects of study. Note: For more information on how to conduct ethical and valid ethnographic research, follow the link For oral histories or interviews provide the general framework for questioning and means of data collection. If interviews or groups settings are to be audio taped or video taped describe in detail the conditions under which it will take place. Include a copy of any novel or new test instruments with the IRB submission.

All measures to be used in the study are established indexes. No new or novel instruments will be used. Quality of life in persons with dementia will be assessed using two well established measures the QOL-AD and the PHQ-9. The dementia-specific 13-item Quality of Life in Alzheimer's Disease scale reflects multiple dimensions (physical, social, emotional, and functional well-being) with each rated as 1=poor, 2=fair, 3=good, or 4=excellent. A total score representing the sum of items ranging from 13 to 52 will be derived separately for persons with dementia and the family caregivers (CG). In addition, CG will be asked to complete the PHQ-9. Persons with dementia will be administered the MMSE. Other instruments include the MMSE, the Barthel Index, Cognitive status will be measured at baseline using the Mini Mental State Exam (MMSE) Physical function will be measured at baseline using the Barthel Index Neuropsychiatric symptoms will measured using the Neuropsychiatric Inventory (NPI) Sleep disturbance will be assessed using the PROMIS Sleep Related Impairment index. Neuroendocrine activity in persons with dementia will be assessed using the biological signature of the HPA response via salivary cortisol. CG will be instructed to collect assays at the awakening challenge and at 3 additional intervals (30 minutes after waking, mid day, and at bedtime one hour after dim light exposure) . Caregivers will be provided all materials and marked plastic bags to freeze samples until pick up by the trained data collector. Caregivers will be asked to collect saliva for 2 consecutive days prior to the first study visit, and again after the last intervention visit. Sleep-wake activity will be measured using an actigraphy bracelet worn by the person with dementia. The Motionlogger actigraph, which is manufactured by AMI and utilize the same algorithm as used in earlier studies of community dwelling persons with dementia, will be placed on the non-dominant wrist at baselineand will be worn for consecutive 24 h-periods until removal at 1 month (T2) data collection. Actigraphs will be set to collect data in 60-second epochs via tri directional accelerometer using a validated algorhythm. The primary measure of interest will be number of minutes of wake after sleep onset (WASO). Other parameters that will also be subject to analysis include total sleep time (TST), day/night sleep ratio, and number of night awakening. There will NOT be any remove monitoring or data transfer with the actigraph through a wireless connection.

Group Modifications

Describe necessary changes that will or have been made to the study instruments for different groups.

None

Method for Assigning Subjects to Groups

Describe how subjects will be randomized to groups.

After completing all baseline measurement subjects will be randomly assigned to intervention or control conditions. The project manager will prepare sealed envelopes and enact randomization. These envelopes will indicate on the outside the sequential recruitment number. Inside will be the subjects group assignment, determined using a random number generator. The project manager will open the envelopes and contact respective interventionists within 48 hours of randomization. Maintaining blindness to group assignment is assured at baseline since randomization occurs only after completion of that visit. Randomization procedures will be the responsibility of the project manager, who will not disclose subject assignment to data collectors.

Administration of Surveys and/or Process

Describe the approximate time and frequency for administering surveys and/or evaluations. For surveys, questionnaires and evaluations presented to groups and in settings such as high schools, focus group sessions or community treatment centers explain how the process will be administered and who will oversee the process. For instance, discuss the potential issues of having teachers and other school

personnel administer instruments to minors who are students especially if the content is sensitive in nature. Describe the procedure for audio and videotaping individual interviews and/or focus groups and the storage of the tapes. For instance, if audio tape recording is to be used in a classroom setting, describe how this will be managed if individuals in the class are not participating in the study. Explain if the research involves the review of records (including public databases or registries) with identifiable private information. If so, describe the type of information gathered from the records and if identifiers will be collected and retained with the data after it is retrieved. Describe the kinds of identifiers to be obtained, (i.e. names, social security numbers) and how long the identifiers will be retained and justification for use.
Once eligibility is determined and consent is signed, dyads of persons with dementia and their caregivers will receive a baseline home interview (T1). Following the baseline interview, participants will be randomly assigned to experimental or attention-control group conditions. Experimental dyads will receive up to 8 contacts with a interventionist over 1-month. The attention-control group dyads will receive comparable attention in a structured program involving the same number and mix of in-home and telephone contact as the treatment group. All dyads will be retested at 1-month from baseline (T2) to evaluate proximal outcomes of neuropsychiatric symptoms, QOL, and sleep quality and at 4 months (T3) to evaluate sustained uptake and distal outcomes of QOL and other measures of satisfaction with the study procedures. Outcome measures will be assessed by interviewers masked to treatment assignment. In addition, participants will be asked about their experience with the COVID-19 pandemic (using the University of Pittsburgh COVID Caregiving Questionnaire) at T3. This data will be collected via telephone only. The only information collected will include their answers to the questions on the survey and their de-identified participant number.

Data Management
Describe how and who manages confidential data, including how and where it will be stored and analyzed. For instance, describe if paper or electronic report forms will be used, how corrections to the report form will be made, how data will be entered into any database, and the person(s) responsible for creating and maintaining the research database. Describe the use of pseudonyms, code numbers and how listing of such identifiers will be kept separate from the research data.
Written personal identifying information concerning study participants will to be kept to a minimum. A master list of study participants that includes the assigned ID#, the first and last names, and any project-necessary grouping designations (e.g., control vs. experimental group) maintained for tracking purposes is stored in password-protected administrative databases only on the PI's server and kept in locked filing cabinets in her office. Screening forms and interview cover sheets only include identifying information this is necessary. All of this information is confidential and kept in a locked file cabinet separate from study data. Any information with subject identification that is not needed must be shredded. Computer files used for the purpose of tracking study participants are set up with password protection. Access to these files is restricted to defined key personnel.

