

## PROGRAM DESCRIPTION

BRI Care Consultation is an intervention for adults with a chronic physical or mental health condition or disability and a primary caregiver (family member or friend) who assists the adult with daily activities, tasks, and health-related discussions. The intervention links and coordinates health care, community, and family services for clients (both the patient and the primary caregiver), organizes family and friends in assisting in care tasks, and provides emotional support.

Trained care consultants (nurses, social workers, and others with at least a bachelor's degree in a human services field) deliver the intervention by phone as well as by mail and email. They establish an ongoing relationship with clients and offer personalized coaching while following a standardized protocol focused on helping to find solutions to priority problems of both the adult with chronic health problems and the primary caregiver. If the adult is too impaired to participate in care and/or care-related decisions, the care consultant works exclusively with the primary caregiver. Similarly, adults who do not have a caregiver are the sole focus of the program.

The intervention consists of three components delivered concurrently. First, clients participate in an initial assessment administered by phone. The assessment addresses several domains, with questions for both the adult with chronic health problems (e.g., arranging services, insurance benefits, depression, financial concerns, medications, personal care and home safety, social isolation) and the caregiver (e.g., capacity to provide care, emotional and physical health strain, sleep). Next, to address unmet needs, the care consultant and clients create an action plan with specific and time-sensitive tasks for the adult with health problems (e.g., ask physician about medication side effects) and caregiver (e.g., install grab bars in bathroom). Action steps may also be created for the care consultant, other family members, or service providers. The third component is maintenance and support. Care consultants maintain a relationship with clients through regular phone contact, clients are reassessed in all domains at least once between month 5 and 12 and then annually for the duration of enrollment in the program, and new action steps are formulated as needed throughout the period of enrollment. Care consultants use a Web-based reporting system called the Care Consultation Information System (CCIS) to track all client information, assessments, action plans, completed tasks, and ongoing contacts. A modified version of the intervention—Partners in Dementia Care (PDC)—is also available and is delivered by a community agency in partnership with health care organizations such as the U.S. Department of Veterans Affairs (VA) and managed care providers.

The studies reviewed for this summary involved adults ages 55 and older with Alzheimer's disease, other dementias, or memory loss, and their caregivers. The intervention has also been used with adults who have one or more chronic conditions, such as depression or physical frailty.

## DESCRIPTIVE INFORMATION

<b>Areas of Interest</b>	<ul style="list-style-type: none"> <li>▶ Caregiver and family support</li> <li>▶ Health and wellness</li> <li>▶ Long-term services and supports</li> <li>▶ Mental health promotion</li> </ul>
<b>Outcomes</b>	<p><b>Review Date: August 2015</b></p> <ul style="list-style-type: none"> <li>▶ Patient perception of unmet needs</li> <li>▶ Caregiver perception of unmet needs</li> <li>▶ Patient perception of relationship strain</li> <li>▶ Caregiver strain</li> <li>▶ Patient depression</li> <li>▶ Caregiver depression</li> <li>▶ Patient utilization of health care services</li> </ul>
<b>Ages</b>	<ul style="list-style-type: none"> <li>▶ 18–25 (Young adult)</li> <li>▶ 26–49 (Adult)</li> <li>▶ 50–60 (Older adult)</li> <li>▶ 61–74 (Older adult)</li> <li>▶ 75–84 (Older adult)</li> <li>▶ 85+ (Older adult)</li> </ul>
<b>Genders</b>	<ul style="list-style-type: none"> <li>▶ Female</li> <li>▶ Male</li> </ul>
<b>Races/Ethnicities</b>	<ul style="list-style-type: none"> <li>▶ Black or African American</li> <li>▶ Hispanic or Latino</li> <li>▶ White</li> <li>▶ Race/ethnicity unspecified</li> </ul>
<b>Settings</b>	<ul style="list-style-type: none"> <li>▶ Health center             <ul style="list-style-type: none"> <li>• Managed care organization</li> <li>• Health care system</li> </ul> </li> <li>▶ Outpatient</li> <li>▶ Community-based organization</li> </ul>
<b>Geographic Locations</b>	<ul style="list-style-type: none"> <li>▶ Urban</li> <li>▶ Suburban</li> <li>▶ Rural and/or frontier</li> </ul>
<b>Funding/CER Studies</b>	<ul style="list-style-type: none"> <li>▶ Partially/fully funded by Administration on Aging</li> <li>▶ Evaluated in comparative effectiveness research studies</li> </ul>
<b>Adverse Effects</b>	<p>No adverse effects, concerns, or unintended consequences were identified by the developer.</p>
<b>Implementation History</b>	<p>The initial implementation of BRI Care Consultation was in 2009, which followed completion of five controlled research studies. Four translational studies using a pre- and posttest design and no control group also have been conducted. Thirty-two sites have delivered the intervention, reaching approximately 1,800 families, mostly composed of an older adult with chronic illnesses and a primary caregiver. The</p>

	program has been implemented by Area Agencies on Aging, Alzheimer’s Association chapters, VA medical centers, managed care organizations, senior centers, community service agencies, and other types of organizations in Alabama, Georgia, Indiana, Nevada, New Jersey, Ohio, Tennessee, and Texas. Formal evaluations have been or are being completed in 13 implementation sites.
<b>Adaptations</b>	No population- or culture-specific adaptations were identified by the developer.

## QUALITY OF RESEARCH

**Review Date: August 2015**

### Documents Reviewed

The documents below were reviewed for Quality of Research. The research point of contact can provide information regarding the studies reviewed and the availability of additional materials, including those from more recent studies that may have been conducted.

