Title: Care to Plan: Preliminary Efficacy of a Tailored Resource for FamilyMembers of Persons with Dementia; NCT03901456

[Document title]

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Protocol Title	Care to Plan: Preliminary Efficacy of a Tailored Resource for Family Members of Persons with Dementia; ClinicalTrials.gov Identifier: NCT03901456
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PROTOCOL COVER PAGE

REVISION HISTORY

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
#1: 12876	X	8/22/19	Add Katie Louwagie to study	X
#2: 12990	X	8/28/19	Added Zach Baker to study	X
#3: Discarded	-	-	-	-
#4: 14377	X	11/11/19	Updated CtP Flyer made by Riverside Health for recruitment	X
#5: 14878:	X	12/9/19	Added Ashley Millenbah to project	X
#6: 15818	X	2/3/20	Added Elizabeth Albers to project	X
#7: Discarded	-	-	-	-
#8: 16213	1 (V2)	2/26/20	1. Update of eligibility criteria, 2. Update to reflect overall intervention development (CtP interventionists will assist caregivers in CtP assessment/navigation; provided with online tool for use following navigation with RHS staff), 3. Detailing timeline for completion of CtP and follow up procedures, 4. Update to consent form and survey processes (phone-based), 5. Information about building/management of CtP tool by UMN HST and use of the Secure Computing Environment portal, 6. Update recruitment methods, 7. Addition of permission to share contact information form (to be completed electronically by Riverside Health)	Yes

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
#9: 16662	X	3/19/20	Modification of telephone-based consent form to include additional information (i.e. mandated reporting of vulnerable adult abuse, ClinicalTrials information, & data storage information)	Yes
#10, 11, 12: Discarded	-	-	-	-
#13: 17283	2 (V3)	4/15/2020	1. Update to reflect hard copy form availability if needed, 2. Change of study end-point to reflect use of CtP services (not frequency of use), 3. As desired/needed, participant may review online tool simultaneously with care navigator, 4. Ensure accurate terminology regarding the RHS contact referral process/outreach, 5. Update incentive payment process in regards to the semi-structured interview; 6. Uploaded Riverside staff training certificates to IRB/Ethos	Yes
#14: 17595	X	5/3/20	Update to permission to contact form to allow for inputting both name of person obtaining permission for contact and name of person completing the form.	X
#15: 18063	X	6/3/2020	Add Ayush Shah, research assistant, to project	X
#16: 18430	3 (V4)	6/25/2020	Uploading of Phase II consent form (designed to mimic the phase I consent form, with	Yes

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
			updates to study delivery), surveys, and recruitment ads. Protocol update clarifies screening process for contacts who reach out to UMN directly and recruitment section updated to include Riverside Intranet.	
#17: 5971	4 (V5)	8.24.2020	Modification to adverse event section to create a more robust Data Safety Monitoring Plan; clarification of processes for "usual care" control group for Phase II; clarification of process for selection of Phase II final phone interviews/process for analysis; minor updates to surveys; removal of 6 month CtP checklist; addition of disposition surveys for Phase II; submission of phase II advertisements and cover letters (minor edits ongoing as needed); removal of coaching manual on ethos (integrated into online tool); adding online URL for CtP tool to protocol and screen shots of tool/recommendations to Ethos; clarification of study withdrawal/termination by PI.	Yes
#18: Discarded	-	-	-	-
#19: 19666	X	9/3/2020	CtP tool recommendations updated 9/2/2020; list of updated resources uploaded to Ethos for record; CtP tool navigator tip added to	X

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
			consider nearby zip code regions for participants on edge of region; Space to document participant questions added to consent form for phase II; Edit to screener for phase II to include gender tracking per protocol; Minor screener/survey edits to facilitate electronic data entry/management via Qualtrics, and ensure that the Qualtrics versions used by study staff match the Ethos forms	
#20: 19978	X	9/22/2020	Updates to the semi-structured interview to reflect language adaptations for those who do not view the CtP tool online; Uploading of phase I general cover letter; Uploading of final Phase I consent form [see Ethos for details]	Yes
#21: 20523	5 (V6)	10.26.2020	Addition of newspaper advertisement and recruitment via registration/presentations; Clarification of window for staff to send/receive surveys and request final interview; Clarification of Riverside staff EMR use outside of study context - UMN study staff do not have access to Riverside EMR; Clarification of process for phone consent when participant requests form via mail	X
#22: 20684	X	10/30/2020	Approval of grayscale newspaper ad	X

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
#23: 20859	6 (V7) – not uploaded properly	11/11/2020	Adding staff (Jinhee Cha and Colleen Peterson); addition of all modifications to revision history in protocol; allowing for e-mail delivery of consent form for review prior to phone consent (on request)	X
#24	6 (V7)	11/13/2020	Uploading V7 of protocol that was not approved with MOD 20859 as intended; Update to registration form permission to contact	
#25	6 (V7)	11/25/2020	no changes to protocol text; Ethos document upload of Caregiver Coalition newsletter; template for sharing CtP link if needed; prior participant quotes (for use in presentations, etc.); FLTC project webpage text and Clinicaltrials.gov URL	X
#26: MOD00021572	6 (V7)	12.23.2020	No changes to protocol text. Upload of Riverside website, email templates, new CtP resource, and direct permission to contact form.	No
#27: MOD00022050	7 (V8)	1.27.2021	Clarification of recruitment methods and procedures, addition of TV ad and letters to providers, upload of new recruitment text	No
#28:	8 (V9)	2.23.2021	Clarification of CtP tool data capture; clarification regarding use of CtP tool with senior care navigation/staff; clarification regarding qualitative data analysis/processes, meeting frequencies,	

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
			and site visits to Riverside; clarification regarding recruitment; clarification regarding remote phone calling practices	
#29	9 (V10)	4.30.21	1) Creation of hard copy permission to contact forms; 2) Creation of language for permission to contact via webinar "poll"; 3) Addition of email abilities for consent copy, sending recommendations generated by the CtP tool, etc; 4) Addition of procedures for a post-phase II waitlist control (with corresponding screening forms and cover letters as needed); 5) Updates to the Riverside website; 6) Update to original study consent form to alert participants that we will contact those in the control group to offer access to the tool following the study period (either via enrolling in the study extension or by sending the URL); 7) Updated version of ClinCard's FAQ document	Yes – update to original consent & new permission form
#30	10 (V11)	5.19.21	1) Addition of participant name field to permission form for waitlist control; 2) Clarification regarding eligibility criteria (MCI and vulnerable populations); 3) Clarification that any templates/correspondence may be sent via email; 4) Clarification regarding administration of checklist for waitlist	

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
			control group; 5) Clarification of phone templates	
#31	11 (V12)	6.21.21	1) Update to semi-structured interview selection/procedure; 2) Added ClinicalTrials identifier on Ethos 3) Update to CtP resource contact information/process	Yes (permission for waitlist control only)
#32	12 (V13)	9.22.21	Update staff member to coordinator status and update procedures with goal to reduce loss to follow up. Also included clarification regarding internal procedures for partially completed surveys.	No
#33	X	10.26.21	1) Add Joana Lopez, research assistant, to project 2) Remove Colleen Peterson, research assistant, from project	X
#34	13 (V14)	12.8.2021	1) Changed study enrollment status to permanently closed for enrollment 2) Added semi structured interviews for SCN and Riverside collaborators as a part of Phase II. 3) Updated Semi-Structured Interviews document to include a script for interviewing Riverside collaborators, and made small changes to SCN interview appropriate for Phase II.	X
#35	X	1.6.2022	No changes to protocol text. Updated Semi-Structured interviews document to include a COVID-19 question for the Senior Care	X

MOD #	Protocol Revision #	Version/SubmissionDate	Summary of Changes	Consent Change?
			Navigators and Riverside Collaborators.	
#36	14 (V15)	1.12.22	Removal of 2 study staff no longer working on project; protocol update to reflect current processes and addition of ClinicalTrials number.	X
#37	X	5/11/22	Removed undergraduate research assistant from project as appointment is finished	X
#38	X	7/22/22	Removed 2 external team members; Uploaded phase one summary of results and cover letter for participants	X
#39	x	8/17/22	Add new GRA to project	X
#40	x	10/18/22	Add new GRA to project	X
#41	x	4/14/23	Staff change (add 3 new staff; remove 3 staff no longer working on project)	X
#42	15 (V16)	4/28/23	Remove burden and community-based/Health service use as secondary outcomes; add Loss of Intimate exchange	X

Table of Contents

ABBREVIATIONS/DEFINITIONS

- ADRD: Alzheimer's disease and related dementias
- RHS: Riverside Health Service
- CtP: Care to Plan
- UMN: University of Minnesota

1.0 Objectives

Specific Aim 1. **Implement CtP for 20 family members of persons with ADRD in *four* RHS regions (Phase I)**. A convergent parallel mixed methods design (quan + QUAL] will be implemented to examine the feasibility, acceptability, and utility of CtP over a 1-month period. Twenty caregivers from four RHS regions who use CtP will be interviewed at 1-month to obtain information and guidance on how CtP is best administered in this service context. Three RHS interventionists will also be interviewed after phase I participants complete CtP. The combination of quantitative and qualitative data from Phase I will offer robust data to refine and further prepare CtP for subsequent evaluation in Phase II.

Specific Aim 2. **Evaluate the preliminary efficacy and implementation of CtP (Phase II).** By utilizing an embedded randomized controlled evaluation, the second phase of this project will implement the findings of Aim 1 to evaluate CtP. A newly enrolled sample of 100 ADRD caregivers will be randomly assigned to one of two groups: one that receives the CtP with guidance from caregiver support staff and a usual care control. Three- and six-month outcomes will include caregiver self-efficacy and distress; caregiver use of recommended support; and service utilization on the part of persons with ADRD. These findings will provide initial insights into efficacy of CtP as well as the acceptability and utility of CtP over time. The results will also serve as a source of empirical estimates to inform subsequent larger-scale evaluation and translation efforts.