Radiation Exposure*
Are research subjects receiving any radiation exposure (e.g. X-rays, CT, Fluoroscopy, DEXA, pQCT, FDG, Tc-99m, etc.) that they would not receive if they were not enrolled in this protocol?
No

Human Source Material*
Does this research include collection or use of human source material (i.e., human blood, blood products, tissues or body fluids)?
Yes

CACTIS and CT Studies*
Does the research involve Center for Advanced Computed Tomography Imaging Services (CACTIS) and CT studies that research subjects would not receive if they were not part of this protocol?
No

CAMRIS and MRI Studies*
Does the research involve Center for Advanced Magnetic Resonance Imaging and Spectroscopy (CAMRIS) and MRI studies that research subjects would not receive if they were not part of this protocol?
No

Cancer Related research not being conducted by an NCI cooperative group*
Does this protocol involve cancer-related studies in any of the following categories?
No

Medical Information Disclosure*
Does the research proposal involve the use and disclosure of research subject's medical information for research purposes?
No

CTRC Resources*
Does the research involve CTRC resources?
No

If the answer is YES, indicate which items is is provided with this submission:

Use of UPHS services*
Does your study require the use of University of Pennsylvania Health System (UPHS) services, tests or procedures*, whether considered routine care or strictly for research purposes?
No

Primary Focus*
Sociobehavioral (i.e. observational or interventional)

Protocol Interventions

x	**Sociobehavioral (i.e. cognitive or behavioral therapy)**
	Drug
	Device - therapeutic
	Device - diagnostic (assessing a device for sensitivity or specificity in disease diagnosis)
	Surgical
	Diagnostic test/procedure (research-related diagnostic test or procedure)
	Obtaining human tissue for basic research or biospecimen bank
	Survey instrument
	None of the above

The following documents are currently attached to this item:

There are no documents attached for this item.

Sponsors

Business Administrator

none

Department budget code

000 - 000 - 0 - 000000 - 0000 - 0000 - 0000

Funding Sponsors

Name:	**NATIONAL INSTITUTE OF NURSING RESEARCH/NIH/DHHS**
Type:	**UPENN Federal**

Funding sponsors billing address
If you have selected a commercial or industry sponsor, please provide the appropriate address and contact information for the Sponsor for the purposes of billing for IRB review fees (initial review, continuing review and convened modification fees apply here). If the Sponsor is not industry/ commercial, this information is not necessary to provide with your application.

Funding sponsors gift
Is this research being funded by a philanthropic gift?
No

Regulatory Sponsor

IND Sponsor

none

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Industry Sponsor

None

Project Funding*
Is this project funded by or associated with a grant or contract?
Yes

Selected Proposals

Proposal No	**Title**
10057075-01	**The Role of Palliative Care Interventions to Reduce Circadian Rhythm Disorders in Persons with Dem**

Sponsor Funding
Is this study funded by an industry sponsor?
No

Status of contract

The following documents are currently attached to this item:

There are no documents attached for this item.

Multi-Center Research

Penn as lead
1. Is this a multi-center study where Penn is serving as the Lead Site or the Penn PI is serving as the Lead Investigator?
No

Management of Information for Multi-Center Research

Penn irb of record
2. Is this a multi-center study where the Penn IRB will be asked to serve as the IRB of Record for other external study sites?
No

Other Sites

No other sites

Protocol

Abstract
Over 5 million Americans have Alzheimer's disease or a related dementia, a progressive and fatal neurodegenerative condition, affecting close to 15 million family caregivers (CG). Circadian rhythm disorders (CRDs) occur in the majority of persons with dementia and include late afternoon/evening agitation and irregular sleep-wake rhythms such as daytime hypersomnia, frequent night awakenings, and poor sleep efficiency. CRD symptoms pose a great burden to CG, and are the principal causes of distress, poor QOL, and institutionalization. Regulating the circadian system through the use of light and activity has been shown to alter core clock processes that drive CRD symptoms and suggests that a combination of cognitive, physical and sensory-based activities, delivered at strategic times, may be an effective mechanism through which to reduce CRD symptoms. To date, there are no trials linking the nature and timing of activities with key palliative and biobehavioral outcomes. We propose a definitive Phase III efficacy trial of the Healthy Patterns intervention, a home-based activity intervention designed to improve CRDs and QOL that builds on our pilot work. We will use a randomized two-group parallel design of 200 people with dementia and their CGs (dyads) assigned to the Healthy Patterns intervention or a control intervention of equivalent in-home attention and social contact. The success of the intervention will be determined by its impact on palliative outcomes including measures of QOL as well as actigraphic and proxy reported measures of CRD symptoms. CG outcomes of interest will be burden, subjective sleep quality, and QOL.