#### Study 1

Bass, D. M., Clark, P. A., Looman, W. J., McCarthy, C. A., & Eckert, S. (2003). The Cleveland Alzheimer’s Managed Care Demonstration: Outcomes after 12 months of implementation. *Gerontologist*, 43(1), 73–85. PubMed abstract available at <http://www.ncbi.nlm.nih.gov/pubmed/12604748>

Clark, P. A., Bass, D. M., Looman, W. J., McCarthy, C. A., & Eckert, S. (2004). Outcomes for patients with dementia from the Cleveland Alzheimer’s Managed Care Demonstration. *Aging and Mental Health*, 8(1), 40–51. PubMed abstract available at <http://www.ncbi.nlm.nih.gov/pubmed/14690867>

#### Study 2

Bass, D. M., Judge, K. S., Maslow, K., Wilson, N. L., Morgan, R. O., McCarthy, C. A., . . . Kunik, M. E. (2015). Impact of the care coordination program “Partners in Dementia Care” on veterans’ hospital admissions and emergency department visits. *Alzheimer’s and Dementia: Translational Research and Clinical Interventions*, 1(1), 13–22. Available at <http://dx.doi.org/10.1016/j.trci.2015.03.003>

Bass, D. M., Judge, K. S., Snow, A. L., Wilson, N. L., Morgan, R. O., Maslow, K., . . . Kunik, M. E. (2014). A controlled trial of Partners in Dementia Care: Veteran outcomes after six and twelve months. *Alzheimer’s Research and Therapy*, 6(1), 9. PubMed abstract available at <http://www.ncbi.nlm.nih.gov/pubmed/24764496>

#### Study 3

Bass, D. M., Judge, K. S., Snow, A. L., Wilson, N. L., Morgan, R., Looman, W. J., . . . Kunik, M. E. (2013). Caregiver outcomes of Partners in Dementia Care: Effect of a care coordination program for veterans with dementia and their family members and friends. *Journal of the American Geriatrics Society*, 61(8), 1377–1386. PubMed abstract available at <http://www.ncbi.nlm.nih.gov/pubmed/23869899>

## Supplementary Materials

Judge, K. S., Bass, D. M., Snow, A. L., Wilson, N. L., Morgan, R., Looman, W. J., . . . Kunik, M. E. (2011). Partners in Dementia Care: A care coordination intervention for individuals with dementia and their family caregivers. *Gerontologist, 51*(2), 261–272. PubMed abstract available at <http://www.ncbi.nlm.nih.gov/pubmed/21242317>

Morgan, R. O., Bass, D. M., Judge, K. S., Liu, C. F., Wilson, N., Snow, A. L., . . . Kunik, M. E. (2015). A break-even analysis for dementia care collaboration: Partners in Dementia Care. *Journal of General Internal Medicine, 30*(6), 804–809. PubMed abstract available at <http://www.ncbi.nlm.nih.gov/pubmed/25666216>

## Outcomes

<b>Outcome 1: Patient perception of unmet needs</b>	
<b>Description of Measures</b>	<p>Perception of unmet needs on the part of adults with chronic conditions (hereafter referred to as “patients”) was measured using a survey developed by the researchers based on a survey from prior studies. The instrument addressed eight domains of needs: understanding dementia, daily living tasks, accessing VA and other services, legal and financial issues, organizing family care, alternative living arrangements, emotional support, and medications. For each of 24 yes/no items, patients indicated whether they needed more help or information, which was defined as an unmet need.</p> <p>Trained interviewers conducted structured telephone interviews with patients at baseline and 6 and 12 months after baseline. The interviewed patients were limited to those who could pass a baseline screening using an adapted version of the short Blessed Orientation-Memory-Concentration Test.</p>
<b>Key Findings</b>	<p>Participants were individuals with dementia and their caregivers. Communities were randomly assigned such that participants in two communities received a modified version of the intervention called Partners in Dementia Care for 12 months and those in three other communities received usual care. The patients were 60 years and older, had at least one dementia diagnosis in their medical record, resided in the community at the start of the study, and were veterans receiving primary care from a VA medical center. Findings included the following:</p> <ul style="list-style-type: none"> <li>▶ From baseline to 6-month followup, among patients with more cognitive impairment, those in the intervention group had a greater decrease in perceived unmet needs than those in the comparison group (44.1% vs. 7.8%; <math>p = .02</math>).</li> <li>▶ From baseline to 12-month followup, among patients with more functional impairment, those in the intervention group had a 64.8% decrease in perceived unmet needs and those in the comparison group had a 3.2% increase (<math>p &lt; .01</math>).</li> </ul>
<b>Studies Measuring Outcome</b>	Study 2
<b>Study Designs</b>	Quasi-experimental
<b>Quality of Research Rating (0.0–4.0 scale)</b>	3.3