2.0 Background

Approximately 5.7 million persons in the U.S. had Alzheimer's disease in 2018, and these individuals relied on 16.1 million family members for necessary care and support.[1] Family members are the backbone of the long-term care system of the U.S.; 83% of older adults rely on relatives for the help needed to manage Alzheimer's disease or other chronic conditions.[2] Given the well-documented health implications of dementia family caregiving, existing interventions are designed to modify the more challenging aspects of care for a relative with Alzheimer's disease or a related dementia (ADRD) in order to improve key outcomes. Multiple meta-analyses of these interventions exist,[3-5] and several programs are in translation throughout the U.S.[6-8] However, current research has yet to discern which caregivers are most likely to benefit from different types of interventions. A consistent unmet need indicated by many family members of persons with dementia is a lack of quality information about support strategies or services that can help ease the challenges of their specific caregiving situations,[9,10] and tailored solutions that can directly meet the diverse needs of caregivers or their relatives with ADRD remain unrealized.[11]

The proposed Stage I R21 project will advance scientific knowledge, technical capability, and clinical practice as they pertain to ADRD management and caregiver support.[12] Although research on family caregiving has served as a platform for multidisciplinary research, a critical gap is the relative absence of rigorous inquiry as to whether the

personalization of services for dementia family caregivers can enhance the effectiveness of these programs. This project serves as an innovative effort to directly test this premise in actual community contexts. The research team has established the feasibility and utility of an online care planning tool prototype (called *Care to Plan,* or CtP) that provides a succinct and clear overview of various types of ADRD caregiver intervention types, administers a brief validated assessment of risk,[13] and generates individualized recommendations for ADRD caregivers as well as resources that link users to a selected recommendation. The goal of CtP is to offer a more efficient, user-centered process to connect ADRD caregivers to the services that may be most appropriate for them given their needs, the needs of their relatives, and other contextual characteristics.[14]

The proposed project will build on the CtP prototype to further refine the tool and ascertain the preliminary efficacy of CtP in preparation for a larger-scale, randomized controlled evaluation and translation effort. We will deploy and evaluate CtP for caregivers of persons with ADRD who seek services in a diverse healthcare system (Riverside Health System, or RHS) in the state of Virginia.

Although the evidence base of dementia caregiver intervention efficacy has expanded,[3-5] research that ascertains the potential of easy-to-use, acceptable technologies that can generate personalized recommendations to family caregivers in need remains underdeveloped. The proposed project aims to fill this gap in scientific inquiry by evaluating an online care planning tool that has the potential to personalize dementia caregiver service recommendations. We anticipate that the CtP will serve as an innovative, low-cost tool that both families and long-term service and support providers can utilize to meet the diverse needs of caregivers of persons with ADRD in various community and clinical contexts. In this regard, the proposed R21 project is responsive to the National Plan to Address Alzheimer's Disease's scientific and clinical priorities and the recently released recommendations of the 1st National Research Summit on Care, Services, and Supports for Persons with Dementia and Their Caregivers.[15]

3.0 Study Endpoints/Events/Outcomes

3.1 Primary Endpoint/Event/Outcome: Caregiver self-efficacy

3.2 Secondary Endpoint(s)/Event(s)/Outcome(s): Caregiver distress (role captivity, role overload, loss of intimate exchange, depressive symptoms); Use of CtP-recommended services

4.0 Study Intervention(s)/Interaction(s)

Care to Plan (CtP) is an online care planning tool that provides a succinct and clear overview of various types of ADRD caregiver interventions, administers a brief validated assessment of risk, and generates individualized service recommendations for Alzheimer's disease and related dementia (ADRD) caregivers as well as resources that link users to a selected recommendation. Caregivers will complete the tool with the guidance of a CtP interventionist (Senior Care Navigator/Riverside Health System staff).

The interventionist will discuss CtP recommendations with caregivers and help caregivers enroll in a recommended support service if so desired. The online tool is located at: https://caretoplan.ahc.umn.edu/. Following completion of CtP assessment and consultation, participants would receive a mailing (or e-mailing) including the recommendations generated by the tool.

5.0 Procedures Involved

5.1 Study Design, Procedures, and Follow-Up:

Phase I Procedure

6.0 A mixed methods design [quan+QUAL] will be used to generate qualitative and quantitative data on the feasibility and utility of CtP across four RHS regions. Following screening procedures to determine eligibility, a telephone-based consent process will be administered using Qualtrics. If requested, a copy of the consent form script can be sent (via mail/email) for the participant's review during/prior to providing verbal permission via telephone. Following consent, the research coordinator or research assistant will administer a baseline survey to the enrolled caregiver. Following completion of the telephone-based baseline survey via Qualtrics, the CtP interventionist will re-contact the participant to complete CtP. As applicable, the interventionist will provide guidance to dementia caregivers, facilitate CtP use, review recommendations, and help caregivers enroll in a recommended support services if desired. If desired, interventionists may have participants review the CtP tool simultaneously during their consultation. If CtP users identify barriers, the interventionist will make other recommendations and these barriers will be identified at follow-up. The interventionist can bridge the structured options generated by the tool with dementia caregivers' preferences so that the overall usage experience results in feasible, tailored support. As part of the feasibility testing procedures, the time spent using CtP will be tracked, along with any notes regarding the review of the tool/completion. A summary-sheet of assessment responses and zip code/region-specific resources generated by Care to Plan may be saved to Box and/or printed to give to the participant as needed. The participant may use the online CtP tool again on their own following review of the tool with the navigator.

The research team will utilize multiple approaches to assess the feasibility of CtP implementation in the four RHS regions. A CtP coach guide is integrated into the CtP tool to provide prompts/guidance to interventionists to facilitate the interaction and tool use. Dr. Gaugler and the research coordinator will train three CtP interventionists at RHS based on the guidance integrated into the tool. Ongoing monitoring of CtP's performance, acceptability, and utility will ensure its feasibility. The CtP tool, built by the University of Minnesota Health Sciences Technology, will track assessment responses and recommendations generated

for the region. The time spent using the tool will also be recorded. *Note: For resources in the tool that are IRB approved, a new modifications will be submitted only if information other than contact information/directions for existing resources are changed.*

The research coordinator or research assistant will administer a 21-item checklist to the caregiver via telephone at 1 month following completion of the baseline survey. This checklist will include Likert items designed to measure dementia caregivers' perception of the performance of CtP.

Note: If desired, the telephone-based surveys may be administered in hard copy. For Phase I, staff will call participants 1 month (+/- 7 days) following baseline completion to complete their follow-up survey, or mail their follow up survey at that time if requested. Several telephone reminders will be provided as needed to facilitate completion. Completion of this follow-up may occur outside of the timeframe for initial contact. Phase II follow-up will include a disposition form as well, and follow these same procedures, with staff attempting to contact participants via phone or mailing surveys 3 and 6 months (+/- 7 days) from completion of the baseline survey. For those opting for mail survey completion, staff may obtain the disposition status prior to mailing the appropriate survey within 7 days of obtaining this information. Staff may send a hard copy survey (omitting the disposition form as needed) if unable to reach them via phone, in an attempt to reduce loss to follow up. Those selected for the final telephone interview in Phase II will be contacted within 3 months of completion of their final 6 month survey (however, completion of the interview may occur outside of this timeframe based on participant scheduling needs). Three or 6 month follow-up surveys conducted via phone are conducted by a blinded staff member.

The UMN team will also determine the degree to which participants use and apply CtP recommendations. The research assistant or research coordinator will conduct a brief semi-structured telephone interview 1 month following baseline. If the participant has not completed CtP by the 1 month time-point, the participant will be considered lost to follow up, and the checklist and interview will not be administered. The research assistant or coordinator will also administer semi-structured interviews to the three CtP interventionists to obtain their perceptions when administering the tool to ADRD caregivers. These interviews will be conducted after the Phase I participants have completed CtP. The open-ended responses will provide in-depth information on facilitators to use and barriers to refine prior to Phase II. Recorded interviews will be transcribed (by Production Transcripts) for data analysis.

Phase II Procedure

The qualitative and quantitative data available from Phase I will be employed to refine the content and delivery of CtP prior to phase II. In phase II, 100 caregivers of persons with ADRD will be enrolled. Similar to phase I, after receiving a new

contact, the UMN team will conduct a telephone-based screening for eligibility, complete consent, and administer the baseline survey. Participants will be randomly assigned in a 1:1 ratio to receive either the CtP intervention or a usual care control condition. The UMN team will generate a random assignment schedule using http://randomizer.org. The research staff who will have responsibility for all follow-up data collection will not have access to the random assignment schedule, nor will they be able to determine the next treatment assignment in the sequence. The randomization procedures will ensure both random assignment as well as treatment concealment during data collection and are consistent with CONSORT recommendations. Participants in both groups will be followed for six months with data collection at baseline, three months, and six months. For Phase II, a brief disposition survey to determine the participant's caregiving status, as well as the status of the person they provide care for, will be administered (at 3 and 6 month follow up) prior to administering the appropriate survey. An embedded experimental mixed methods design will be utilized ([QUAN+qual]→qual) that will incorporate various qualitative data collection elements within and following the 6-month randomized controlled evaluation of CtP.

As of February 2021, only those with an ID number (i.e. those reviewing the tool with study interventionists) will have their CaretoPlan responses tracked. Thus, others using the tool for personal use within or outside of the context of the study will no longer have responses tracked. *Note: If it is learned that someone enrolled in the study reviewed the tool on their own prior to reviewing it with a study interventionist, this information will be tracked internally.*

As with phase I, surveys will be administered via telephone or in hard-copy surveys.

Inclusion criteria will remain the same as detailed in Phase I. Enrollment and recruitment procedures will also largely mirror those of Phase I. As a secondary analytic objective is to examine gender differences in CtP effects (see below), a stratified enrollment process will take place to ensure that at least 1/3 of the Phase II sample are male caregivers. CtP interventionists will be made aware of the recruitment goal of 33 male caregivers and will reach out to them to encourage their participation. If necessary, the study team and RHS will directly engage male caregivers during recruitment and enrollment to further ensure gender representation. Following completion of baseline interviews, caregivers will be randomly assigned to the CtP condition as detailed in Phase I or a usual care control group. The refined CtP with an integrated guide for the coach/navigator will be used to facilitate the use of CtP.