Objectives

Overall objectives
We propose a definitive Phase III efficacy trial of the Healthy Patterns intervention, designed to improve sleep disturbance symptoms and QOL, that systematically builds on our pilot work demonstrating feasibility, safety and potential benefits. We will use a randomized, two-group, parallel design of 200 persons with dementia (PWD) and their family caregivers (dyads) assigned to the Healthy Patterns intervention or an attention control intervention of equivalent in-home attention and social contact. Specific components of this brief, one-month, eight session, home-based intervention include: 1) assessing PWD health/functional status and preferences/interests; 2) educating caregivers on environmental cues to promote activity and sleep; and 3) training of CG in using timed morning, afternoon, and evening activities based on circadian needs across the day. The patient focused outcomes of interest are QOL, and indices of sleep as measured by objective and subjective indictors including actigraphy, subjective sleep quality, and assessment of neuropsychiatric symptoms. Caregiver outcomes of interest are QOL, burden, confidence using activities, and sleep disruption. The specific aims for this study are to test: 1. The immediate (at 1 month) and sustained (at 4 months) effect of the Healthy Patterns activity intervention on PWD quality of life and CRD symptoms. Hypothesis 1a. Compared to control group participants, PWD receiving the intervention will demonstrate quality of life, total sleep time, nocturnal wake after sleep onset, day/night sleep ratio, and neuropsychiatric symptoms at 1 month. Hypothesis 1b. Compared to control group participants, PWD subjects receiving the intervention will demonstrate quality of life, total sleep time, and neuropsychiatric symptoms at 4 months. 2. The immediate (1 month) and sustained (4 months) effect of the Health Patterns activity intervention on caregiver outcomes. Hypothesis 2a. Compared to control group participants, caregivers who have received the intervention training will demonstrate quality of life, burden, confidence in using activities, and sleep disruption at 1 month. Hypothesis 2b. Compared to control group participants, caregivers who have received the intervention training will demonstrate quality of life, burden, confidence in using activities, and sleep disruption at 4 months. 3. The mediating effect of neuroendocrine activity on changes in CRD symptoms. Hypothesis 3. CRD symptoms will be mediated by changes in diurnal cortisol from baseline to 1 month.

Primary outcome variable(s)
Symptoms of sleep disruption as measued by actigraphy Neuropsychiatric symptoms

Secondary outcome variable(s)
Quality of life

Background
Circadian rhythm disorders (CRDs) are a specific cluster of neuropsychiatric symptoms that occur in over 60 percent of patients with dementia and are associated with increased morbidity and mortality and poor quality of life.(1,2) CRD symptoms include late afternoon/evening agitation (e.g., sundowning) and irregular sleep-wake rhythms such as daytime hypersomnia, frequent night wakenings and poor sleep efficiency (3,4) CRD symptoms place a tremendous burden on family caregivers, and are the leading causes of distress, poor quality of life (QOL), and institutionalization in this growing population.(5) Most nonpharmacologic trials for CRD symptoms to date have focused on the administration of artificial indoor light because bright light is the strongest entraining agent for the circadian clock.. While these studies have demonstrated modest improvements in CRD symptoms in otherwise healthy adults(6), they are poorly tolerated in persons with dementia (PWD) (7). Scheduled activity for PWD is shown to be important in reducing neuropsychiatric behaviors and improving QOL but its optimal therapeutic use including the timing and structure of various types of activities remains unknown.. A growing body of research supports the importance of activity-based interventions as a palliative approach to reduce the frequency and intensity of CRD symptoms, enhance personhood and dignity, and improve QOL (8). To date, there are no trials linking the nature and timing of activities with key palliative and biobehavioral outcomes. Scheduling activities based on shifting diurnal patterns across the day such as using cognitively stimulating activities in the mid-morning hours, physically stimulating activities in the afternoon hours and relaxing activities in the evening hours may help to reduce CRD symptoms. In this R01 application we describe a palliative approach that will address these gaps and systematically expand upon our pilot findings. We plan to test the efficacy of a timed and planned activity intervention (Healthy Patterns) designed to improve CRDs symptoms and QOL, and to determine the underlying mechanisms by which the intervention achieves its benefits. 1 Ancoli-Israel S, Klauber MR, Jones DW, Kripke DF, Martin J, Mason W, Pat-Horenczyk R, Fell R. (1997). Variations in circadian rhythms of activity, sleep, and light exposure related to dementia in nursing-home patients.Sleep. Jan; 20(1):18-23. 2 Peters ME, Schwartz S, Han D, Rabins PV, Steinberg M, Tschanz JT, Lyketsos CG. (2015) Neuropsychiatric symptoms as predictors of progression to severe Alzheimer's dementia and death: The Cache County Dementia Progression Study. American Journal of Psychiatry. Jan 13:appiajp201414040480. 3 Zee, P.C., Vitiello, M. (2009). Circadian Rhythm Sleep Disorder: Irregular sleep wake rhythm type. Sleep Med Clin. 4(2): 213218. 4 Sack RL, Auckley D, Auger RR, Carskadon MA, Wright KP Jr, Vitiello MV, Zhdanova IV (2007) Circadian rhythm sleep disorders: part II, advanced sleep phase disorder, delayed sleep phase disorder, free-running disorder, and irregular sleep-wake rhythm. An American Academy of Sleep Medicine review. Sleep. 30(11):1484-501. 5 Rose KM, Beck C, Tsai PF, Liem PH, Davila DG, Kleban M, Gooneratne NS, Kalra G, Richards KC.(2011). Sleep disturbances and nocturnal agitation behaviors in older adults with dementia. Sleep.Jun 1;34 (6):779-86. 6 Mishima, K., Okawa, M., Hozumi, S., Hishikawa, Y. (2000). Supplemental administration of artificialbright light and melatonin as potent treatment for disorganized circadian rest-activity and dysfunctional autonomic and neuroendocrine systems in institutionalized demented elderly persons.Chronobiology International 17(3);419-432. 7 Riemersma-van der Lek RF, Swaab DF, Twisk J, Hol EM, Hoogendijk WJ, Van Someren EJ.(2008).Effect of bright light and melatonin on cognitive and noncognitive function in elderly residents of group care facilities: a randomized controlled trial. JAMA ;299 (22): 264255. 8 Gitlin, L.N., Hodgson, N.A., & Choi, S. (2016, In press). Home-based interventions targeting persons with dementia: What is the evidence and where do we go from here?

Study Design

Phase*
Phase III

Design
We propose a prospective, single blind, two group, randomized trial to test whether the Healthy Patterns intervention improves symptoms of sleep (CRD symptoms) and QOL compared to an attention control condition and to investigate the mechanisms by which CRD symptoms are influenced by the intervention.

Study duration
The study is estimated to begin in June 2016 and end in May 2021. Each participant will be enrolled in the study for 4 months.

