

Quality Dementia Care: Integrating Caregivers Into a Chronic Disease Management Model

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Abstract

Absent a cure or effective disease modifying treatment for dementia, developing cost-effective models of care that address the needs of caregivers alongside the medical management of the disease is necessary to maximize quality of care, address safety issues, and enhance the patient/caregiver experience. MemoryCare, a community-based non-profit organization, has 15 years of experience delivering a medical and care management model for persons with Alzheimer's disease and other types of dementia. Designed to supplement primary care services, the average annual cost-per-patient is US\$1,279. Observational data on 967 patients and 3,251 caregivers served by the program in 2013 reveal high levels of satisfaction, increased dementia-specific knowledge, improved perceived ability to manage challenging behavioral aspects of dementia, and lengthened perceived time in the home setting. Data suggest lower hospitalization rates and related cost savings. These findings warrant a further study of broader integration of caregivers into clinical care models for persons with dementia.

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Keywords

Dementia, Alzheimer's, Dementia care model, caregiver, MemoryCare

Cognitive disorders are among the greatest health and economic threats of the twenty-first century (Department of Health and Human Services [DHHS], 2012; Hurd, Martorell, Delavande, Mullen, & Langa, 2013). As life expectancy has increased, the prevalence of Alzheimer's disease and related dementias has also risen. Currently, an estimated 5 million people in the United States have dementia. One in nine individuals above the age of 65 and a third of adults above the age of 85 have cognitive impairment significant enough to affect their day-to-day function (Hebert, Weuve, Scherr, & Evans, 2013). As the average age of the population rises, these figures will grow, making the development of effective systems of dementia care a critical public health concern (Bynum, 2014). The costs of Medicare and Medicaid are respectively 3 and 19 times more expensive for a person with dementia compared with an age-matched person without dementia (2014 Alzheimer's Disease Facts and Figures, 2014). While research has provided a greater understanding of the pathological processes that contribute to dementia, most experts agree that a cure is likely many years away. Best practice dictates the creation and implementation of high-quality, cost-effective models of disease management (DHHS, 2012).

A central aim of care coordination models for chronic illness care is to promote a paradigm shift in health delivery from an acute, reactive system to one that is proactive, planned, and population based. Research of models of chronic illness care and evidence-based quality care programs indicates that the greatest improvement in outcomes using such models is achieved when multi-component practice changes focus on the following areas: increasing providers' expertise and skills, educating and supporting patients, making care delivery more team-based and planned, and improving utilization of registry-based information systems (Coleman, Austin, Brach, & Wagner, 2009). Chronic care models provide a framework for research and guidelines for measuring quality care and practice performance. However, cost-effectiveness is more difficult to capture. Identifying costs and benefits to practices, payers, and patients is a challenge (Coleman, et al., 2009).

Despite almost two decades of accumulating evidence of more than a dozen successful models of comprehensive care for older adults with chronic conditions (Boult et al., 2009), implementation of care delivery system redesign continues to lag as the demographic demands of our aging population challenge the capacity of our existing delivery systems to adequately meet the needs of patients with dementia along with the needs of their caregivers.

In utilizing chronic disease models for quality dementia care, providers must address another layer of complexity. Due to cognitive disability, the person with dementia is unable to reliably exchange health care information and eventually becomes unable to manage his or her own care. The majority of persons with dementia are home-dwelling and eventually rely entirely on a caregiver to accomplish the most basic activities of daily living: bathing, dressing, eating, transferring, and toileting. Caregivers must oversee all medical needs and interact with health care providers in addition to attending to financial issues, transportation, home maintenance, and other necessary instrumental activities of daily living. The patient-centered element for delivering quality dementia care along the continuum of the disease thus becomes a patient/caregiver dyad whether the diagnosis of dementia is central or, as is often the case, added on to the three or more chronic conditions already present in nearly half of Medicare beneficiaries (Reuben, 2009; Wolff, Starfield, & Anderson, 2002).