Caregivers of persons with memory loss who contact RHS Senior Care Navigation or other RHS services will likely seek information and support. Senior Care Navigators, social workers, or similar staff will deliver routine care and services to caregivers regardless of: a) whether they decide to enroll in the CtP project; or b) if they are randomly assigned to the control condition. Participants assigned to the usual care control group will be provided with the contact information for Senior Care Navigation. These participants may contact Senior Care Navigation for information and support as desired. Care to Plan enhances standard RHS care by creating a more structured assessment process along with individually tailored recommendations, thus resulting in a more efficient referral process. The time spent using the electronic CtP tool will be tracked. Given the size of the proposed Phase II sample and the number of Care to Plan (CtP) interventionists (n = 3), a cluster randomization approach is not feasible. Based on Riverside Health standard practices, individuals may contact Riverside's SCN program for consultation as needed. SCNs will document contact with study participants in both the treatment and usual care groups. Comparisons across treatment and control conditions in the number of interactions with the interventionists (i.e., RHS Senior Care Navigators) will determine if alternative randomization approaches in subsequent, larger-scale evaluations of CtP are necessary.

As indicated in Phase I, a number of approaches will be adopted to examine the degree to which caregivers of persons with ADRD utilize CtP as well as their perceptions of acceptability of the online care planning tool. The time spent using CtP will be tracked, allowing for an analysis of practicality (i.e., how long caregivers actually utilize CtP). Those randomized to receive CtP will also be provided with access to the online tool following review of the tool with a Riverside Health care navigator.

For those completing CtP, the 21-item system review checklist will be administered at 3 to determine how well ADRD caregivers in the treatment group perceive CtP's performance, acceptability, and utility. For those in the treatment group who have not completed CtP by the 3 month time point, follow-up surveys will occur without administration of the review checklist.

Phase II will feature 20 telephone-based semi-structured interviews with purposively sampled caregivers who are randomly assigned to receive the CtP. These interviews will take place following completion of the final 6-month follow-up survey. A sequential mixed methods sampling approach will be utilized where the results of the first methodological strand will inform the selection of participants in this second methodological strand. Specifically, research staff will purposively select 20 caregivers who report higher and lower average system review checklist scores (indicating how well CtP met or did not meet their needs). A stratified purposive sampling approach will be applied: caregivers of

different kin relationship, caregiver gender, and racial or ethnic background of caregivers will be identified and asked to participate. *Note: Those without checklist scores may also be interviewed as needed. Additionally, participants may be selected from the waitlist control group.* Again, recorded interviews will be transcribed (by Production Transcripts) for data analysis.

Surveys are sent within 7 days of their due date, and participants are given several reminders to facilitate survey completion as needed. If any survey is not returned, participants are still provided subsequent surveys, unless they withdraw from the study. Those selected for a final phone interview will be contacted within 2 months of completion of their final survey.

As with Phase I, the research assistant or coordinator will administer semi-structured interviews to the three CtP interventionists to obtain their perceptions when administering the tool to ADRD caregivers. In addition, semi-structured interviews will be conducted with Riverside Health collaborators to obtain their perceptions on the benefits and hindrances of implementing CtP in their healthcare system. These interviews will be conducted after the Phase II recruitment ends on 12/1/2021, and participants have completed CtP. With permission, these interviews will be recorded and professionally transcribed (by Production Transcripts) for data analysis. The open-ended responses will provide in-depth information on facilitators to use and barriers to inform future implementation possibilities of CtP.

Waitlist Control

Following Phase II of the Care to Plan study, participants in the control group will be asked if they are interested in enrolling in a similar, additional feature of the study to test the Care to Plan tool.

The purpose of this waitlist control is to provide an opportunity for those participants who were originally randomly assigned to the control group during Phase II an opportunity to test the Care to Plan intervention tool. This also provides the research team with additional information testing the efficacy and implementation of the Care to Plan tool, in alignment with Aim 2. We do not anticipate any change in risk to participants, as the same intervention and similar surveys are being offered, following the original Phase II 6 month study period. Thus, participants opting to enroll in this would participate in the study for an additional 6 months.

The only eligibility criteria for these individuals to continue project participation would be that 1) the caregiver was enrolled in the control group and will complete their 6 month survey by December 1, 2021; 2) the caregiver is still providing care to the care recipient; and 3) the caregiver is willing to review the Care to Plan tool with Riverside. Telephone based screening will be completed via Qualtrics. If it is known a participant is not eligible (i.e. caregiver is bereaved, etc.), the caregiver will not receive a formal invitation for the extended study, but will be provided with the URL for the online care planning tool.

Interested participants would:

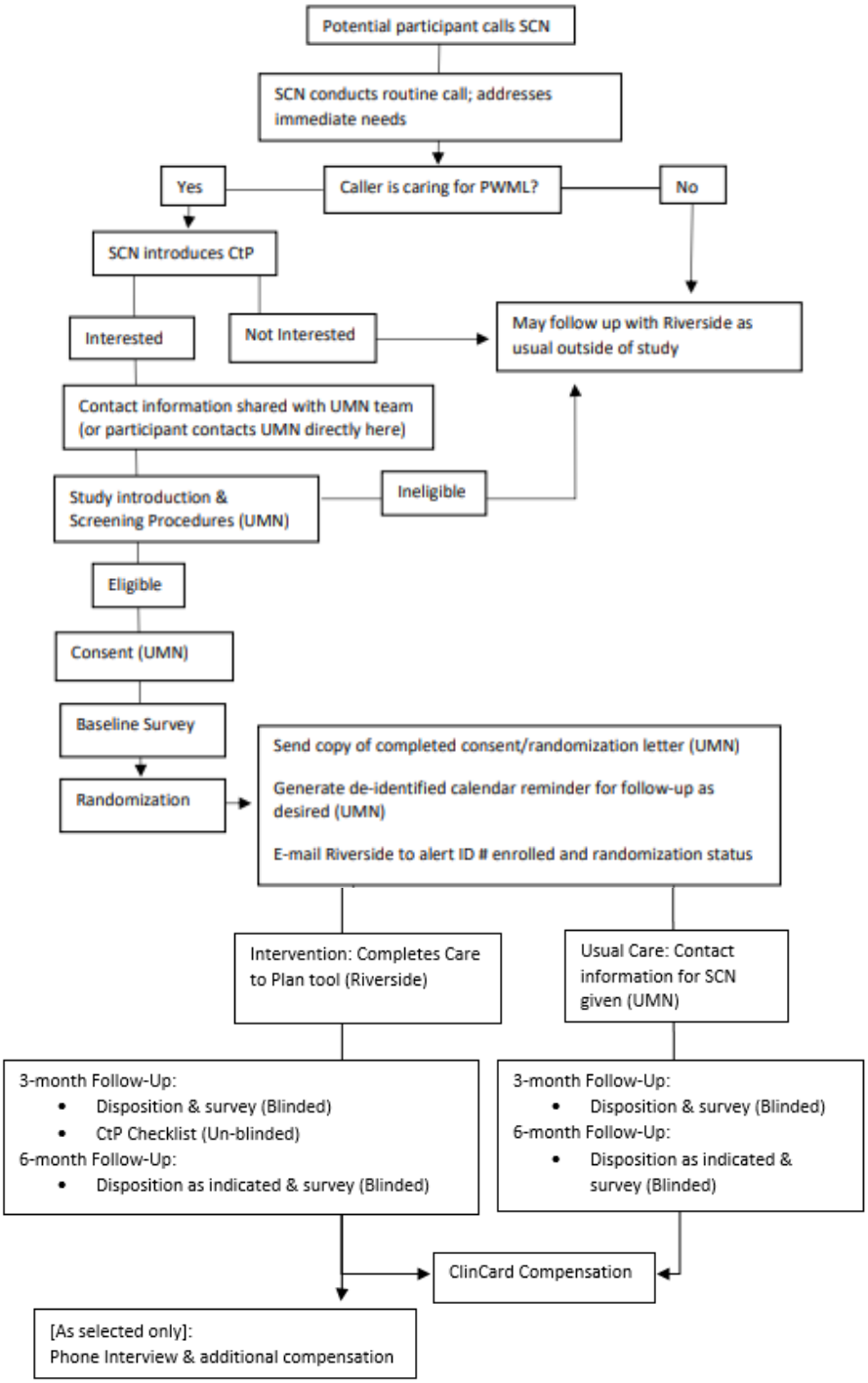
- Verbalize meeting the eligibility criteria via phone with study staff
- Provide permission for additional surveys and testing of the tool *[Based on participant preference: Permission form is reviewed by the participant via email/mail or the form script is read by study staff via telephone as desired; study staff then document the permission obtained following review of the form; copy of permission form and original consent form will be given to participant]*.
- Review the Care to Plan tool with Senior Care Navigation
- Complete the disposition and follow up surveys 3 months and 6 months following the original study's 6-month survey [9 and 12 months following the original Phase II baseline; no blinding for this portion]
    - Note: This post-phase II 3 month survey (the survey 9 months following the original Phase II baseline survey) would include the treatment checklist (for those able to complete use of the tool); the post-phase II 6 month survey (12 months following the original Phase II baseline survey) would not include the additional treatment checklist (mimicking the structure of the original Phase II program). Modified bereavement surveys will be administered as needed.
    - If selected, be contacted for a telephone interview within 2 months following completion of their final survey (6 month survey - occurring 12 months following the original Phase II baseline survey) *[Note: For those enrolling in the waitlist control prior to the permission form updates including information about the phone interview, the updated permission form would be administered only if and prior to one of these participants being administered a phone interview.]*
    - During the follow up, SCNs would continue to monitor the calls from these participants as able
    - Adverse events would be tracked during this timeframe as study team is aware of them
- Be compensated for these 2 additional surveys ($25 each) using either the same or a new ClinCard. Note: If the individual is selected for a final interview, they would be offered an additional $25 compensation via their ClinCard.

Please note: No consents for the subsequent evaluation would be completed following 12/1/2021. Individuals completing 6-month phase II surveys following that time period would be offered the Care to Plan tool URL to use as they desire. Additionally, unless a participant declines, those declining or ineligible to participate in the additional surveys following their experience as a participant in the control group of Phase II would be offered the Care to Plan URL (via phone/mail/email) to use on their own as they wish.

Please note: A copy of the routine templates used for written correspondence with participants is included on Ethos. Minor edits/modifications are performed as needed to meet participant needs. As able, these templates may be used via hard copy mail or via

email. Additionally, phone templates that are included are used for staff training and as guidance for Riverside. Once familiar with the content, staff are not required to read from these scripts (except for in the case of consent).