Resources necessary for human research protection
Describe research staff and justify that the staff are adequate in number and qualifications to conduct the research. Describe how you will ensure that all staff assisting with the research are adequately informed about the protocol and their research related duties. Please allow adequate time for the researchers to conduct and complete the research. Please confirm that there are adequate facilities for the research.

Characteristics of the Study Population

Target population
Participants will be 200 male and female individuals 60 years of age or older who have been diagnosed with probable dementia (PWD) and their primary caregiver (CG). All will live in the Philadelphia, PA, metropolitan area. We estimate that 51% of participants will be women and approximately one fifth will be African-American.

Subjects enrolled by Penn Researchers
200

Subjects enrolled by Collaborating Researchers
0

Accrual
Our primary recruitment strategy involves identifying potential study participants from three possible sources: 1) A subject registry, which contains names of over 1000 individuals with dementia and their caregivers who participated in the study teams previous studies and have indicated a willingness to be contacted for future studies via Penn Seek; 2) the Penn Memory Center, and 3) mailings to families through over 50 community-based programs and clinical services in the Philadelphia region serving cognitively frail individuals and with whom the study team has a recruitment partnership, 4) utilization of social media, for example, Facebook and Twitter, and 5) iConnect to increase low recruitment numbers.

Key inclusion criteria
Inclusion criteria for PWD: (1) be over age 60; (2) English speaking; (3) be able to tolerate wrist actigraphy; (4) diagnosed with dementia using standard assessments and diagnostic criteria; (5) has CG reporting the presence of CRD symptoms (e.g. symptoms on). If the PWD is on any of four classes of psychotropic medications (antidepressant, benzodiazepines, antipsychotic, or anti-convulsant) or an anti-dementia medication (memantine or a cholinesterase inhibitor), we will require that he/she have been on a stable dose for 90 days prior to enrollment (typical time frame in clinical trials) to minimize possible confounding effects of concomitant medications

Key exclusion criteria
Exclusion criteria for PWD: (1) deemed to be in a crisis/unsafe situation at baseline, (2) reported planned transition to another residential or care setting in less than 6 months, (3) at end-stage disease (defined as bed-bound and non-communicative, or on hospice at baseline), (4) currently enrolled in a interventional clinical trial for dementia or associated symptoms (5) regular use of medications with substantial known effects on the measurement of HPA activity (e.g. corticosteroids, interferons, beta-blockers, cytotoxic chemotherapy); major surgery in the past 3 months; history of major psychiatric and/or personality disorder; history of heavy cigarette smoking (e.g. than 50 pack years); loss of a loved one in the past 3 months. (6) conditions known to affect measurement of circadian rhythm such as use of sedatives/ hypnotics, Huntingtons disease, Cushings disease, Addisons disease, normal pressure hydrocephalus, Parkinsons disease, advanced heart failure (New York Heart Stage 3-4), morbid obesity (BMI 35)

Vulnerable Populations

	Children Form
	Pregnant women (if the study procedures may affect the condition of the pregnant woman or fetus) Form
	Fetuses and/or Neonates Form
	Prisoners Form
	Other
x	**None of the above populations are included in the research study**

The following documents are currently attached to this item:

There are no documents attached for this item.

Populations vulnerable to undue influence or coercion
Primary participants and their study partners will receive an explicit assessment of capacity consisting of questions related to their understanding of the purpose of the study, the benefits, the risks of the study, and if they are able to withdraw at any time. Due to the progressive nature of dementia and Alzheimer's disease, it is not expected that participants will regain capacity for informed consent over the course of the study if they lack capacity at the initial visit. It's possible that participants may lose consent capacity. At the beginning of each followup visit, the study team will remind the primary participant and study partner/caregiver of the goals of the study, the procedures, benefits, risks, and that they are able to withdraw at any time. If consent capacity has changed, the consent designee will delay further data collection until the appropriate consent procedures have been done. The consent /assent procedures will follow the same steps as described below (In CONSENT SECTION) and the LAR will be asked to consent on behalf of the persons with dementia.

Subject recruitment
Our primary recruitment strategy involves identifying potential study participants from three possible sources: 1) A subject registry, which contains names of over 1000 individuals with dementia and their caregivers who participated in the study teams previous studies and have indicated a willingness to be contacted for future studies; 2) the Penn Memory Center, and 3) mailings to families through over 50 community-based programs and clinical services in the Philadelphia region serving cognitively frail individuals including PennSeek and with whom the study team has a recruitment partnership, and 4) utilization of social media, for example, Facebook and Twitter, to increase low recruitment numbers. The flyers/letters will have contact information for interested patients to contact the research staff. Flyers/letters will not refer to any disease or condition. Once an interested patient contacts the research staff, the research staff will call interested potential participants. Research staff will not obtain names of potential participants or their contact information until they have expressed a willingness to participate. Research staff will NOT mail or recruit patients who have opted out of research.The penndatastore excludes all patients that have chosen to make use of the opt out flag for research recruitment so study team will not be able to access anyone who has opted out in the reports that are run. Persons screened potentially eligible by telephone and willing to participate will then be scheduled to receive a home assessment and consent visit by Dr. Hodgson or study nurse within a 10 day window and who will conduct a structured and standard clinical examination to: 1) obtain history of cognitive function and cognitive decline, pattern of losses, behavioral changes, and current functioning; 2) substantiate dementia diagnosis and disease stage using standardized mental, general physical, and neurological examinations including the Clinical Dementia Rating Scale (CDR-0.5=very mild dementia; CDR-1=mild; CDR-2=moderate;CDR-3=severe), 3) obtain medical history, co-morbidities, and medication use; and 4) established presence of sleep disturbance.