## Outcome 2: Caregiver perception of unmet needs

<p><b>Description of Measures</b></p>	<p>Caregiver perception of unmet needs was assessed using a survey developed by the researchers based on a survey from prior studies. The instrument addressed eight domains of needs: understanding dementia, care tasks, assessing VA and other services, legal and financial issues, organizing family care, alternate living arrangements, emotional support, and medications and medical followup. For each of 39 yes/no items, caregivers indicated whether they needed more help or information, which was defined as an unmet need.</p> <p>Items began with the question, “Do you need more information about or help with . . . ?” Sample items included “trying things that may prevent your (RELATIONSHIP)’s memory problems from getting worse” (understanding dementia), “how to best manage your (RELATIONSHIP)’s personal care such as bathing and dressing” (care tasks), “getting transportation to locations where services are provided” (assessing VA and other services), “dealing with legal issues related to your (RELATIONSHIP)’s illness such as updating a will” (legal and financial issues), “getting family or friends to accept that your (RELATIONSHIP) has memory problems” (organizing family care), “getting information about assisted living facilities or nursing homes” (alternative living arrangements), “finding someone to talk with who understands your situation” (emotional support), and “scheduling follow-up visits with your (RELATIONSHIP)’s doctors” (medications and medical followup).</p> <p>Trained interviewers conducted structured telephone interviews with caregivers at baseline and 6 and 12 months after baseline.</p>
<p><b>Key Findings</b></p>	<p>Participants were patients with dementia and their caregivers. Communities were randomly assigned such that participants in two communities received a modified version of the intervention called Partners in Dementia Care for 12 months and those in three other communities received usual care. The patients were 60 years and older, had at least one dementia diagnosis in the medical record, resided in the community at the start of the study, and were veterans receiving primary care from a VA medical center. Findings include the following:</p> <ul style="list-style-type: none"> <li>▶ From baseline to 6-month followup, caregivers from the intervention group had a significantly greater decrease in perceived unmet needs than those in the comparison group (45.7% vs. 27.6%; <math>p = .01</math>). In addition, among caregivers assisting a more cognitively impaired patient with dementia, those in the intervention group had a significantly greater decrease in perceived unmet needs than those in the comparison group (54.2% vs. 24.6%; <math>p &lt; .001</math>).</li> <li>▶ From baseline to 12-month followup, caregivers in the intervention group had a significantly greater decrease in perceived unmet needs than those in the comparison group (35.4% vs. 21.9%; <math>p &lt; .001</math>).</li> </ul>
<p><b>Studies Measuring Outcome</b></p>	<p>Study 3</p>
<p><b>Study Designs</b></p>	<p>Quasi-experimental</p>
<p><b>Quality of Research Rating (0.0–4.0 scale)</b></p>	<p>3.3</p>

### Outcome 3: Patient perception of relationship strain

<b>Description of Measures</b>	<p>Patient perception of relationship strain was measured using a survey developed by the researchers based on a survey from prior studies. Four dichotomous items asked whether, because of their health problems and need for assistance, patients felt that their caregiver tried to manipulate them, felt that the relationship with the caregiver was strained, felt resentful toward the caregiver, or felt angry toward the caregiver.</p> <p>Trained interviewers conducted structured telephone interviews with patients at baseline and 6 and 12 months after baseline. The interviewed patients were limited to those who could pass a baseline screening using an adapted version of the short Blessed Orientation-Memory-Concentration Test.</p>
<b>Key Findings</b>	<p>Participants were patients with dementia and their caregivers. Communities were randomly assigned such that participants in two communities received a modified version of the intervention called Partners in Dementia Care for 12 months and those in three other communities received usual care. The patients were 60 years and older, had at least one dementia diagnosis in their medical record, resided in the community at the start of the study, and were veterans receiving primary care from a VA medical center. From baseline to 6-month followup, among patients with more functional impairment, patients in the intervention group had a greater decrease in relationship strain than those in the comparison group (80% vs. 25%; <math>p = .05</math>).</p>
<b>Studies Measuring Outcome</b>	Study 2
<b>Study Designs</b>	Quasi-experimental
<b>Quality of Research Rating (0.0–4.0 scale)</b>	3.3

### Outcome 4: Caregiver strain

<b>Description of Measures</b>	<p>Caregiver strain was assessed using a survey developed by the researchers based on a survey from prior studies. One study used a 14-item version, and the second used a 12-item version. Both included items related to three perceived negative effects specific to caregiving: relationship strain between patients and caregivers (e.g., “I felt angry toward him/her,” “I felt appreciated for what I did”), health deterioration or any adverse health effects from caregiving (e.g., “I seemed to get sick more often,” “I was bothered more by aches and pains”), and role captivity or feelings of being trapped in the caregiving role (e.g., “I wished I were free to lead my own life,” “I wished I could just run away from this situation”). Response categories ranged from 0 (strongly disagree) to 3 (strongly agree).</p> <p>In one study, trained, blinded research staff conducted structured telephone interviews with caregivers at baseline and 12 months after baseline. In the other study, trained interviewers conducted telephone interviews with caregivers at baseline and 6 and 12 months after baseline.</p>
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<p><b>Key Findings</b></p>	<p>In one study, Kaiser Permanente patients with diagnosed dementia or memory loss and their caregivers were randomly assigned to the intervention or comparison group. Eligible patients were 55 years or older, residing outside of a nursing home at the start of the study, and living in the Cleveland Alzheimer’s Association chapter service area. The intervention group received usual managed care services and 12 months of BRI Care Consultation provided by the Association. Comparison group participants received usual managed care services and could independently contact the Association for services other than BRI Care Consultation. At 12-month followup:</p> <ul style="list-style-type: none"> <li>▶ Among nonspouse caregivers, those in the intervention group had significantly less relationship strain than those in the comparison group (p = .02; 26.1% lower relationship strain).</li> <li>▶ Among caregivers who used other Alzheimer’s Association chapter programs outside of BRI Care Consultation, those in the intervention group had significantly less health deterioration (p = .03; 22.0% less health deterioration) and felt significantly less role captivity (p = .02; 20.1% lower role captivity) than those in the comparison group.</li> </ul> <p>In another study, participants were patients with dementia and their caregivers. Communities were randomly assigned such that participants in two communities received a modified version of the intervention called Partners in Dementia Care for 12 months and those in three other communities received usual care. The patients were 60 years and older, had at least one dementia diagnosis in their medical record, resided in the community at the start of the study, and were veterans receiving primary care from a VA medical center. Findings included the following:</p> <ul style="list-style-type: none"> <li>▶ From baseline to 6-month followup, among caregivers with higher baseline role captivity, those in the intervention group had a significantly greater decrease in role captivity than those in the comparison group (25% vs. 4.8%; p = .02). No significant differences were found between groups on relationship strain or physical deterioration.</li> <li>▶ From baseline to 12-month followup, among caregivers assisting more functionally impaired persons, those in the intervention group had a 14.9% decrease in relationship strain while those in the comparison group had a 4.8% increase (p &lt; .03). No statistically significant differences between groups were found on physical deterioration or role captivity.</li> </ul>
<p><b>Studies Measuring Outcome</b></p>	<p>Study 1, Study 3</p>
<p><b>Study Designs</b></p>	<ul style="list-style-type: none"> <li>▶ Experimental</li> <li>▶ Quasi-experimental</li> </ul>
<p><b>Quality of Research Rating (0.0–4.0 scale)</b></p>	<p>3.3</p>