The below diagram shows general Phase II study flow:



6.1 Individually Identifiable Health Information: The HIPCO Survey was completed and uploaded to ETHOS.

7.0 Data Banking

N/A

8.0 Sharing of Results with Participants

8.1 Results are shared with participants after the conclusion of the study and once they are published prior to de-identification of our tracking files.

9.0 Study Duration

9.1

- In Phase I, caregivers of persons with ADRD will participate for about 1 month. In Phase II, caregivers of persons with ADRD will participate for about 6 months.
- We anticipate it will take 3 months to enroll 20 caregivers in Phase I, and approximately 8-10 months in Phase II.
- We anticipate completing all study procedures and data analysis in 24 months.

10.0 Study Population

10.1 Inclusion Criteria:

The care recipient has received a provider diagnosis of Alzheimer's disease or a related dementia (ADRD); and 2) the caregiver is 21 years of age or older; 3) English-speaking; 4) self-identifies as someone who provides help to the person with ADRD because of their cognitive impairments; 5) the caregiver indicates a willingness to use Care to Plan (CtP); and 6) caregiver resides in one of 4 Riverside Health regions (based on zip code). *Note: For study purposes, a diagnosis of mild cognitive impairment is considered along with related dementia diagnoses for study inclusion.*

10.2 Exclusion Criteria: Those who do not meet the inclusion criteria above are not eligible. Additionally, those who endorse a history of a serious mental health disorder whose: a) symptoms have exacerbated in the last six months, and b) are not receiving steady, ongoing pharmacological or other treatment for these symptoms, will be excluded from the project.

10.3 Screening:

To facilitate recruitment and enrollment in both phases of the project, RHS staff (e.g., RHS clinic management, social worker, Senior Care Navigator, or other staff) will present details about the CtP R21 study over the telephone. Those caregivers that express interest and agree to be contacted about the study are referred to the Riverside Senior Care Navigation project team, who securely share their contact information with the UMN research team (Dr. Gaugler, the UMN research coordinator, and the research assistant). The inclusion criteria listed above will then be

applied via a telephone-screening procedure by the UMN research coordinator or research assistant. Interested contacts that contact UMN staff directly will have the same screening and eligibility procedures applied. If eligible, the UMN research coordinator or research assistant will then describe the study process to an eligible caregiver, and proceed to the consent procedures.

11.0 Vulnerable Populations

11.1 Vulnerable Populations:

☐ Children
☐ Pregnant women/Fetuses/Neonates
☐ Prisoners
☐ Adults lacking capacity to consent and/or adults with diminished capacity to consent, including, but not limited to, those with acute medical conditions, psychiatric disorders, neurologic disorders, developmental disorders, and behavioral disorders
☐ Approached for participation in research during a stressful situation such as emergency room setting, childbirth (labor), etc.
☒ Disadvantaged in the distribution of social goods and services such as income, housing, or healthcare
☒ Serious health condition for which there are no satisfactory standard treatments
☐ Fear of negative consequences for not participating in the research (e.g. institutionalization, deportation, disclosure of stigmatizing behavior)
☐ Any other circumstance/dynamic that could increase vulnerability to coercion or exploitation that might influence consent to research or decision to continue in research
☒ Undervalued or disenfranchised social group
☒ Members of the military
☐ Non-English speakers
☐ Those unable to read (illiterate)
☐ Employees of the researcher
☐ Students of the researcher
☐ None of the above

Additional Safeguards:

Though not specifically targeted for inclusion, participants from some of the above groups may be allowed to participate. Due to the nature of the project and its risk, a specific capacity to consent assessment is not included. Participants will be reminded that all study procedures are voluntary and they can withdraw at any time. We do not anticipate any individuals from the above noted groups to have increased risk from participating in the proposed research, such as an increased risk of coercion,

etc. Thus, our standard protocol practices (i.e. data security, confidentiality procedures, etc.) provide reasonable protections to these potentially vulnerable participants (including those listed above and any others who may meet inclusion criteria to enroll). Additionally, those who have had a serious mental health disorder whose: a) symptoms have exacerbated in the last six months, and b) are not receiving steady, ongoing pharmacological or other treatment for these symptoms, will be excluded from study participation.

12.0 Number of Participants

12.1 Number of Participants to be consented: In Phase I we plan to enroll 20 caregivers of persons with ADRD; for Phase II, we plan to enroll 100 caregivers of persons with ADRD. These numbers are the lowest that will allow for data analysis; it is possible that up to 25 caregivers in Phase I and 125 caregivers in Phase II may agree and consent to participant at most.

13.0 Recruitment Methods

13.1 Recruitment Process:

Riverside Health System (RHS) was selected as a site for the proposed R21 due to the ethnically, racially, and geographically diverse population of older adults served. The Senior Care Navigation case management program; a geriatric assessment clinic; a memory café program, an evidence based caregiver intervention program; and other RHS services will serve as sources of recruitment. Riverside staff (within and outside the project staff) may call/share information about the project via phone to their clients as desired (i.e. when waiting for appointments, etc.). Interested contacts will have their contact information securely transferred to study staff. Other sources of recruitment may include Riverside Center for Excellence in Aging and Lifelong Health outreach; radio interviews; community organizations and events; Riverside or community leadership; letters to providers to share information about the study; the Riverside Intranet; newspaper advertisements; and other IRB-approved flyers (electronic/hard copy), print ads, e-mail, newsletters, and social media (i.e. Instagram, Facebook, Twitter, LinkedIn, etc.) ads. Registration forms for educational presentations (by study staff or other agencies) may include an opportunity for individuals interested to provide their permission for the research team to contact them to share additional information about the study. *[Thus, by nature of this, UMN staff or other agency staff involved in planning, hosting, or post-webinar certificates will have access to the names/contact information of those indicating interest in receiving more information about the study].* Presentation "polls" may offer an additional opportunity for presentation attendees to provide permission for contact. Presentation slides may also be used during these community presentations to increase outreach. Hard copy permission forms may also be presented at in-person presentations. Ads/approved presentation slides may also be displayed online/electronically via

television in clinics/waiting rooms throughout Riverside or other organizations, or as visual television ad in community. IRB approved recruitment ads/text may be used for recruitment via other protocol-approved modalities (i.e. approved newspaper ad used within emails, etc.). *Note: General promotional materials/text (emails/newsletters/flyers/etc) are shared in the context of general promotional recruitment efforts. However, study staff do not pursue individualized study-related contact with potential participants until contact is made by an interested individual or a permission form/request for information is obtained.*

From January 2017 to May 2018 a total of 2,123 individuals were served. Approximately 63% (n = 1,330) were women. Close to 70% (n = 1,430) had cognitive impairment. Twenty percent of clients served were from rural areas (n = 425) and over 30% were African-American (n = 658). A little over 5% of all clients served over the 17 month period were Hispanic/Latino (n =116).

To facilitate recruitment and enrollment in both phases of the project, RHS staff (e.g., RHS clinic management, social worker, Senior Care Navigator, or other staff) will present details about the CtP R21 study over the telephone. Those caregivers that express interest and agree to be contacted about the study are referred to Riverside Senior Care Navigation project team, who securely share their contact information with the UMN research team (Dr. Gaugler, the UMN research coordinator, and research assistant). For interested individuals that may contact the UMN team directly, the same screening and eligibility procedures will be applied.

13.2 Recruitment Materials:

To facilitate CtP recruitment, a flyer will be utilized and developed. Prior to use, all flyers and ads will be IRB-approved.

13.3 Payment:

All caregivers in the proposed project will also be provided with up to $100 incentive upon study completion. Greenphire ClinCard will be used for compensation; we include the template language in the consent form.

For phase I, participants must complete the initial survey, review the Care to Plan tool during the month after enrollment, and complete the one month follow up survey and interview via phone with the University of Minnesota research team in order to receive this $100 compensation. A prorated payment of $75 will be given to those who wish to opt out of the semi-structured interview.

For phase II, participants are eligible to receive the study compensation based on completion of the initial survey, 3 and 6 month follow up, as well as the

telephone interview with the University of Minnesota research team (if selected). Participants will be paid $25 for each survey time-point (up to $75), and an additional $25 (for a total up to $100) if selected for a final telephone interview. When necessary or unable to complete a survey in full, participants will be fully compensated for partially completed surveys.

13.4 Withdrawal Circumstances:

We do not anticipate encountering circumstances under which participants will be withdrawn from the research without their consent. The only instance is if the caregiver reports they have engaged in self-harm or have harmed the care recipient with dementia; in such instances, the appropriate authority in Virginia (Adult Protective Services in Virginia; (888) 832-3858; see http://www.dss.virginia.gov/family/as/aps.cgi) will be notified. Additionally, if the study staff have reason to believe that the intervention is causing the participant harm, or the participant is deliberately jeopardizing the integrity of the study, the participant may be withdrawn at the PI's discretion.

During phase I, participants who do not complete Care to Plan in the 1-month timeframe following their baseline survey will be considered lost to follow up, and the 1 month checklist and interview will not be administered. During phase II, participants that do not complete Care to Plan within the first 3 months following their baseline survey will continue follow up surveys at 3 and 6-month time-points, but would not be administered a 21-item checklist or telephone interview.

13.5 Withdrawal Procedures: If caregivers withdraw from the study, we will not conduct additional data from them.

13.6 Termination Procedures: Data prior to termination/withdrawal will be utilized in subsequent analyses.

14.0 Risks to Participants

Since the study involves no invasive procedures, there will be no physical risks to study participants. The consideration of need is potentially stressful, and thus there are possible psychological risks for the caregiver. However, the research team has considerable experience providing psychosocial support to dementia caregivers on various protocols and serious psychological risks are unlikely to occur based on this experience. The potential social or legal risks for the participants relate only to possible violations of confidentiality. Given the procedures outlined below, such risks are highly unlikely.

The experience of the research team and the exclusion of caregivers with serious psychiatric illness will minimize the possibility of psychological risks. The unlikelihood of such problems is evident from the absence of any clinically significant problems during

the past 12 years that the research team has operated various protocols related to dementia caregiving intervention research. The research coordinator and research assistant will be trained to interview in ways that are non-threatening, friendly, and respectful. We will emphasize to all participants that they do not have to complete any question they do not want to answer, and that the interview may be terminated at any time according to their wishes. We will stress to ADRD caregivers that their decision to discontinue the study will in no way affect the services they are receiving from the University of Minnesota, RHS, or other entities.