Will the recruitment plan propose to use any Penn media services (communications, marketing, etc.) for outreach via social media avenues (examples include: Facebook, Twitter, blogging, texting, etc.) or does the study team plan to directly use social media to recruit for the research?
No

The following documents are currently attached to this item:

There are no documents attached for this item.

Subject compensation*
Will subjects be financially compensated for their participation?
Yes

The following documents are currently attached to this item:

There are no documents attached for this item.

If there is subject compensation, provide the schedule for compensation per study visit or session and total amount for entire participation, either as text or separate document

Subjects will receive $100 gift card at the completion of the study.

Study Procedures

Suicidal Ideation and Behavior
Does this research qualify as a clinical investigation that will utilize a test article (ie- drug or biological) which may carry a potential for central nervous system (CNS) effect(s)?
No

Procedures
The proposed study is a prospective, single blind, two group randomized trial to test whether a timed activity intervention improves symptoms of CRD compared to an attention control condition and to investigate the mechanisms by which CRDs are influenced by a timed activity intervention. Interested CGs who contact the research team will be screened for eligibility by telephone. Those initially eligible and willing, will receive a clinician assessment to obtain written informed consent and to rule out primary sleep disorders requiring specialty care. Once eligibility is determined dyads will receive a baseline home interview (T1). Following the baseline interview, participants will be randomly assigned to experimental or attention-control group conditions and will be contacted to be informed of their respective group assignment within 48 hours of randomization. Experimental dyads will receive up to 8 contacts with a trained nurse interventionist over 1-month. The attention-control group dyads will receive comparable attention in a structured program involving the same number and mix of in-home and telephone contact as the treatment group. All dyads will be retested at 1-month from baseline (T2) to evaluate proximal outcomes of CRD symptoms, QoL, and CG sleep quality; and at 4 months to evaluate distal outcomes including QoL and other measures of satisfaction with the study procedures. Outcome measures will be assessed by interviewers masked to treatment assignment. Timed Activity Intervention Protocol: The timed activity group will involve 4 in-home visits in the mid morning and up to 4 brief telephone education sessions in the evening provided over 4 weeks The timed activity intervention provides activities delivered at specific times in the daily cycle; it is theory-based, its components have been tested in pilot work; and it is portable and replicable (e..g, protocols are manualized). As in the pilot studies, the in-home sessions are spaced weekly so that the participants can have the opportunity to practice the activity with the interventionist and then on their own. During each session the interventionist will reinforce activity use, review problem solving approaches and provide education. In Session 1 (home visit), the interventionist will explain the nature of the visit and assess the health and functional status and preferences/interests of the PwAD. The interventionist will then provide a suggested morning activity that will match the functional capabilities and interests of the PwAD i.e., based on repetitive motion (e.g., folding towels; sorting objects) and integrating multi-sensory stimulation (photos of interest, objects pleasant to touch). Activities selected are simplified (1 to 2 steps vs. multiple, complex steps), to minimize errors. In Session 2 a follow up phone call will be provided on the following evening to provide coaching in the morning activity. In Session 3 (home visit) the interventionist will review the implementation of morning activities and provide training materials for the evening relaxation protocol. The evening relaxation protocol is a brief 10-step reflexology intervention in which pressure is applied to each of the reflex points on the feet for 30 seconds at a time for a total of 10 minutes. The protocol sequence is based on best practice guidelines. CG are provided a flip book and a CD-ROM demonstrating the procedure and developed in our pilot stud. In Sessions 4-5 (one home visit and one phone call), the interventionist will review integration of

morning and evening activities into daily schedule and will provide written instruction on environmental cues to promote activity and sleep. Session 6 (home visit) is a final review session and wrap up. Attention-Control Condition: The attention control group protocol will be delivered by trained RAs who will provide social attention, empathy and engagement similar in duration to that provided to the Timed Activity Intervention group. The length of time spent will be comparable to the length of time spent in the treatment arm, however this condition will contain no active elements beyond its nonspecific components, and no theoretical basis to support an effect on CRDs. The attention-control group will also involve 4 in-home visits in mid morning and up to 4 brief telephone education sessions in the evening. Each session is prescriptive and designed to maximize attention; yet, sessions will not involve any of the components of the timed planned activity (e.g. meaningful activities or relaxation). The attention control group will receive printed Alzheimers Association and NIH materials on home modification, health promotion/ talking to your doctor and advanced care planning that coincide with session content. In Session 1 (home visit), the attention control interventionist will explain the nature of the visit and provides information on home safety. In Sessions 2-3 (one home visit and one phone call) the interventionist will work together with CG to answer questions about home safety and review health promotion material. In Sessions 4-5 (one home visit and one phone call), the interventionist will provide and review information on advanced care planning. Session 6 is a wrap up and review provided in the home. Time with the attention-control RA will be documented on a tracking sheet for each session and signed by the CG. Bi-monthly supervisory sessions with attention-control RAs will involve case presentations to track content of the attention-control sessions. In our previous studies, we found that the attention-control intervention is well received and that participants fully participated in sessions. Treatment Implementation Monitoring: We have a well-defined oversight plan of treatment implementation in both treatment and attention control group arms using the NIH Behavior Change Consortium. To enhance fidelity, we incorporate their recommended strategies including use of treatment manuals, regular contact of PI with interventionists who present cases and discuss protocol issues, and on-going monitoring through direct observation of randomly selected sessions. We will address fidelity through training (using intervention manuals and separate interventionists for each condition), delivery (reminder calls to CGs the night before the intervention sessions, records of home sessions by date and duration, receipt (checklist completed by study team regarding intervention engagement) and enactment (demonstration by CG to interventionists). Feedback will be provided to each interventionist throughout the study period. We will quantitatively evaluate treatment delivery, including dose, intensity; and treatment receipt. Biweekly supervisory sessions will be held with treatment interventionists and control group interventionists separately. All project staff will undergo extensive training before they have contact with subjects. We will audiotape 10% of treatment and 10% of control group sessions. Audiotapes will be reviewed by the research team using monitoring checklists that evaluate quality of the session. Table 1 (uploaded) describes the variables to be measured their respective testing occasions and sources.