### Outcome 5: Patient depression

<p><b>Description of Measures</b></p>	<p>Patient depression was assessed using an adapted version of the Center for Epidemiologic Studies Depression Scale (CES-D) short version. The 11-item instrument</p>
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	<p>used 9 items from the CES-D short version and 2 items from the longer version of the CES-D. Respondents were asked to indicate the frequency of the following symptoms in the previous week:</p> <ul style="list-style-type: none"> <li>▶ Bothered by things that don't usually bother me</li> <li>▶ Not feel like eating or had a poor appetite</li> <li>▶ Have trouble keeping mind on what doing</li> <li>▶ Feel depressed</li> <li>▶ Feel like everything was an effort</li> <li>▶ Sleep restlessly</li> <li>▶ Feel happy</li> <li>▶ Feel lonely</li> <li>▶ Enjoy life</li> <li>▶ Feel sad</li> <li>▶ Not seem to be able to get going</li> </ul> <p>Response categories ranged from 0 (hardly ever/never) to 2 (often). Trained interviewers conducted structured telephone interviews with patients at baseline and 6 and 12 months after baseline. The interviewed patients were limited to those who could pass a baseline screening using an adapted version of the short Blessed Orientation-Memory-Concentration Test.</p>
<b>Key Findings</b>	<p>Participants were patients with dementia and their caregivers. Communities were randomly assigned such that participants in two communities received a modified version of the intervention called Partners in Dementia Care for 12 months and those in three other communities received usual care. Patients were 60 years and older, had at least one dementia diagnosis in their medical record, resided in the community at the start of the study, and were veterans receiving primary care from a VA medical center. From baseline to 6-month followup, among patients with more cognitive impairment, those in the intervention group had a 30.1% decrease in symptoms of depression and those in the comparison group had a 50% increase (<math>p = .03</math>).</p>
<b>Studies Measuring Outcome</b>	Study 2
<b>Study Designs</b>	Quasi-experimental
<b>Quality of Research Rating (0.0–4.0 scale)</b>	3.4

### Outcome 6: Caregiver depression

<b>Description of Measures</b>	<p>Caregiver depression was assessed using an adapted version of the Center for Epidemiologic Studies Depression Scale (CES-D) short version. The 11-item instrument used 9 items from the CES-D short version and 2 items from the longer version of the CES-D. Respondents were asked to indicate the frequency of the following symptoms in the previous week:</p> <ul style="list-style-type: none"> <li>▶ Bothered by things that don't usually bother me</li> <li>▶ Not feel like eating or had a poor appetite</li> </ul>
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	<ul style="list-style-type: none"> <li>▶ Have trouble keeping mind on what doing</li> <li>▶ Feel depressed</li> <li>▶ Feel like everything was an effort</li> <li>▶ Sleep restlessly</li> <li>▶ Feel happy</li> <li>▶ Feel lonely</li> <li>▶ Enjoy life</li> <li>▶ Feel sad</li> <li>▶ Not seem to be able to get going</li> </ul> <p>Response categories ranged from 0 (hardly ever/never) to 2 (often). In one study, trained, blinded research staff conducted structured telephone interviews with caregivers at baseline and 12 months after baseline. In the other study, trained, interviewers conducted telephone interviews with caregivers at baseline and 6 and 12 months after baseline.</p>
<b>Key Findings</b>	<p>In one study, Kaiser Permanente patients with diagnosed dementia or memory loss and their caregivers were randomly assigned to the intervention or comparison group. Eligible patients were 55 years or older, residing outside of a nursing home at the start of the study, and living in the Cleveland Alzheimer’s Association chapter service area. The intervention group received usual managed care services and 12 months of BRI Care Consultation provided by the Association. Comparison group participants received usual managed care services and could independently contact the Association for services other than BRI Care Consultation. At 12-month followup, caregivers in the intervention group had fewer reported symptoms of depression than those in the comparison group (<math>p &lt; .05</math>; 21.0% fewer symptoms of depression).</p> <p>In another study, participants were patients with dementia and their caregivers. Communities were randomly assigned such that participants in two communities received a modified version of the intervention called Partners in Dementia Care for 12 months and those in three other communities received usual care. The patients were 60 years and older, had at least one dementia diagnosis in the medical record, resided in the community at the start of the study, and were veterans receiving primary care from a VA medical center. From baseline to 6-month followup, symptoms of depression increased less among the intervention group caregivers than comparison group caregivers (6.8% vs. 28.2%; <math>p = .047</math>).</p>
<b>Studies Measuring Outcome</b>	Study 1, Study 3
<b>Study Designs</b>	<ul style="list-style-type: none"> <li>▶ Experimental</li> <li>▶ Quasi-experimental</li> </ul>
<b>Quality of Research Rating (0.0–4.0 scale)</b>	3.6

### Outcome 7: Patient utilization of health care services

<b>Description of Measures</b>	One study used medical records to gather data on three measures of health care utilization during the 12-month observation period: dichotomous measure of any
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hospital admission, dichotomous measure of any emergency department visits, and exact number of physician visits. Medical record data were electronically extracted directly from Kaiser Permanente's computerized information system that included clinical and service use data. Data extraction was completed by blinded Kaiser Permanente information technology staff.