In the event a caregiver does become upset during the interview process, the research coordinator or research assistant will contact Dr. Gaugler, who will be available for consultation. If a caregiver is in crisis because of their care situation or some other reason, research staff will be instructed to consult with Dr. Gaugler. With the caregiver's permission, we will then contact the appropriate resource person in an external agency (e.g., the Alzheimer's Association). Based on the research team's experience working with their caregiving families, we expect very few or no such instances to occur. If a member of the research team does identify neglect or other potentially inappropriate care practices, Virginia Adult Protective Services will be notified to protect the rights of persons with dementia and their families.

All information obtained from the participants will remain strictly confidential and will not be released except at the express written request of the study participant. All electronic data will be maintained in Qualtrics, the Secure Computing Environment, secure Academic Health Center project folder, and in Box. All data on Dr. Gaugler's computer in D351 Mayo Building and the research staff's computers (also located in D351 Mayo Building) are encrypted and protected by strong passwords only accessible to Dr. Gaugler and the research team.

The CtP tool will be created by the University of Minnesota Health Sciences Technology and hosted on a secure PHR/PHI-compliant server; data can be accessed by the study team via the Secure Computing Environment portal (for those that complete CtP with a provider/care navigator as a part of the study). *Note: While the CtP tool used to capture data inputted, as of February 2021, the data inputted will only be captured and saved to the secure environment for those who complete with an guide/input an ID number.* A summary-sheet of assessment responses and zip code/region-specific resources generated by Care to Plan may be saved to Box (from a Riverside Health password-protected computer) and/or printed to give to the participant as needed. Other resources or recommendations may be provided by the Senior Care Navigators as a part of the routine Riverside Health consultation process. The UMN study team would not have access to Riverside Health medical records.

Research data will be maintained on the Academic Health Center secure project folder for approximately 2-3 years which is the time anticipated it will take to disseminate any

and all research papers or presentations from these data. Similarly, paper forms of the data will be located in a locked file cabinet in D351 Mayo Building only accessible to the research team. Unless the data are being filed or accessed, these cabinets will remain locked.

15.0 Incomplete Disclosure or Deception

Not applicable

16.0 Potential Benefits to Participants

16.1 Potential Benefits

We believe participation in both Phase I and Phase II will yield benefits for participants. Utilization of CtP will provide dementia caregivers with improved ability to identify supportive services that are tailored to their needs. Caregivers will be paid up to $100 following their participation in the study. See above for details related to compensation.

17.0 Data Management

17.1 Data Analysis Plan:

Phase I quantitative analyses: Specific Aim 1. As the Phase I aim is to examine the feasibility, acceptablity, and utility of CtP within the partnering RHS sties, the quantitative analyses of the R21 phase will largely rely on descriptive statistics. Specifcally, Phase I quantitative analyses will utilize frequency tables and means to examine sample characteristics and item-level responses to the CtP review checklist.

Phase II quantitative analyses: Specific Aim 2. Logistic regression analyses will determine whether participation in the CtP treatment group results in utilization of caregiver support programs over the 6-month evaluation period when compared to ADRD caregivers in the control group. Care to Plan treatment vs. control group membership will be the independent variable of interest; caregiver use of CtP recommended services will serve as the dependent variables. Additional variables will serve as covariates, including time-invariant and time-varying measurements of stress process covariates. Odds ratios will be examined in order to determine the degree to which these variables explain the observed effects of CtP on dependent variable occurrence. Data available at baseline, 3 months, and 6 months will allow for descriptive and growth curve analyses of rate of change in key outcomes: caregiver efficacy and caregiver distress.[16,17] The individual growth curve model conceives of development, or change, as the function of an individual growth curve plus random error. In our outcome evaluations, the baseline value will be included as a covariate and time will be “centered” at 6-months post-baseline. We will specifically examine whether individual growth parameter estimates have significant variance around the

mean trajectories of change in key dependent variables, and then determine whether treatment group assignment influences outcome change parameters in these models. IBM SPSS 21 will be utilized to conduct the within-subject growth curves; the PI has extensive experience conducting growth curve/trajectory analyses.[18-24] An additional advantage of this approach is its ability to incorporate missing longitudinal data points, given assumptions of missing at random.[25]

Variations in CtP use and sex as a biological variable. Empirical utility/feasibility data and context of care measures that assess heterogeneity in the use of CtP within the treatment condition (e.g., frequency and duration of CtP use) as well as degree of contact with CtP interventionists across treatment and control groups will explore the effects of these variations on key study outcomes. Caregiver gender will also be included to examine whether women or men caregivers are more likely to indicate acceptability of CtP and report significant increases or decreases in the hypothesized outcomes following CtP use over a 6-month period.

Phase I and Phase II qualitative analyses. Analyses of acceptability and feasibility across Phases I and II will focus on thematic content analysis of open-ended data to examine CtP utility and mechanisms of benefit. Qualitative analytic techniques described by Morse and others[26,27] will be used. These approaches allow participants to construct meanings, perceptions, and behaviors from their own vantage points. All open-ended data collected will be read by study's dissemination team to identify textual elements that emerge repeatedly (i.e., codes); these codes will then be clustered into larger categories that are later used to construct major thematic elements from the text (with the use of nVivo 11 analytic software). These themes will provide insights as to CtP's implementation as well as use and mechanisms of benefit in both Phases I and II. During weekly meetings Dr. Gaugler, the research coordinator, and the research assistant will discuss their own identified codes to reach a consensus.

Phase II mixed methods analysis. Additional mixed methods analyses[28,29] will take place during Phase II. The thematic codes and categories of implementation/use and mechanisms of benefit will be cross-tabulated with the empirical data from the randomized controlled evaluation to determine whether the findings diverge, converge, or highlight pathways toward additional questions and analysis.[28] This comparative, mixed method analysis approach will inform why or why caregivers do not experience benefit when using CtP.

17.2 Power Analysis

Longitudinal analysis procedures (growth curve modeling) will be utilized to capitalize on the randomized design and the multiple waves of data that will be collected. The objective of the Phase II analyses is to generate power estimates for a subsequent, larger scale evaluation of CtP. However, a sample size of 100,

factoring in a conservative 10% attrition rate at 6 months, would have sufficient power to detect a medium/large effect size).[30,31] As noted in various recommendations, a sample of 20 is considered adequate for semi-structured interview protocols to ensure the richness of open-ended data collected.[32,33]

17.3 Data Integrity

Regular Zoom conference meetings that include Dr. Gaugler, Dr. Jensen and the RHS and UMN teams will take place to ensure study rigor/integrity and progress. Dr. Gaugler is currently utilizing a similar strategy on a national translational project where he and the other PI are located at different institutions (R01 AG049692). Combined with annual in-person meetings (as COVID-19 safety restrictions allow) between Dr. Gaugler and Dr. Jensen at the Gerontological Society of America and in Williamsburg, VA, the project management plan will facilitate coordination between the University of Minnesota and RHS.

18.0 Confidentiality

18.1 Data Security: Please see above. No consent form will be placed in participants' medical, employment, or educational records.

Please note: [If there is interest in Care to Plan, the Riverside staff would complete the permission for contact form and securely share the contact information with the UMN research team]. Riverside Senior Care Navigators or other RHS staff may communicate/document about referrals made to Riverside Senior Care Navigation for consultation, interest/involvement in the Care to Plan study, and other referrals provided to individuals who may be enrolled in the Care to Plan study. This communication/documentation occurs outside of the study context (as a part of their routine roles in care consultation with Riverside Health System), and UMN study staff do not have access to the Riverside Epic electronic health record or to the staff's internal time tracking system where staff reference this information (SalesForce/Livwell).

19.0 Provisions to Monitor the Data to Ensure the Safety of Participants

18.1 PARTICPANTS SAFETY

18.1.1 Potential Risks and Benefits for Participants

Potential Risks: Since the study involves no invasive procedures, there will be no physical risks to study participants. The consideration of need is potentially stressful, and thus there are possible psychological risks for the caregiver. However, the research team has considerable experience providing psychosocial support to dementia caregivers on various protocols and serious psychological risks are unlikely to occur based on this experience. The potential social or legal risks for the participants relate

only to possible violations of confidentiality. Given the procedures outlined below, such risks are highly unlikely.

Potential Benefits: We believe participation in both Phase I and Phase II will yield benefits for participants. Utilization of CtP will provide dementia caregivers with improved ability to identify supportive services that are tailored to their needs. Caregivers will be paid up to $100 following their participation in the study.

18.1.2 Adverse Event and Serious Adverse Event Collection and Reporting

In addition to ongoing monitoring of protocol and human subjects compliance, Dr. Gaugler and research team will generate safety reports annually that will list adverse events, serious events, unexpected events, events related to or associated with the intervention, and the potential causality of the intervention to the event for each participant if they occur. If the research team becomes aware of an adverse event or unanticipated problem occurring while a participant is enrolled in the study (consent through the participant's final data collection), the event will be documented and/or reported per the protocol below. Conditions existing prior to study enrollment that have not worsened/changed will not be considered adverse events and will not be documented/reported. Per the University of Minnesota IRB guidelines, all events or information that indicates a new or increased risk, or a safety issue, will be promptly reported.

Taken directly from the NIA Adverse Event and Serious Adverse Event Guidelines, the definition of each event is as follows:

> Adverse event (AE). Any untoward or unfavorable medical occurrence in a human study participant, including any abnormal sign (e.g. abnormal physical exam or laboratory finding), symptom, or disease, temporally associated with the participants' involvement in the research, whether or not considered related to participation in the research.
>
> Serious adverse event (SAE). Any adverse event that results in death; is life threatening, or places the participant at immediate risk of death from the event as it occurred; requires or prolongs hospitalization; causes persistent or significant disability or incapacity; results in congenital anomalies or birth defects; and/or is another condition which investigators judge to represent significant hazards.
>
> Unanticipated problem (UP). any incident, experience, or outcome that meets all of the following criteria: unexpected, in terms of nature, severity, or frequency, given (a) the research procedures that are described in the protocol-related documents, such as the IRB-approved research protocol and informed consent document; and (b) the characteristics of the study population; related or possibly related to participation in the research (in this guidance document, possibly related means there is a reasonable possibility that the incident, experience, or outcome may have been caused by the procedures involved in the research);

and suggests that the research places participants or others at a greater risk of harm (including physical, psychological, economic, or social harm) than was previously known or recognized.