The following documents are currently attached to this item:

There are no documents attached for this item.

Deception
Does your project use deception?
No

International Research
Are you conducting research outside of the United States?
No

Analysis Plan
Sample Size: Sample size calculations are based on our ability to detect a medium effect size (d) of 0.45; and d) a type I error rate of .05. Our projected effect size is justified for two reasons. First, clinical trials on symptoms of CRD use this effect size as an indication of clinical significance. Second we were able to achieve large treatment effects across outcomes in the pilot phase- although we acknowledge that effect sizes may be overly optimistic in pilot studies. To attain 80% power for a two-sided comparison of the two treatment groups at 1 month will require 78 dyads per group (Aim 1 and 2). We plan to recruit an additional 22 per group or 100 dyads for a total of 200 allowing for 22% attrition by 4 months (Aim 3). The statistical power for secondary analyses at 3 months will be the same as for the primary; 80% for a 0.45 effect size with 5% two-tailed tests. Analysis of aims: First, we will conduct

descriptive analyses and univariate comparisons of the experimental and control intervention group conditions. We will use Chi-square, Wilcoxon rank-sum tests, and independent groups t-tests as appropriate to identify any differences between experimental and control group participants at baseline. In addition to serving as a final data quality check, these analyses will be used to characterize our study population, assess the success of randomization in balancing the two groups and determine the impact of any dropouts on group balance. Aim 1: to test the timed activity intervention on patient CRD symptoms and QOL. Our primary analysis will examine the effect of the timed intervention compared to the attention control condition based on "intention to treat" (ITT). Data from all dyads randomized to the experimental group will be part of analyses regardless of actual number of completed intervention sessions. We will test the normality assumption for the primary CRD outcome measure (WASO) and for the other dependent measures (TST, neuropsychiatric symptoms; QoL) by examining the distribution of residuals after standard parametric comparisons. If the residual distribution is markedly skewed, we will examine whether data transformations are sufficient for improving the fit of the data to the normality assumption. Aim 1: To analyze the effects of the timed intervention on our primary outcomes difference scores (T2 T1) will be calculated for each participant and these change scores will be analyzed as a function of the treatment group, with the baseline observation (T1) serving as a covariate. Other potential covariates measured at baseline (e.g., age, education) will also be evaluated as potential predictors of change in outcome, and included as additional covariates of the intervention effect as indicated. Aim 2: To test the effect of the timed activity intervention on caregiver outcomes. For Aim 2, we follow the approach for Aim 1 by examining group differences in the baseline-adjusted change scores (T2-T1; T3-T1) for CG outcome measures of burden and intent to institutionalize. Aim 3: To test the mediating effect of patient HPA axis activity on symptoms of CRD. We will test mediation by modeling the measures of baseline-adjusted changes in CRD symptoms (WASO, TST, neuropsychiatric symptoms) in nested analytic models that either do or do not included the proposed mediator (T2 T1 change in saliva cortisol). Using nested regression models, estimates will be obtained of 1) the effect of the intervention on baseline-adjusted change in cortisol, 2) the effect of the change in cortisol on baseline-adjusted change in WASO (or other outcomes), 3) the effect of the intervention on baseline-adjusted WASO before adding change in cortisol to the model, and 4) the effect of the intervention on baseline-adjusted WASO after adding change in cortisol to the model. These path estimates are often referred to by the letters a, b, c, and c in the mediation literature70. The product of the a and b estimates (a*b) represents the mediated effect, and this will be tested for statistical significance using the standard Sobel method or with bootstrapping techniques.The proportion of the total effect (c) that is explained by mediation (a*b) will also be calculated and tested for significance. Mediation models for data from two-wave randomized trials can provide substantially different results depending on whether change scores are used and whether baseline covariate adjustments are implemented. Our approach will capitalize on this recent methodological work and provide sensitive analyses that determine whether the interventions impact on 1-month change in CRD symptoms is partly due to its effect on 1-month change in cortisol secretion.

The following documents are currently attached to this item:

There are no documents attached for this item.

Data confidentiality

- x **Paper-based records will be kept in a secure location and only be accessible to personnel involved in the study.**
- x **Computer-based files will only be made available to personnel involved in the study through the use of access privileges and passwords.**
- x **Prior to access to any study-related information, personnel will be required to sign statements agreeing to protect the security and confidentiality of identifiable information.**
- x **Wherever feasible, identifiers will be removed from study-related information.**

A Certificate of Confidentiality will be obtained, because the research could place the subject at risk of criminal or civil liability or cause damage to the subject's financial standing, employability, or liability.

A waiver of documentation of consent is being requested, because the only link between the subject and the study would be the consent document and the primary risk is a breach of confidentiality. (This is not an option for FDA-regulated research.)

Precautions are in place to ensure the data is secure by using passwords and encryption, because the research involves web-based surveys.

Audio and/or video recordings will be transcribed and then destroyed to eliminate audible identification of subjects.

Subject Confidentiality

All research information will be kept in locked cabinets, in secure locked offices at the School of Nursing. Access to identifying information will be limited to research staff assigned to the project. Subjects will be advised of the precautions we will take to preserve confidentiality during the consent process. Data with identifiers will not be permitted outside of the PI office space. All discussions between the research staff members will be held in a private area. Pre-coded data collection instruments will be prepared for use with study participants at each testing occasion. Identification numbers to assure participant confidentiality will be used. Only one master log of subject name, address and telephone number and study identification assignment will be maintained. This log, in both hard copy and disk, will be stored in a locked filing cabinet separate from other identifying information All de-identified data abstracted from study tools will be entered into a password protected and encrypted internet-based data management system known as REDCap (Research Electronic Data Capture). We will store all paper-based records in the PI's secure office space for 7 years, per requirements, and only de-identified data (without names or medical record numbers of patients enrolled) will be entered into REDCap system.