Another study used medical records and interviews to gather data on four measures of health care utilization during the 12-month observation period: two dichotomous measures representing any hospital admissions and any emergency department visits and two continuous measures representing number of hospital admissions and emergency department visits. Data on hospital and emergency department use (including urgent care) from or paid for by the VA were electronically extracted from the VA National Patient Care Database maintained at the Austin Automation Center. To obtain a full picture of utilization, structured interviews with caregivers at baseline and 6 and 12 months after baseline were used to collect data on non-VA hospital and emergency department use (including urgent care).

## Key Findings

In one study, Kaiser Permanente patients with diagnosed dementia or memory loss and their caregivers were randomly assigned to the intervention or comparison group. Eligible patients were 55 years or older, residing outside of a nursing home at the start of the study, and living in the Cleveland Alzheimer's Association chapter service area. The intervention group received usual managed care services and 12 months of BRI Care Consultation provided by the Association. Comparison group participants received usual managed care services and could independently contact the Association for services other than BRI Care Consultation. Over the 12-month period:

- ▶ Among patients with severe memory difficulties, those in the intervention group were less likely to have an emergency department visit compared with those in the comparison group ( $p = .03$ ; 50.0% less likely to have an emergency department visit).
- ▶ Relative to the comparison group, the intervention group had a significant decrease in physician visits as scores on the Blessed Test (a standardized scale assessing orientation, registration, attention, memory, and language) increased from a low of 0 (i.e., less memory impairment) to a high of 28 (i.e., more memory impairment) ( $p < .01$ ; 23.2% fewer physician visits).

In another study, participants were patients with dementia and their caregivers. Communities were randomly assigned such that participants in two communities received a modified version of the intervention called Partners in Dementia Care for 12 months and those in three other communities received usual care. The patients were 60 years and older, had at least one dementia diagnosis in their medical record, resided in the community at the start of the study, and were veterans receiving primary care from a VA medical center. Over the 12-month period:

- ▶ Among patients with more cognitive impairment at 6-month followup, those in the intervention group had significantly fewer hospital re-admissions than those in the comparison group (1.9 vs. 2.6;  $p = .01$ ).
- ▶ Among patients with more behavioral symptoms at baseline, those in the intervention group had significantly fewer hospital re-admissions than those in the comparison group (1.7 vs. 2.5;  $p = .02$ ).

	<ul style="list-style-type: none"> <li>▶ Among patients with more behavioral symptoms at 6-month followup, those in the intervention group had significantly fewer return emergency department visits than those in the comparison group (2.5 vs. 3.5; <math>p = .02</math>).</li> </ul>
<b>Studies Measuring Outcome</b>	Study 1, Study 2
<b>Study Designs</b>	<ul style="list-style-type: none"> <li>▶ Experimental</li> <li>▶ Quasi-experimental</li> </ul>
<b>Quality of Research Rating (0.0–4.0 scale)</b>	3.5

## Study Populations

The following populations were identified in the studies reviewed for Quality of Research.

Study	Age	Gender	Race/Ethnicity
<b>Study 1</b>	<ul style="list-style-type: none"> <li>▶ 18–25 (Young adult)</li> <li>▶ 26–49 (Adult)</li> <li>▶ 50–60 (Older adult)</li> <li>▶ 61–74 (Older adult)</li> <li>▶ 75–84 (Older adult)</li> <li>▶ 85+ (Older adult)</li> </ul>	<ul style="list-style-type: none"> <li>▶ 59% Female</li> <li>▶ 41% Male</li> </ul>	<ul style="list-style-type: none"> <li>▶ 77% White</li> <li>▶ 22.5% Black or African American</li> <li>▶ 0.5% Hispanic or Latino</li> </ul>
<b>Study 2</b>	<ul style="list-style-type: none"> <li>▶ 61–74 (Older adult)</li> <li>▶ 75–84 (Older adult)</li> <li>▶ 85+ (Older adult)</li> </ul>	<ul style="list-style-type: none"> <li>▶ 97.5% Male</li> <li>▶ 2.5% Female</li> </ul>	<ul style="list-style-type: none"> <li>▶ 81% White</li> <li>▶ 19% Race/ethnicity unspecified</li> </ul>
<b>Study 3</b>	<ul style="list-style-type: none"> <li>▶ 18–25 (Young adult)</li> <li>▶ 26–49 (Adult)</li> <li>▶ 50–60 (Older adult)</li> <li>▶ 61–74 (Older adult)</li> <li>▶ 75–84 (Older adult)</li> <li>▶ 85+ (Older adult)</li> </ul>	<ul style="list-style-type: none"> <li>▶ 94.9% Female</li> <li>▶ 5.1% Male</li> </ul>	<ul style="list-style-type: none"> <li>▶ 81% White</li> <li>▶ 19% Race/ethnicity unspecified</li> </ul>