Phase II participants will be asked at 3 and 6 month follow up: "In the last three months, since your last survey, was there any new or worsening health problem that caused you to be unable to perform your daily routine (i.e. not go to work or volunteer), seek medical care (i.e. go see your doctor, go to the ER or hospital), or take a new medication?" Those medical events will be documented as adverse events. Other events that will also be considered adverse events are included below.

All AEs (following consent) will be collected on an adverse event form, in electronic format. AEs experienced by a participant during a study procedure (i.e. intervention/survey) will be reported within 5 days of discovery to the University of Minnesota IRB (per the University's IRB procedures) and annually to the NIA in data monitoring reports.

AE that occur outside of the context of a study procedure (i.e. intervention/survey), as well as those that are determined to be not related to the participant's involvement in the study, will be documented via the team's electronic AE form and included in the annual report (to be shared with IRB, Safety Officer, and NIA Program Officer).

SAEs occur that are unanticipated (i.e. not listed in the Data and Safety Monitoring Plan) and related to the intervention will be reported to the IRB, NIA Program Officer, and to the Safety Officer within 48 hours of our team's knowledge of SAE. The summary of all other SAEs (i.e. those determined not related to study involvement) will be included in the annual report (to be shared with IRB, Safety Officer, and NIA Program Officer).

Deaths determined not-related to the study will be reported to the IRB within 5 days of the team's knowledge of the participant's death, and reported to the Safety Officer and NIA Program Officer via routine annual reports. Though unlikely, if a participant's death during the project enrollment has a possible relationship to the study, it will be reported in expedited fashion (within 24 hours of the team's knowledge of a participant's death) to the University of Minnesota IRB, the NIA Program Officer, and to the Safety Officer. A written SAE report will be submitted soon thereafter.

No adverse events are expected to be related to study involvement. However, due to the nature of our study population, possible adverse events (i.e. general medical events and/or emergencies) may occur during the time a participant is enrolled in the study. These events will be documented and/or reported according to the protocol.

Due to the nature of our study population, the following scenarios may be encountered during project enrollment, and will be handled per the below protocol.

- Considered adverse events:

    - Medical events or emergencies: Research staff will call 911 as needed for emergencies (if during study procedure) or provide psychological support and encourage the participant to follow-up with their medical provider as needed (if occurred outside of study procedures). These medical issues (unrelated to study involvement) are considered expected, due to the nature of our study population. These events will be documented/reported as adverse events per above protocol if they meet one of the following criteria: a new or worsening health problem that causes the participant to 1) be unable to perform their daily routine, 2) seek medical care (provider visit, hospitalization, residential care placement, etc.), or 3) take a new medication. *[Note: Medical events or emergencies of a non-participant will not be considered/documented as adverse events].*

    - Death of participant is reported promptly to the University of Minnesota IRB per above procedures (and is also reported to the Safety Officer and NIA within 24 hours of the team's knowledge if determined potentially related to study involvement; otherwise is included on routine annual reports shared with Safety Officer and NIA). Deaths in our study population (unrelated to study involvement), are considered expected. *[Note: Deaths of a non-participant will not be considered/documented as adverse events].*

    - Suicidal ideation of participant: If participant informs study staff of thoughts of suicide, staff will discuss the concern with the participant and offer resources (i.e. 1-800-SUICIDE line, healthcare provider, etc.). Staff will ask them to provide verbal agreement not to harm themselves, and alert PI immediately. If necessary, staff will call 911. This will be documented/reported as serious adverse event.

    - Abuse/Neglect of participant: Document as adverse event per above protocol. If indicated, make vulnerable adult report to adult protective services.

    - Other events that in the discretion of the PI should be reported as adverse events.

- Not considered adverse events:

- If a participant scores 16 or higher on the CES-D [risk for depression], study staff will provide resources as needed (i.e. https://www.samhsa.gov/, healthcare provider, and Riverside/Senior Care Navigation). Mental health concerns are common in our study population and fluctuation of assessment scores is expected. Unless participant indicates a concern regarding self-harm or that the health issue has caused them to: be unable to perform their daily routine, seek medical care, or take a new medication, it will not be documented as an adverse event.

- Survey responses indicating changes in sleep, stress/anxiety, activities of daily living, or general well-being alone will not trigger an adverse event report. These concerns are common in our study population and fluctuation of assessment scores is expected. Unless participant indicates a concern regarding self-harm or that the health issue has caused them to: be unable to perform their daily routine, seek medical care, or take a new medication, it will not be documented as an adverse event.

- Routine or planned medical encounters for symptoms or conditions that are not new, worsened, or changed since enrollment, as well as those events that have not caused the participant to: be unable to perform their daily routine, seek medical care, or take a new medication, will not be documented as an adverse event.

- A physical attack or injury to participant by a non-participant (i.e. care recipient) would be documented/reported as an adverse event if the participant requires medical care. *[Note: Other potential dementia related behaviors that do not result in participant injury are not considered adverse events.]*

- Participant reports that non-participant (i.e. care recipient or person with memory impairment) displays risk-behavior (i.e. aggression/threats, comments about death or self-harm): This will not be documented as adverse event, as individual is not enrolled in the study. If participant reports concern to study staff, study staff will encourage them to follow up with healthcare provider or Riverside/Senior Care Navigation for resources.

- Suicidal ideation of non-participant (care recipient): If participant shares concern about care recipient (non-participant) suicidal ideation, study staff will talk about the concern and provide resources as requested (i.e. 1-800-SUICIDE line, healthcare provider, etc.). This is not documented as an adverse event, as individual is not enrolled in the study.

- Abuse/Neglect of non-participant: Document and report as an adverse event only if study participant is involved. Make vulnerable adult report to adult protective services as indicated.

- Driving with dementia/cognitive impairment (participant or non-participant): Provide resources as needed (i.e. https://alz.org/help-support/caregiving/safety/dementia-driving, https://www.thehartford.com/resources/mature-market-excellence/dementia-driving, etc.), encourage family involvement with medical provider, and adhere to local laws. This is not considered/documented as an adverse event.

- Unlicensed driving (participant or non-participant): If study staff are informed that an individual is driving without a license, staff will encourage driving in accordance with local laws and explain potential consequences. This is not considered/documented as an adverse event.

- Environmental/home hazards (i.e. unlocked/loaded weapons, other safety concerns): Encourage remedying this situation for safety; recommend in-home safety assessment as needed. This is not considered/documented as an adverse event unless immediate risk of harm is identified (i.e. abuse/neglect).

As taken directly from the NIA Adverse Event and Serious Adverse Event Guidelines, the severity, expectedness, and relatedness of each AE and serious adverse event (SAE) will be graded as follows:

Severity

- ***Mild:*** Awareness of signs or symptoms, but easily tolerated and are of minor irritant type causing no loss of time from normal activities. Symptoms do not require therapy or a medical evaluation; signs and symptoms are transient.
- ***Moderate:*** Events introduce a low level of inconvenience or concern to the participant and may interfere with daily activities, but are usually improved by simple therapeutic measures; moderate experiences may cause some interference with functioning
- ***Severe:*** Events interrupt the participant's normal daily activities and generally require systemic drug therapy or other treatment; they are usually incapacitating

Expectedness

- ***Unexpected*** **-** nature or severity of the event is not consistent with information about the condition under study or intervention in the protocol, consent form, product brochure, or investigator brochure.

- ***Expected*** **-** event is known to be associated with the intervention or condition under study.

Relatedness

The potential event relationship to the study intervention and/or participation is assessed by the site investigator. A comprehensive scale in common use to categorize an event is:

- *Definitely Related*: The adverse event is clearly related to the investigational agent/procedure – i.e. an event that follows a reasonable temporal sequence from administration of the study intervention, follows a known or expected response pattern to the suspected intervention, that is confirmed by improvement on stopping and reappearance of the event on repeated exposure and that could not be reasonably explained by the known characteristics of the subject's clinical state.
- *Possibly Related:* An adverse event that follows a reasonable temporal sequence from administration of the study intervention follows a known or expected response pattern to the suspected intervention, but that could readily have been produced by a number of other factors.
- *Not Related:* The adverse event is clearly not related to the investigational agent/procedure - i.e. another cause of the event is most plausible; and/or a clinically plausible temporal sequence is inconsistent with the onset of the event and the study intervention and/or a causal relationship is considered biologically implausible.

18.1.3 Protection Against Study Risks

Informed consent process. In creating our research design and sampling procedures, an important objective was to preserve the privacy, confidentiality, and autonomy of all participants. Following discussion of the Phase I or Phase II components to potential caregivers, the research coordinator or research assistant will reach out to the caregiver.

Inclusion criteria are as follows: 1) The care recipient has a physician diagnosis of Alzheimer's disease or a related dementia (ADRD); and 2) the caregiver is 21 years of age or older; 3) English-speaking 4) self-identifies as someone who provides help to the person with ADRD because of their cognitive impairments, 5) indicates a willingness to

use Care to Plan (CtP), and 6) caregiver resides in one of 4 Riverside Health regions (based on zip code).

During the informed consent process, the research coordinator or research assistant will explain the project in detail to each potential participant, including a description of the types of assessments to be obtained and the time required. The UMN study coordinator or research assistant will read the telephone-based consent form and the caregiver will have the opportunity to ask questions. If the consent form is mailed in hard copy or e-mailed on request: the study staff provide a project overview, the individual has the ability to review the consent form via mail/email, and then the study staff provide the opportunity to ask any questions prior to obtaining/completing the verbal telephone consent to complete the final pages of the form *(note: in cases of participants requesting a hard copy/e-mail copy of the consent form prior/during, the consent script is not read verbatim by study staff unless a participant were to request this.)* The electronic version of the consent form will be signed by the member of the study team reviewing consent with the participant (Dr. Gaugler, research coordinator, or research assistant). Participants will be mailed/emailed a copy of the completed consent form for their records. Please note: An additional permission form will be required for those opting to enroll in the post-Phase II waitlist control.