Dementia-care programs reporting the most success coordinated both medical care and long-term support services (LTSS) and occurred in integrated health care environments to which LTSS coordination was added (Lines, Ahaghotu, Tilly, & Weiner, 2013; Vickrey et al., 2006). Furthermore, having regular, planned interactions with the patient/caregiver dyad which are available in such integrated settings is an important component of practice redesign for best outcomes in dementia care (Alzheimer's Study Group, 2009; DHHS, 2012; Vickrey et al., 2006). As more widespread adoption of care coordination models for people with dementia dovetails with the growing need for quality and effective community-based dementia care, the MemoryCare program can serve to provide information on the practical implementation of similar models in other communities.

MemoryCare is an independent, community-based non-profit organization in Asheville, North Carolina, that was founded in 2000 to provide consultative medical care and caregiver support for a growing population of cognitively impaired older adults and their families. In western North Carolina, a predominantly rural region of 20 counties, residents aged 65 years and older make up 19.5% of the total population, compared with 13.8% in the rest of the state and 13.7% nationwide (U.S. Census Bureau, 2007-2011, 2012). For 15 years, MemoryCare has provided medical care for older adults with dementia and prioritized integrated case management with support and education services for their family caregivers. Given the clear need in our health system for cost-effective, high-quality dementia care and the benefits of planned, regular interactions with caregivers in a clinical setting (Alzheimer's Study Group, 2009; DHHS, 2012), the authors' primary aim was to describe the clinical program and outcomes of a community-based

dementia disease management care model that places equal emphasis on patient care and caregiver education and support.

Method

Description of the Program

MemoryCare was established as a non-profit organization to provide necessary care for families affected by Alzheimer's disease and other dementias. Physician and care manager (nurse or social worker) teams incorporate caregiver and patient education, counseling, and support into the evaluation and medical management of each patient. Through a comprehensive, interprofessional approach working with the patient/caregiver dyad, needs are identified and formally addressed over time. Individualized care plans are developed and shared with the patient and/or caregiver(s) and with other providers across the health care and LTSS continuum.

Referral Process

Patients 65 years of age and older who have concerns regarding neurocognitive disorder are eligible for enrollment. Younger individuals can enroll after completing the screening process through their primary care provider (PCP) designed to exclude causes of cognitive complaints that are not related to dementia. All patients are required to bring an individual with them who can serve as a reliable informant to provide collateral history and to assist in implementing a plan of care. Most patients are accompanied by the person(s) who serves or will serve to assist them with activities of daily living as needs arise. Patients and caregivers enroll for a period of 1 year after which they decide whether or not to re-enroll. MemoryCare maintains a waiting list for enrollment that averages 4 months. For patients or caregivers who do not desire to enroll after a pre-enrollment screening phone call, information is provided about other community resources including social services and other specialists who provide dementia-related medical care.

MemoryCare is a consultative practice and is designed to work in concert with PCPs who refer most individuals enrolled in the program. When a patient, caregiver, or non-physician service provider calls directly to request enrollment, staff contact the patient's PCP to ensure communication and coordination of care needs. Communication is maintained with the PCP throughout the period of enrollment. When there is no PCP involved in the patient's care, a list of physicians accepting new patients is provided to facilitate the establishment of a primary care relationship prior to enrollment.

Table 1. 2013 PQRS Dementia Group Measures.

Specific measures	Successfully met in 2013?
Measure 280: Staging of dementia	Yes, all providers
Measure 281: Cognitive assessment	Yes, all providers
Measure 282: Functional status assessment	Yes, all providers
Measure 283: Neuropsychiatric symptom assessment	Yes, all providers
Measure 284: Management of neuropsychiatric symptoms	Yes, all providers
Measure 285: Screening for depressive symptoms	Yes, all providers
Measure 286: Counseling regarding safety concerns	Yes, all providers
Measure 287: Counseling regarding risks of driving	Yes, all providers
Measure 288: Caregiver education and support	Yes, all providers

Note. PQRS = Physician Quality Reporting Systems. Advance care planning became the 10th measure in the Dementia Measures Group in 2015—93% of all patients had documentation of advance care planning in their medical record in 2013.

Assessment of Patient and Caregiver Needs

Prior to an initial visit to MemoryCare, records are obtained from the patient's PCP and other health care providers. In addition, an extensive pre-visit questionnaire is completed by the patient and/or caregiver that includes past medical history, functional status, medications, family and social histories, economic status, and information about specific concerns. At the time of enrollment, the medical history of each patient is reviewed and care teams coordinate an appropriate diagnostic work-up that addresses potentially reversible causes of cognitive impairment. Initial and follow-up evaluations adhere to the current Centers for Medicare and Medicaid Services Physician Quality Reporting System (PQRS) Dementia Measures Group components (see Table 1; Centers for Medicare and Medicaid Services, 2014).