## Quality of Research Ratings by Criteria (0.0–4.0 scale)

Criterion	Ratings						
	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6	Outcome 7
<b>Reliability of Measures</b>	3.5	3.0	3.5	3.5	3.8	4.0	3.8
<b>Validity of Measures</b>	3.5	3.6	3.5	3.3	4.0	4.0	4.0

Criterion	Ratings						
	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6	Outcome 7
Intervention Fidelity	3.3	3.3	3.3	3.1	3.4	3.1	3.1
Missing Data and Attrition	2.5	2.5	2.5	3.1	2.5	3.1	3.1
Potential Confounding Variables	3.3	3.3	3.3	3.0	3.3	3.1	3.1
Appropriateness of Analysis	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Overall Rating	3.3	3.3	3.3	3.3	3.4	3.6	3.5

### Study Strengths

Patient perception of unmet needs, caregiver perception of unmet needs, and patient perception of relationship strain had measures with good internal reliability. Reliability estimates for caregiver strain were good to excellent. The reliability of the shortened Center for Epidemiologic Studies Depression Scale (CES-D) has been established by other researchers; the modifications made to this instrument were reasonable, and subsequent reliability was good. The method for establishing reliability for patient utilization of health care services was an established approach in health care research, and using information from the caregiver interviews established greater confidence in the measure. Internal reliability based on Cronbach's alpha was high. The measures for patient perception of unmet needs, caregiver perception of unmet needs, and patient perception of relationship strain have good structural validity with high factor loadings. The shortened CES-D and the two additional items from the original CES-D possess adequate validity. Intervention fidelity was good across the three studies; implementation elements were well described, and no significant departures from planned implementation were identified. Further, information was provided on the number and types of contacts with care consultants. For attrition and missing data, one study addressed attrition and missing data effectively, and one study had low attrition rates. Some potential confounds were controlled for: one study established baseline equivalence between intervention and comparison groups, one used covariance to address lack of equivalence within the sample, and one employed a randomized design. The analytic strategies fit with the theoretical approach, model, and hypotheses. Use of ordinary least squares and logistic regression were appropriate. Modifying-effects hypotheses and covariates added to the strength of the analysis. Power analysis assumptions were appropriate, and subgroup analyses for baseline cognitive and behavioral symptoms provided valuable information about the conditions under which the intervention is likely to have greatest impact.

### Study Weaknesses

Reliability of some measures had not been independently documented by other researchers. No information was provided on criterion validity for measures of patient perception of unmet needs, caregiver perception of unmet

needs, or patient perception of relationship strain. There are few details provided about time spent in training. More details about the relationship between the Alzheimer's Association chapters and their partners in the studies (Kaiser Permanente in one and VA in the others) would have been helpful. There were issues with attrition in two studies; those dropping out of the study differed from those who remained, and no additional analyses were conducted to address these differences. In one study, patients who did not pass the mental status test were not interviewed. Patients not interviewed were an average of 5 years older and were more likely to have a specific dementia diagnosis rather than a diagnosis of memory loss. Although randomization was used for two studies, matched sites rather than within-site randomization was used, raising possible concerns about equivalence across intervention and comparison groups. In all studies, variability in the use of care coordination services among intervention participants may have affected outcomes but was not modeled.

## READINESS FOR DISSEMINATION

Review Date: August 2015

### Materials Reviewed

The materials below were reviewed for Readiness for Dissemination. The implementation point of contact can provide information regarding implementation of the program and the availability of additional, updated, or new materials.

Benjamin Rose Institute on Aging. (2013). *BRI Care Consultation: Fidelity and supervisory reports*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2013). *BRI Care Consultation Information System (CCIS) manual: Admin, supervisor, quality assurance manual*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2013). *BRI Care Consultation Information System (CCIS) manual: Care consultant manual*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2013). *BRI Care Consultation: Service delivery manual*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2013). *Satisfaction survey for care consultation*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2014). *BRI Care Consultation Information System Web-based hosting agreement*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2014). *BRI Care Consultation Web-based program & training materials agreement*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2014). *Care consultant job description: Template*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2015). *BRI Care Consultation assessment*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (2015). *BRI Care Consultation Web CCIS user role accessibility*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation* [Trade show card]. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Action steps*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: A coaching program for dealing with Alzheimer's disease and other dementias*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Goals*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Preparing for your next call*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Service delivery* [Slides]. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Templates*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Tips for the care consultant*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Tips for using the BRI Care Consultation Information System (CCIS)*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation training: Agenda*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Training team contact list*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Vignette 1*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Vignette 2*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *BRI Care Consultation: Vignette outcomes*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *Care consultation: How do you stay balanced when you're wearing too many hats?* [Brochure]. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *Care consultation: Where can we turn to make the best choices to meet our needs?* [Brochure]. Cleveland, OH: Author.

Benjamin Rose Institute on Aging. (n.d.). *Certification of completion: Care consultant*. Cleveland, OH: Author.