Sensitive Research Information*

Does this research involve collection of sensitive information about the subjects that should be excluded from the electronic medical record?
No

Subject Privacy

Privacy refers to the person's desire to control access of others to themselves. Privacy concerns people, whereas confidentiality concerns data. Describe the strategies to protect privacy giving consideration to the following: The degree to which privacy can be expected in the proposed research and the safeguards that will be put into place to respect those boundaries. The methods used to identify and contact potential participants. The settings in which an individual will be interacting with an investigator. The privacy guidelines developed by relevant professions, professional associations and scholarly disciplines (e.g., psychiatry, genetic counseling, oral history, anthropology, psychology).
We will only contact individuals who have given previous permission to be contacted for research, or who call or contact the research team to express interest in the study. Those individuals who express interest in the study will receive a telephone call to describe the study, and conduct a telephone screen. Once an individual is screened, a copy of the consent form will be mailed, and a home visit will be scheduled to conduct the consent and baseline visit.

Data Disclosure
Will the data be disclosed to anyone who is not listed under Personnel?
No

*Data Protection**

- x **Name**
- x **Street address, city, county, precinct, zip code, and equivalent geocodes**
- **All elements of dates (except year) for dates directly related to an individual and all ages over 89**
- x **Telephone and fax number**
- **Electronic mail addresses**
- **Social security numbers**
- **Medical record numbers**
- **Health plan ID numbers**
- **Account numbers**
- **Certificate/license numbers**
- **Vehicle identifiers and serial numbers, including license plate numbers**
- **Device identifiers/serial numbers**
- **Web addresses (URLs)**
- **Internet IP addresses**
- **Biometric identifiers, incl. finger and voice prints**
- **Full face photographic images and any comparable images**
- **Any other unique identifying number, characteristic, or code**
- **None**

Does your research request both a waiver of HIPAA authorization for collection of patient information and involve providing Protected Health Information ("PHI") that is classified as a "limited data set" (city/town/state/zip code, dates except year, ages less than 90 or aggregate report for over 90) to a recipient outside of the University of Pennsylvania covered entity?
No

Tissue Specimens Obtained as Part of Research*
Are Tissue Specimens being obtained for research?
No

Tissue Specimens - Collected during regular care*
Will tissue specimens be collected during regulator clinical care (for treatment or diagnosis)?
No

Tissue Specimens - otherwise discarded*
Would specimens otherwise be discarded?
No

Tissue Specimens - publicly available*
Will tissue specimens be publicly available?
No

Tissue Specimens - Collected as part of research protocol*
Will tissue specimens be collected as part of the research protocol?
No

Tissue Specimens - Banking of blood, tissue etc. for future use*
Does research involve banking of blood, tissue, etc. for future use?
No

Genetic testing
If genetic testing is involved, describe the nature of the tests, including if the testing is predicative or exploratory in nature. If predictive, please describe plan for disclosing results to subjects and provision of genetic counseling. Describe how subject confidentiality will be protected Note: If no genetic testing is to be obtained, write: "Not applicable."
Not applicable

Consent

1. Consent Process

Overview
Two groups of individuals will be participants in this research study i.e. primary participants--Persons with Dementia (PWD), their informal caregivers (CG). We will recruit participants through flyers. The flyers will have contact information for interested patients to contact the research staff. The research staff will call interested potential participants. Research staff will not obtain names of potential participants or their contact information until they have expressed a willingness to participate Enrollment involves a 2-step screening process; an initial telephone screen with CGs followed by a clinical home assessment to confirm PWD diagnosis, and inclusion criteria. TELEPHONE SCREENING ASSENT: First, CGs contacting the research team are screened to determine initial potential eligibility using a 10 minute telephone screen tested in our pilot phase. Also, CGs will be asked about symptoms of CRD. The presence of one or more symptoms occurring in the PWD several times a week over the past month will be used as the cut off for potential eligibility. These criteria will maximize the number of individuals who are eligible in the clinical home screening stage. Assent for telephone screen (based on an IRB approved telephone screening form and interviewer script) will be obtained from PWD during the initial phone screen by a trained study coordinator or research assistant. If PWDs cognitive impairment prevents him/her from accurately recounting the purpose of the screen immediately following the description, the interviewer will ask to speak with the legal authorized representative (LAR), usually the CG, to obtain proxy phone screening assent. PWD and CGs will be informed that their participation in the telephone interview is confidential and completely voluntary. The objectives, procedures, and a clear statement explaining risks and benefits of this study will be presented at the telephone screen (see uploaded telephone screen). WRITTEN CONSENT: CGs screened potentially eligible by telephone and willing to participate will then be scheduled to receive a home assessment and consent visit by Dr. Hodgson or study nurse within a 10 day window and who will conduct a structured and standard clinical examination to: 1) obtain history of cognitive function and cognitive decline, pattern of losses, behavioral changes, and current functioning; 2) substantiate dementia diagnosis and disease stage using standardized mental, general physical, and neurological examinations including the Clinical Dementia Rating Scale (CDR-0.5=very mild dementia; CDR-1=mild; CDR-2=moderate;CDR-3=severe), 3) obtain medical history, co-morbidities, and medication use; and 4) establish presence of CRD. We will mail consent forms out to PWD and CGs immediately following a positive telephone screen so they have some time to review the form prior to the in-person written consent procedures. Written consent will be obtained for both the PWD and their CG at the beginning of the in-home visit. The consent form, written in large print, will assure participants that their participation is voluntary. The consent will explain to them in laymans terms that they will wear an activity monitoring device on their wrist. The consent form will inform them that we will be collecting a small amount of saliva and ask them to complete a brief questionnaires to provide information about their medical conditions. The consent form will also inform them that they will be randomly assigned to one of two groups. It will inform them of all aspects of the study and their right to withdraw at any time. We will follow similar procedures as used in the pilot study for the consenting process Every reasonable effort will be made to ensure that participants with sensory deficits have access to any and all medical devices and aides (e.g. reading glasses, hearing aides with functioning battery) during the consent procedure and during study visits. For those with language deficits, every reasonable attempt will be made ensure adequate communication. The consent designee will have the discretion to terminate the interview if he/she believes that communication is too impaired to ensure proper consent procedures. If the PWD is too impaired to provide consent, proxy consent will be obtained from the legally authorized representative (LAR), and oral assent will be obtained from the PWD. PWD and their CGs will receive an explicit assessment of capacity and the consent procedure