To ensure accurate and open communication of both medical and behavioral issues, the patient and caregiver each have individual time with the physician and with the team's care manager during initial and follow-up visits. When appropriate, there is group time as well with the care team to facilitate any needed care discussions between caregiver(s) and patient. MemoryCare teams provide disease management planning, medication review and reconciliation, and guidance and medical assistance in handling dementia-related behaviors and safety issues. The teams provide direct caregiver training that is tailored to individual needs, and coordinate with other medical providers and available community resources, such as in-home and

overnight respite, day programs, nutrition support, transportation, and caregiver support groups. Neuropsychiatric symptoms are addressed utilizing non-pharmacologic approaches when appropriate (Maslow, 2012; Rabins, Lyketsos, & Steele, 2006). Care management teams communicate via phone or email between visits to address interim dementia-related medical or behavioral problems.

Development of Individualized Care Plan

After the initial evaluation, patients and/or caregivers and primary care physicians receive a detailed care plan in their preferred format (electronic or paper) that is amended at every visit to address new issues that develop as the patient's dementia progresses. Patients and caregivers are encouraged to contact MemoryCare staff between visits with interim updates or concerns, and any contact is documented in the patient's medical record to inform future action. In addition to medical management, care plans offer guidance regarding safety, support strategies, community resources, and advance care planning. Care plans also emphasize the importance of legal and financial planning. MemoryCare teams educate patients and caregivers on the risks and benefits of medical interventions to optimize patient care and to minimize inappropriate use of the acute care system. The staff assists the patients and their caregivers in aligning goals of care to be consistent with the values of the patients and with formally drafted advance directives.

Caregiver Education and Training

Specific education tailored to diagnosis and staging information gathered in the clinical evaluation portion of the visit is provided. Content areas covered include the nature of dementia, safety issues, person-centered communication, understanding and managing dementia-related behaviors, advance care planning, appropriate use of the acute health care system, and legal and financial issues associated with planning for incapacity (see Table 2). There is an explicit focus on encouraging caregivers to adopt healthy lifestyles that may lessen their own risk of dementia or health complications and increase their stamina for caregiving over the course of the illness. Patients and caregivers receive information and facilitated referral(s) from care teams for community resources (see Table 2).

All enrolled caregivers have access to MemoryCare's six-module caregiver education and training program (Caregiver College). MemoryCare also offers educational workshops, peer support groups, and a resource center/lending library.

Table 2. Examples of Caregiver Education and Training Topics.

Patient safety	Community resources
Driving risks	Respite options
Medication errors	Day programs
Financial vulnerability	In-home services
Self-neglect	Community-based nutritional support
Limits in decision-making capacity	Patient and caregiver support groups
Nutrition	Long-term care facilities
Fire hazards	Hospice services
Wandering	Legal and financial services
Fall risk	Transportation
Medical management of co-morbidities	Medicare/Medicaid insurance planning
Firearms	Physical fitness resources
Accessing help in an emergency	Veteran's benefits
Hospitalization risks	Social engagement programs

Staffing Model

Care teams are physician-led and include a nurse or a social work care manager. Clinicians come from backgrounds including internal medicine, family practice, and psychiatry; some hold added qualifications in geriatrics or hospice and palliative medicine. At the time of hire, all physicians and care managers receive intense immersion in dementia-specific education and all participate in ongoing, dementia-specific continuing education. Nurse and social work care managers are trained on-site by experienced staff to administer cognitive testing, use non-pharmacologic approaches for neuropsychiatric symptoms of dementia when appropriate, and learn about community resources in the region. All staff are provided ongoing information about community resources to facilitate accurate guidance of patients and families in managing dementia-related care. Clinical staffing includes 3.3 full-time equivalent (FTE) physicians, 2 FTE social workers, 1 FTE registered nurse, and 3 FTE administrative support staff.