Benjamin Rose Institute on Aging Web site, <http://www.benrose.org>

## Readiness for Dissemination Ratings by Criteria (0.0–4.0 scale)

Criterion	Rating
Implementation Materials	4.0
Training and Support	3.5
Quality Assurance	3.9
Overall Rating	3.8

### Dissemination Strengths

The service delivery manual is thorough and well organized. It clearly describes and differentiates between the roles and responsibilities of the care consultant and the primary caregiver. The manual outlines the timing and sequencing of implementation steps and provides guidance on how to modify these steps based on a patient's circumstances while maintaining fidelity. The patient assessment is very comprehensive and provides a solid baseline to create an action plan. The electronic Care Consultation Information System (CCIS) aids in timely implementation by allowing care consultants to easily access a client's case file and action steps. Training is required and includes client practice sessions for care consultants as well as instruction on using the Web-based information system. The developer offers ongoing support in the form of refresher trainings, fidelity review sessions, case consultation, and CCIS troubleshooting. Requirements for supervision of the care consultants (e.g., regular meetings with care consultant and supervisor), are clearly defined in the program materials to ensure fidelity. Fidelity reports, easily generated using the Web-based system, include information on the timely completion of assessments and tasks. Several quality assurance materials are available, including a client satisfaction survey.

### Dissemination Weaknesses

The program Web site lacks important information about the intervention, such as a detailed program description and implementation requirements for potential sites. While system-generated fidelity reports list completion rates of tasks and track time spent with each patient, more guidance is needed regarding the acceptable levels of these measures to improve the work of the care consultant and overall site implementation.

## COSTS

The cost information below was provided by the developer. Although this cost information may have been updated by the developer since the time of review, it may not reflect the current costs or availability of items (including newly developed or discontinued items). The implementation point of contact can provide current information and discuss implementation requirements.

## Implementation Materials

Item Description	Cost	Required by Developer
First-year licensing for the Care Consultation Information System (CCIS) Web-based software installation and hosting by licensee (includes three licenses with full access to the CCIS for care consultants and/or supervisors; site administrator(s) license with limited access to the CCIS; and one quality assurance license with limited access to the CCIS)	\$4,500, plus \$500 per additional full license	Yes
BRI hosting services for the Web-based CCIS software	\$100 per month	No
1.5-day, on- or offsite (at Benjamin Rose Institute) training on the intervention and Web-based system (includes three sets of care consultant manuals and training materials, one administrator and quality assurance manual, and electronic versions of the manuals)	\$2,500 for up to 10 participants, plus \$250 per additional person and travel expenses	Yes
First-year ongoing support and replacement staff training (approximately 16 hours, including up to two 2-hour refresher trainings, up to four fidelity review sessions by telephone/webinar, and up to 4 hours of CCIS troubleshooting and case consultation)	\$2,000	Yes
Webinar training for new care consultants	\$300	No
Yearly license renewal and updates (includes updates to the CCIS Web-based system and other materials, up to 4 hours of CCIS troubleshooting, and case consultation for three licenses with full access for care consultants, assistants, and/or supervisors)	\$2,100, plus \$500 per additional full license	Yes

## Additional Information

Training is required for new care consultants after the licensed organization's initial training.

## OTHER CITATIONS

Benjamin Rose Institute. (2004). *Patient and Caregiver Outcome Survey: Evaluation of the Chronic Care Networks for Alzheimer's Disease Project (final report)*. Cleveland, OH: Author.

Benjamin Rose Institute. (2009). *Care consultation to integrate health and community care (final report)*. Cleveland, OH: Author.

Benjamin Rose Institute. (2010). *Development and testing of the Care Network for Depression for older adults and family caregivers (final report)*. Cleveland, OH: Author.



*Care consultation telephone-based empowerment intervention.* (n.d.). Available at [http://www.rosalynncarter.org/caregiver\\_intervention\\_database/dementia/care\\_consultation\\_telephone-based\\_empowerment\\_intervention/](http://www.rosalynncarter.org/caregiver_intervention_database/dementia/care_consultation_telephone-based_empowerment_intervention/)

Clark, P. A., Bass, D. M., Looman, W. J., McCarthy, C. A. & Eckert, S. (2005). Outcomes for patients with dementia from the Cleveland Alzheimer's Managed Care Demonstration. *Research and Practice in Alzheimer's Disease, 10*, 172–179.

Kunik, M. E., & Bass, D. M. (2011). *Partners in Dementia Care: A care coordination intervention for veterans with dementia and their family caregivers (final report)*. Houston, TX: Houston Center for Quality of Care & Utilization Studies.

Lines, L. M., Ahaghotu, C., Tilly, J., & Wiener, J. M. (2003). *Care coordination for people with Alzheimer's disease and related dementias: Literature review*. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. Available at <http://aspe.hhs.gov/daltcp/reports/2013/alzcc.shtml>

Maslow, K. (2012, September). *Translating innovation to impact: Evidence-based interventions to support people with Alzheimer's disease and their caregivers at home and in the community. A white paper*. Washington, DC: U.S. Administration on Aging. Available at [http://www.aoa.acl.gov/AoA\\_Programs/HPW/Alz\\_Grants/docs/TranslatingInnovationtoImpactAlzheimersDisease.pdf](http://www.aoa.acl.gov/AoA_Programs/HPW/Alz_Grants/docs/TranslatingInnovationtoImpactAlzheimersDisease.pdf)

## TRANSLATIONAL WORK

BRI Care Consultation was developed in 1996 by a team of researchers at the Benjamin Rose Institute on Aging in Cleveland, Ohio. Since 2011, BRI Care Consultation has been implemented in 8 States and in 28 diverse types of organizations including Area Agencies on Aging, Alzheimer's Association chapters, VA medical centers, senior centers, community service agencies, large medical management groups, and family counseling agencies. Funding to sustain the program comes from various sources, such as the National Family Caregiver Support Program, Medicaid waiver programs, Older Americans Act respite programs, community foundations, and payments by families.