will be documented by the study's consent designee. Dr. Hodgson will train and very closely supervise the study team in conducting the consent procedures and capacity assessment and ensure that all ethical procedures are followed and are documented. She has extensive experience performing the consent procedures in vulnerable participants who suffer from cognitive impairment. For primary participants and caregiver, who may be at risk for diminished decision making capacity, consent designees will conduct an explicit assessment of capacity to consent.

Children and Adolescents
N/A

Adult Subjects Not Competent to Give Consent
Individuals with dementia in this study are expected to have progressive decisional impairment. As such, the subject will be asked to involve an individual of his/her choice at the beginning of the study who may later serve as an LAR. Capacity to provide informed consent will be determined by asking standard reflective questions thoughout the consent process. 1) What is the main purpose of the study? 2) What are the benefits of the study? 3) What are the risks of the study? 4) Are you able to withdraw from the study at any time? If a person with suspected dementia is unable to answer the question the first time the research team member will review the section of the consent and ask the question a second time. If at any point the person with demenita is unable to answer the question correctly after reviewing the section then proxy consent will be sought. If the person with demenita is unable to provide informed consent then his/her signed or verbal assent will be sought. The subject's assent will be obtained after informing the subject of the following: 1. The fact that he/she is being asked to participate in research 2. That he/she has been determined to lack capacity to self-consent to research participation 3. The name of the LAR who has been identified, that he or she has granted permission for the subject's participation in the research and the extent to which the LAR will be involved in the subject's research participation 4. That the subject may choose freely to undergo study procedures or may withdraw from participation at any time without penaltiy or loss of benefits. At each study visit the study tem member will fresh the subjects of the major objectives of the study, the scope of his/her participation, and the fact that participation is voluntary.

2. Waiver of Consent

Waiver or Alteration of Informed Consent*
No Waiver Requested

Minimal Risk*

Impact on Subject Rights and Welfare*

Waiver Essential to Research*

Additional Information to Subjects

Written Statement of Research*
No

If no written statement will be provided, please provide justificiation

The following documents are currently attached to this item:

There are no documents attached for this item.

Risk / Benefit

Potential Study Risks
The risks of participation should be no more than minimal with effective confidentiality safeguards. Should confidentiality safeguards fail, there is potentially significant harm in the form of social risks and disclosure of private information. The safeguards to prevent inadvertent disclosure of study data are described in the section below. Some participants might find it somewhat uncomfortable to wear an

actigraph for multiple 24-hour periods.

Potential Study Benefits
Caregivers in the experimental group will potentially benefit from the intervention by learning specific techniques for tailoring and timing activities that engage PWD and utilize their preserved capabilities. PWD will potentially benefit from the intervention since it is designed to reduce their sleep disruption and symptoms of CRD and enhance their quality of life by introducing activities that they are able to participate in and which they find meaningful. They should also benefit from the potential of reducing caregiver stress and improving their skills in managing difficult behaviors. Participants in the control intervention group may potentially benefit from obtaining important education to address various concerns associated with managing the disease including safety risk. PWD in this group may also benefit by interacting with a staff member trained to engage the person in conversation

Alternatives to Participation (optional)

Data and Safety Monitoring
The PI will serve as the primary monitor for this study. Plan for reporting unanticipated problems or study deviations. The entire study team will be trained on immediately reporting any adverse events, alerts (e.g., hazardous or emergency situations), or study deviations to the PI. See Chart A (uploaded) for types of possible alerts that may be encountered and types of actions to be taken. If any serious possible or potentially study-related adverse events arise, the PI will notify to the IRB within 48 hours of learning of the events and will provide a safety report describing the adverse event and actions taken by the study. Additionally the PI will keep a log of adverse events in compliance with IRB policies and whether the event is unrelated, possibly related, or probably related to the study or intervention. Study deviations will be reported to the IRB when discovered along with any corrective actions taken by the study. Routine adverse events (such as non-intervention related events such as death) will be summarized for the IRB during the annual reviews. At the start of the study, participants and study partners will be instructed to report serious adverse events to the Coordinator who in turn will notify the PI. Serious adverse events, discovered either by the clinical team in routine activities or ones which the family report, will be presented to the PI together with the available data, and they will make a determination as to whether the event is unrelated, possibly related, or probably related to the study intervention. Because this is an evidence-based psychosocial intervention which seeks to provide care to meet the care needs of individuals with dementia living in the community, we do not anticipate adverse events beyond the background rate for this elderly population. Additionally, the aforementioned terms will be acknowledged if funding is received for a diversity supplement.

The following documents are currently attached to this item:

There are no documents attached for this item.

Risk / Benefit Assessment
This is a minimal risk study with potential benefit to subject and society.

General Attachments

The following documents are currently attached to this item:

Cover Letter (summaryofchanges.pdf)

Questionnaires (covid-19questionnaire.pdf)