Additional protection against risks. Those who endorse a history of a serious mental health disorder whose: a) symptoms have exacerbated in the last six months, and b) are not receiving steady, ongoing pharmacological or other treatment for these symptoms, will be excluded from our project. The experience of the research team and the exclusion of caregivers with serious psychiatric illness will minimize the possibility of psychological risks. The unlikelihood of such problems is evident from the absence of any clinically significant problems during the past 13 years that the research team has operated various protocols related to dementia caregiving intervention research.

18.2.0 INTERIM ANALYSIS

Interim analyses are not planned because this is an R21 project that is largely designed to establish the feasibility and potential efficacy of CtP to inform a larger, subsequent randomized controlled trial.

18.3.0 DATA AND SAFETY MONITORING

18.3.1 Frequency of Data and Safety Monitoring

In addition to ongoing review of the protocol and human subjects research compliance during weekly project meetings with staff, the PI (Dr. Gaugler) will generate annual reports to ensure that each case complies with Institutional Review Board (IRB) requirements, including use of IRB-approved forms (particularly the consent form), and that each staff person on the proposed project adheres to the study protocol. In both weekly meetings and audit reports, Dr. Gaugler will actively work with project staff to minimize research-associated risk and protect confidentiality of participant data (see

Protection of Human Research Subjects section). The research staff will be trained to interview in ways that are non-threatening, friendly, and respectful. We will emphasize to all participants that they do not have to complete any question they do not want to answer, and that the interview may be terminated at any time according to their wishes. We will stress to ADRD caregivers that their decision to discontinue the study will in no way affect the services they are receiving from the University of Minnesota, RHS or other entities. . The Safety Officer will act in an advisory capacity to the NIA PO to monitor participant safety, evaluate the progress of the study, to review procedures for maintaining the confidentiality of data, the quality of data collection, management, and analyses.

In the event a caregiver does become upset during the interview process, the research staff will contact Dr. Gaugler, who will be available for consultation. If a caregiver is in crisis because of their care situation or some other reason, research staff will be instructed to consult with Dr. Gaugler. With the caregiver's permission, we will then refer the participant to the appropriate resource person in an external agency (e.g., the Alzheimer's Association).Based on the research team's experience working with their caregiving families, we expect very few or no such instances to occur. If a member of the research team does identify neglect or other potentially inappropriate care practices, the Virginia Adult Protective Services will be notified to protect the rights of persons with dementia and their families.

All information obtained from the participants will remain strictly confidential and will not be released except at the express written request of the study participant. All electronic data will be maintained on the secure Academic Health Center project folder, the Secure Computing Environment, as well as within the secure Box and Qualtrics applications. All data on Dr. Gaugler's computer in D351 Mayo Building and the research staff's computers (also located in D351 Mayo Building) are encrypted and protected by strong passwords only accessible to Dr. Gaugler and the research team. The data will be maintained on the Academic Health Center secure project folder for approximately 2-3 years which is the time anticipated it will take to disseminate any and all research papers or presentations from these data. Similarly, paper forms of the data will be located in a locked file cabinet in D351 Mayo Building only accessible to the research team. Unless the data are being filed or accessed, these cabinets will remain locked. Staff working remotely will continue use of these secure environment's as needed. *Note: University staff calling from personal lines outside of the University will block their personal numbers when able, note they are calling from a personal line to reduce and request a callback to a work-based telephone number, or use a google voice account. Riverside staff will adhere to their internal agency policies.*

Annual reports. The responsibility of Dr. Gaugler (who has oversight for the data management and analysis of the project), along with study staff, will include the

production of an annual report that will highlight the results of the audit analysis, as well as study progress. In addition, Dr. Gaugler and study staff will provide information on any deviations from the approved protocol (e.g., deviations in adhering to study eligibility criteria), error rates, and any other issues related to the progress of the study. The Safety Officer will review the annual report to ensure ongoing quality control, and will work with Dr. Gaugler and the study staff, if needed, to ascertain if audited cases deviate from the approved study protocol.In instances of adverse events occurring, the procedures in the protocol will be followed.

The Safety Officer will review study progress, data quality, and participants safety at a predetermined intervals (e.g. annually) and make recommendations to the NIA for or against the trial's continuation, as well as any modification to the study. Safety reports will be distributed to the Safety Officer annually and will include a detailed analysis of study progress, data and safety issues.

Data will be complied by the graduate research assistant or other study staff, and if greater expertise is required, by a statistician (Sue Duval, PhD) in the University of Minnesota Medical School. All data will be directly available to the Safety Officer and the NIA Program Officer on request.

When final research results are generated, the research team may share any publications derived directly with research participants.

18.3.2 Content of Data and Safety Monitoring Report

The annual report will include the following:

1. Title Page
2. Table of contents
3. Report summary
    a. Protocol synopsis
    b. Discussion of issues or problems
    c. Report preparation procedures
4. Study description
    a. Project organizational chart, personnel
    b. Brief statement of purpose of trial
    c. Projected timetable and schedule
    d. Overall study status
5. Study recruitment and administration
    a. Reasons for screen failures
    b. Enrollment by year or month of study
    c. Comparison of target to actual enrollment by month
    d. Demographic and key baseline characteristics
    e. Withdrawals
    f. Forms status

i. Status of forms (e.g., consent, completing of screener, baseline assessment, etc.)

g. Summary of protocol changes

h. Summary of reportable information/adverse events [safety assessment]

i. Adverse events

ii. Serious Adverse Events

iii. Deaths

iv. Protocol deviations

6. Action items (as needed)

18.3.3 DSMB Membership and Affiliation

Phase I: The Independent Study Monitor (ISM), Dr. Timothy Beebe, is Mayo Professor and Division Head of Health Policy and Management in the School of Public Health. As this protocol is: a) not a Phase III Clinical Trial; b) does not include multiple field sites; c) is not at an increased risk of adverse events; and d) will not result in more effective way to monitor study safety and progress as there is not a large sample to be enrolled, a DSMB was deemed not appropriate for this R21 project.

Phase II: Cynthia Boyd, MPH, MD, is a Professor of Medicine in the Division of Geriatric Medicine and Gerontology, Johns Hopkins University School of Medicine, the Center on Aging and Health, and the Department of Health Policy and Management and Epidemiology. Her research career has focused on the optimal management of people with multiple chronic conditions, including geriatric conditions and frailty. Her research has addressed barriers to developing and applying guidelines in patients with multiple chronic conditions and the implications for performance measurement and improvement.

18.3.4 Protection of Confidentiality

Data will be presented in a blinded manner in ISM reports. All data and discussions are confidential in reports for the ISM or Safety Officer (Phase II). Participant identities will not be known to the ISM (Phase I) or Safety Officer (Phase II).

18.3.5 ISM Responsibilities

ISM responsibilities are as follows:

- Review the research protocol, informed consent documents and plans for data safety and monitoring;
- Recommend subject recruitment be initiated after receipt of a satisfactory protocol;
- Evaluate the progress of the trial, including periodic assessments of data quality and timeliness, recruitment, accrual and retention, participant risk

versus benefit, performance of the trial sites, and other factors that can affect study outcome;

- Consider factors external to the study when relevant information becomes available, such as scientific or therapeutic developments that may have an impact on the safety of the participants or the ethics of the trial;
- Review study performance, make recommendations and assist in the resolution of problems reported by the Principal Investigator;
- Protect the safety of the study participants;
- Report to NIA on the safety and progress of the trial;
- Make recommendations to the NIA and the Principal Investigator concerning continuation, termination or other modifications of the trial based on the observed beneficial or adverse effects of the treatment under study;
- Ensure the confidentiality of the study data and the results of monitoring; and,
- Assist the NIA by commenting on any problems with study conduct, enrollment, sample size, and/or data collection.

Phase II:

The Safety Officer responsibilities are to:

- review the entire IRB-approved research protocol, informed consent documents and plans for data safety and monitoring;
- advise the NIA on the readiness of the study staff to initiate recruitment;
- evaluate the progress of the trial, including periodic assessments of data quality and timeliness, recruitment, accrual and retention, participant risk versus benefit, performance of the trial sites, and other factors that can affect study outcome;
- consider factors external to the study when relevant information becomes available, such as scientific or therapeutic developments that may have an impact on the safety of the participants or the ethics of the trial;
- review study performance, make recommendations and assist in the resolution of problems reported by the Principal Investigator;
- protect the safety of the study participants;
- report to NIA on the safety and progress of the trial;
- make recommendations to the NIA, the Principal Investigator, and, if required, to the Food and Drug Administration (FDA) concerning continuation, termination or other modifications of the trial based on the observed beneficial or adverse effects of the treatment under study;

- if appropriate, review interim analyses in accordance with stopping rules, which are clearly defined in advance of data analysis;
- ensure the confidentiality of the study data and the results of monitoring; and,
- assist the NIA by commenting on any problems with study conduct, enrollment, sample size and/or data collection.

20.0 Provisions to Protect the Privacy Interests of Participants

20.1 Protecting Privacy: Please see above; participants will be identified on a voluntary basis; no contact information will be shared with the UMN research coordinator and team unless the participant verbally agrees or contacts the UMN team directly.

20.2 Access to Participants*:* The research team will have no access to medical records or other sources of private information.

21.0 Compensation for Research-Related Injury

Not applicable

22.0 Consent Process

22.1 Consent Process (when consent will be obtained):

In creating our research design and sampling procedures, an important objective was to preserve the privacy, confidentiality, and autonomy of all participants. Following senior care navigators' discussion of Phase I or Phase II components with caregivers, the potential participant provides verbal permission to allow Riverside to share the caregiver's contact information with the UMN team. If interested, the research coordinator or research assistant will reach out to caregiver for screening procedures. For interested individuals that may contact the UMN team directly, the same screening and eligibility procedures will be applied. Inclusion criteria are as follows: 1) The care recipient has a physician diagnosis of Alzheimer's disease or a related dementia (ADRD); and 2) the caregiver is 21 years of age or older; 3) English-speaking 4) self-identifies as someone who provides help to the person with ADRD because of their cognitive impairments, 5) indicates a willingness to use Care to Plan (CtP), and 6) resides in one of 4 Riverside Health regions (based on zip code).