VA medical centers and local Alzheimer's Association chapters in Boston, Massachusetts, and Houston, Texas, partnered to deliver Partners in Dementia Care—a version of BRI Care Consultation modified for use with veterans with dementia and their caregivers. PDC was developed based on the Cleveland Alzheimer's Managed Care Demonstration and the Chronic Care Networks for Alzheimer's Disease. PDC began in 2006 as a 5-year research investigation to assess its cost-effectiveness. Participants included veterans ages 50 years and older with a new or pre-existing dementia diagnosis and their caregivers. The program was implemented by both a care consultant and a VA medical center dementia care coordinator and focused on veterans' medical and nonmedical needs, which could be met using VA resources, as well as the caregivers' strain to meet needs not addressed by the VA. The cost to deliver PDC in the study (e.g., coordinator salaries, benefits, equipment, supplies, training, software, licensing, supervision, administrative overhead) was estimated to be \$65 to \$80 per month per dyad (\$800 to \$960 per year), depending on the caseload for the care coordination team.

Researchers found that PDC demonstrated significant improvements in psychosocial outcomes compared with usual VA care, without substantially increasing costs to the VA over a 1-year followup period.

PDC was also implemented statewide in Ohio, where six Alzheimer's Association chapters were licensed to deliver the program in 2014. The statewide implementation was facilitated by a 3-year grant from the Administration on Aging to enhance and integrate care systems. The grant activities are part of making Ohio a dementia-capable State and are supported by the Ohio Department on Aging, the Ohio Council of Alzheimer's Association Chapters, and the Administration for Community Living (ACL). With more than 500 families already enrolled, the 6 Alzheimer's Association chapters are working toward developing the necessary organizational infrastructure for long-term, sustained implementation of the program.

In 2010, three Area Agencies on Aging from diverse geographical regions (urban and rural) in Georgia implemented the Georgia Care Consultation Project supported by a grant from the Administration on Aging and under the auspices of a partnership between Benjamin Rose Institute on Aging and Rosalynn Carter Institute on Caregiving. The project was designed to implement BRI Care Consultation to help family caregivers and patients access information about health problems, access available resources to mobilize and facilitate the use of supports and services, and receive emotional support. The initiative also included an assessment of the implementation project using the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, and Maintenance). The project served nearly 600 individuals with dementia and their caregivers. The evaluation found that BRI Care Consultation produced positive outcomes among caregivers and patients while sustaining a low average annual cost of service to Georgia families. Statistically significant outcomes from program enrollment to 12-month followup included an increase in caregiver confidence to manage caregiving; increase in meeting caregiver needs (organizing caregiver networks, understanding the dementia diagnosis, accessing services, and receiving emotional support); and for caregivers of patients with high cognitive impairment, reductions in social isolation, physical and emotional health strain, and role captivity. As a result of these positive outcomes, the project added two more Georgia Area Agencies on Aging in 2013 and four additional sites scheduled for 2015. The analysis demonstrated the cost-effectiveness of the program; the annual cost of service per caregiving family was considerably less than the annual cost of traditional case management in Georgia, which was \$1,454 per client.

The Care Consultation Information System (CCIS) software package was developed to promote implementation that is consistent with the intervention's required standardized protocol. The fourth version of this software was released in 2015. This Web-based version eases documentation burdens on care consultants and helps manage assessment/reassessment, action plan development and monitoring, and ongoing monitoring of fidelity and outcomes. It includes many reporting tools for fidelity monitoring, evaluation, supervision, and clinical decision making.

Benjamin Rose Institute on Aging holds the copyright and trademark for BRI Care Consultation and currently licenses sites to deliver the program. Some licenses are done in partnership between the Benjamin Rose Institute on Aging and the Rosalynn Carter Institute on Caregiving.

Site With Translational Work	References Describing Site's Translational Work, by Category					
	Planning/ Partners	Adoption	Reach/ Recruitment	Implementation	Effectiveness	Maintenance
Ohio Department of Aging	Reference 1	—	—	—	—	—
3 Georgia Agencies on Aging	Reference 2	Reference 2	Reference 2	Reference 2	Reference 2	Reference 2
5 VA medical centers (Boston, MA, and Houston, TX)	Reference 3	Reference 3	Reference 3	Reference 3	Reference 3	—

Reference Number	Reference
1	Ohio Department of Aging. (2011, October). <i>Feds give Ohio authority to allow options for seniors who prefer assisted living over nursing home and funding to continue transforming services for aging Ohioans</i> . Available at <a href="http://www.aging.ohio.gov/news/pressreleases/2011/20111003.htm">http://www.aging.ohio.gov/news/pressreleases/2011/20111003.htm</a>
2	Association of State and Territorial Health Officials. (2014). <i>Georgia: Empowering caregivers and care receivers with BRI Care Consultation</i> . Available at <a href="http://www.astho.org/healthyaging/Empowered-People/ASTHO-State-Story-GA-BRI-Care-Consultation/">http://www.astho.org/healthyaging/Empowered-People/ASTHO-State-Story-GA-BRI-Care-Consultation/</a>
3	Morgan, R. O., Bass, D. M., Judge, K. S., Liu, C. F., Wilson, N., Snow, A. L., . . . Kunik, M. E. (2015). A break-even analysis for dementia care collaboration: Partners in Dementia Care. <i>Journal of General Internal Medicine</i> , 30(6), 804–809. PubMed abstract available at <a href="http://www.ncbi.nlm.nih.gov/pubmed/25666216">http://www.ncbi.nlm.nih.gov/pubmed/25666216</a>

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Additional program information can be obtained through the following Web site(s):

[http://www.benrose.org/research/EBP\\_CareConsultation.cfm](http://www.benrose.org/research/EBP_CareConsultation.cfm)