During the informed consent process, the research coordinator or research assistant will explain the project in detail to each potential participant, including a description of the types of assessments to be obtained and the time required. The UMN research staff will read the participant the telephone-based consent form (or mail/e-mail the script if requested in lieu of reading the full script via phone), and will provide an opportunity for the potential participant to ask questions prior to consenting to participate. The name of the participant providing verbal consent is documented and the consent form will be signed by the member of the UMN team administering consent procedures (research

coordinator, research assistant, or Dr. Gaugler). Participants will be provided (via mail/email) a copy of the completed consent form for their records.

Surveys will be administered by either the research coordinator or research assistant, and these surveys will take place at baseline and 1 month in Phase I and at baseline, 3 months, and 6 months in Phase II. The research coordinator and research assistant will also conduct semi-structured interviews with participants following the 1-month evaluation period in Phase I (*n* = 20) and three CtP interventionists and the 6-month evaluation period in Phase II (*n* = 20 purposively sampled Phase II ADRD caregivers) and three CtP interventionists. The interviews and surveys will continue to be administered whether the person with ADRD is at home or enters a residential long-term care setting. Specifically modified surveys that collect appropriate post-bereavement data will occur for caregivers of persons with ADRD who die during the course of the study.

22.2 Waiver or Alteration of Consent Process (when consent will not be obtained, required information will not be disclosed, or the research involves deception): N/A

22.3 Waiver of Written/Signed Documentation of Consent (when written/signed consent will not be obtained):

Since participants are located out of state, UMN staff will administer a telephone-based consent using the Qualtrics consent script uploaded to ethos. As the script states, participants will be asked if they have any questions regarding the study prior to asking for their consent to participate. The UMN staff will document the caregiver's verbal consent by signing the form. This consent form will be completed by the UMN team electronically via Qualtrics.

The consent form/script was developed using an IRB-template, the study procedures (review of online CtP tool, surveys, and interviews) do not routinely require written consent outside of the research context, and the study does not involve newborn dried blood spots. If a participant enrolls, a copy of the completed consent form, signed by the UMN team, will be mailed to the participant for their records.

22.4 Non-English Speaking Participants: N/A

22.5 Participants Who Are Not Yet Adults (infants, children, teenagers under 18 years of age): N/A

22.6 Cognitively Impaired Adults, or adults with fluctuating or diminished capacity to consent: N/A

22.7 Adults Unable to Consent: N/A

23.0 Setting

23.1 Research Sites:

Riverside Health System was selected as a site for the proposed R21 due to the ethnically, racially, and geographically diverse population of older adults served. Eligibility will be based on zip-code based region per eligibility criteria (See Section 10 Study Population). See section 13.0 Recruitment Methods for details regarding recruitment strategies. From January 2017 to May 2018 a total of 2,123 individuals were served. Approximately 63% (n = 1,330) were women. Close to 70% (n = 1,430) had cognitive impairment. Twenty percent of clients served were from rural areas (n = 425) and over 30% were African-American (n = 658). A little over 5% of all clients served over the 17 month period were Hispanic/Latino (n =116).

The University of Minnesota will oversee all consent, data collection, data management, and analysis of this project.

23.2 International Research: N/A

23.3 Community Based Participatory Research: N/A

24.0 Multi-Site Research: N/A

25.0 Resources Available

25.1 Resources Available: N/A

26.0 References

1. Association As. 2018 Alzheimer's disease facts and figures. *Alzheimer's & Dementia.* 2018;14(3):367-429.
2. Friedman EM, Shih RA, Langa KM, Hurd MD. US Prevalence And Predictors Of Informal Caregiving For Dementia. *Health affairs (Project Hope).* 2015;34(10):1637-1641.
3. Gitlin LN, Hodgson N. Caregivers as therapeutic agents in dementia care: The evidence-base for interventions supporting their role. In: Gaugler JE, Kane RL, eds. *Family Caregiving in the New Normal.* Philadelphia, PA: Elsevier, Inc.; 2015:305-356.
4. Gaugler JE, Jutkowitz E, Shippee TP, Brasure M. Consistency of dementia caregiver intervention classification: an evidence-based synthesis. *Int Psychogeriatr.* 2017;29(1):19-30.
5. Gaugler JE, Burgio LD. Caregiving for individuals with Alzheimer's disease and related disorders. In: Burgio LD, Gaugler JE, Hilgeman MM, eds. *The spectrum of family caregiving for adults and elders with chronic illness.* New York, NY: Oxford University Press; 2016:15-57.
6. Mittelman MS, Bartels SJ. Translating Research Into Practice: Case Study Of A Community-Based Dementia Caregiver Intervention. *Health affairs.* 2014;33(4):587-595.

7. Gitlin LN, Marx K, Stanley IH, Hodgson N. Translating Evidence-Based Dementia Caregiving Interventions into Practice: State-of-the-Science and Next Steps. *The Gerontologist.* 2015;55(2):210-226.
8. Burgio LD, Collins IB, Schmid B, Wharton T, McCallum D, Decoster J. Translating the REACH caregiver intervention for use by area agency on aging personnel: the REACH OUT program. *The Gerontologist.* 2009;49(1):103-116.
9. Alzheimer's A, National Alliance for Family C. *Families care: Alzheimer's caregiving in the United States 2004.* Chicago, IL: The Alzheimer's Association;2004.
10. Meyer K, Kaiser N, Benton D, et al. *Picking Up the Pace of Change for California's Family Caregivers: A Report from the California Task Force on Family Caregiving. .* Los Angeles, CA: 2018
11. Anderson KA, Nikzad-Terhune KA, Gaugler JE. A systematic evaluation of online resources for dementia caregivers. *Journal of Consumer Health on the Internet.* 2009;13:1-13.
12. Onken LS, Carroll KM, Shoham V, Cuthbert BN, Riddle M. Reenvisioning Clinical Science: Unifying the Discipline to Improve the Public Health. *Clinical psychological science : a journal of the Association for Psychological Science.* 2014;2(1):22-34.
13. Czaja SJ, Gitlin LN, Schulz R, et al. Development of the risk appraisal measure: a brief screen to identify risk areas and guide interventions for dementia caregivers. *Journal of the American Geriatrics Society.* 2009;57(6):1064-1072.
14. Gaugler JE, Reese M, Tanler R. Care to Plan: An Online Tool That Offers Tailored Support to Dementia Caregivers. *The Gerontologist.* 2016;56(6):1161-1174.
15. Gitlin LN, Maslow K. *National Research Summit on Care, Services, and Supports for Persons with Dementia and Their Caregivers: Report to the National Advisory Council on Alzheimer's Research, Care, and Services.* Washington, D.C.2018.
16. Bryk T, Raudenbush S. *Hierarchical linear models: Applications and data analysis methods.* Newbury Park, CA: Sage Publications; 1992.
17. Rogosa DR. Myths and methods: Myths about longitudinal research plus supplemental questions. In: Gottman JM, ed. *The analysis of change.* Mahwah, New Jersey: Lawrence Erlbaum Associates; 1996:3-66.
18. Gaugler JE, Reese M, Mittelman MS. Effects of the Minnesota Adaptation of the NYU Caregiver Intervention on Primary Subjective Stress of Adult Child Caregivers of Persons With Dementia. *The Gerontologist.* 2016;56(3):461-474.
19. Gaugler JE, Reese M, Mittelman MS. Effects of the Minnesota Adaptation of the NYU Caregiver Intervention on Depressive Symptoms and Quality of Life for Adult Child Caregivers of Persons with Dementia. *The American Journal of Geriatric Psychiatry : Official Journal of the American Association for Geriatric Psychiatry.* 2015;23(11):1179-1192.
20. Gaugler JE, Roth DL, Haley WE, Mittelman MS. Modeling Trajectories and Transitions: Results From the New York University Caregiver Intervention. *Nursing research.* 2011;60:S28-37.

21. Gaugler JE, Mittelman MS, Hepburn K, Newcomer R. Predictors of change in caregiver burden and depressive symptoms following nursing home admission. *Psychology and aging.* 2009;24(2):385-396.
22. Gaugler JE, Roth DL, Haley WE, Mittelman MS. Can counseling and support reduce burden and depressive symptoms in caregivers of people with Alzheimer's disease during the transition to institutionalization? Results from the New York University caregiver intervention study. *Journal of the American Geriatrics Society.* 2008;56(3):421-428.
23. Gaugler JE, Kane RL, Kane RA, Newcomer R. The longitudinal effects of early behavior problems in the dementia caregiving career. *Psychology and aging.* 2005;20(1):100-116.
24. Gaugler JE, Davey A, Pearlin LI, Zarit SH. Modeling caregiver adaptation over time: The longitudinal impact of behavior problems. *Psychology and Aging.* 2000;15:437-450.
25. Liu S, Rovine MJ, Molenaar PC. Selecting a linear mixed model for longitudinal data: repeated measures analysis of variance, covariance pattern model, and growth curve approaches. *Psychological methods.* 2012;17(1):15-30.
26. Morse JM, Field PA. *Qualitative Research Methods for Health Professionals.* Thousand Oaks, CA: SAGE Publications; 1995.
27. Strauss A, Corbin J. *Basics of qualitative research: Techniques and procedures for developing grounded theory.* Thousand Oaks, CA: SAGE Publications, Inc.; 1998.
28. Creswell JW, Plano Clark VL. *Designing and conducting mixed methods research.* Vol 2nd. Thousand Oaks, CA: SAGE Publications, Inc.; 2010.
29. Morse JM, Niehaus L. *Mixed method design: Principle and procedures (Developing qualitative inquiry).* Walnut Creek, CA: Left Coast Press; 2009.
30. Raudenbush SW, Spybrook J, Liu X, Congdon R. *Optimal design for longitudinal and multilevel research: Documentation for the "Optimal Design" software.* Chicago, IL.: Scientific Software International; 2004.
31. Cohen J. *Statistical power analysis for the behavioral sciences.* San Diego, CA: Academic Press; 1988.
32. Teddlie C, Yu F. Mixed Methods Sampling: A Typology With Examples. *Journal of Mixed Methods Research.* 2007;1(1):77-100.
33. Collins KMT, Onwuegbuzie AJ, Jiao QG. A Mixed Methods Investigation of Mixed Methods Sampling Designs in Social and Health Science Research. *Journal of Mixed Methods Research.* 2007;1(3):267-294.