MemoryCare has two rural satellite clinics that are each operated 1 to 2 days per week with administrative needs handled by the central home office. One physician makes home visits within the central office's home county.

Financial Model

The average total cost of care per patient/caregiver unit for all evaluation, patient management, and caregiver support services provided (excluding

laboratory or radiology/neuroimaging costs) over the calendar year in 2013 was US\$1,279. MemoryCare covers this cost through a combination of Medicare and insurance fees for time spent with the patient, an annual cost-sharing caregiver fee for caregiver training and support adjusted on a sliding scale, and charitable funds. The program accepts Medicare and co-insurance payments for the care of the patient, which cover an average of 25% of the US\$1,279.

The annual caregiver fee for enrollment is currently US\$495; after charges are adjusted via sliding scale, caregiver fees account for 23% of the total cost of care. There is only one caregiver fee per patient, regardless of the number of caregivers who engage our services. Thirty-one percent of caregiver fees were waived in 2013. The remaining cost (52%) comes from charitable funding and is used to cover the difference between actual costs and reimbursements as well as to fully or partially waive the caregiver fee for families with financial hardship. The program was established as a non-profit 501(c)3 organization to cover the budgetary gap and to keep services affordable and available to all, regardless of income level.

Program Evaluation Measurement and Analysis

Since inception, the program has collected basic socio-demographic and clinical data on all patients and caregivers served. In 2013, MemoryCare mailed surveys to 400 randomly selected primary caregivers, with results compiled by an outside consultant. Quality evaluation efforts included internal chart audits to assess provider compliance with the PQRS Dementia Measures Group (see Table 1) and provide an assessment of program fidelity across providers and site of service delivery. All MemoryCare providers utilized claims-based reporting for PQRS Dementia Measures Group to document their compliance with best care components. All MemoryCare providers received confirmation of successful attestation from the Centers for Medicaid and Medicare Services beginning in 2013. MemoryCare collects data on advance care planning (a measure added to PQRS in 2015).

Assuming that a minimum of 1-year exposure to the program would be necessary to have impact, hospitalization rates were examined retrospectively for the subset of patients who had been enrolled for a minimum of 2 years at the end of 2013. We defined hospitalization as any admission to the hospital requiring an overnight stay. The annual hospitalization rate for this subset of patients was calculated for 2013 by using the number of hospital admissions divided by the total number of patients meeting the defined enrollment time frame (196 patients for 12 months). To compare our rate with

Table 3. Socio-Demographic Characteristics of Patients Enrolled in 2013.

Characteristics	Value
Number of patients enrolled	967
Number of caregivers enrolled	3,251
Caregiver:Patient ratio	3:1
Patient age in years, <i>M</i> ± <i>SD</i> , range	80.3 ± 7.7, range 52-104
Female, %	63
Ethnicity, % Caucasian	96
Low income (150% of federal poverty level), %	52
Dually eligible (Medicare/Medicaid), %	3
Primary caregiver relationship, %	
Spouse	49
Child	45
Location of residence, %	
Home	88
Assisted living	9
Skilled nursing facility	3

the published literature rate, Fisher's 95% confidence intervals (CIs) were calculated for both sets of data and compared for statistical significance (using $\alpha = .05$).

Hospitalization annual cost-savings estimates were calculated by multiplying the number of "avoided" admissions by the median cost of hospitalization for patients with dementia. Cost data were obtained from the local health system providing the majority of care to our patient population. The number of 40 "avoided" admissions was obtained by subtracting the 40 observed MemoryCare admissions from the number of "expected" admissions ($n = 80$) based on published data of a similar cohort with dementia (Phelan, Borson, Grothaus, Balch, & Larson, 2012).

Results

Demographics and Utilization Frequency

MemoryCare has grown from serving 200 patients and 404 caregivers in its first year of operation to serving 967 patients and 3,251 caregivers in 2013. Socio-demographic characteristics of patients and caregiver relationships are detailed in Table 3, and clinical characteristics of these patients are detailed in Table 4. Forty-eight percent of MemoryCare's patient population would qualify for skilled nursing care based on dependency in two or

Table 4. Clinical and Utilization Characteristics of Patients Enrolled in 2013 ($n = 967$).

Characteristics	Value
Clinical diagnosis of type of dementia, %	
Alzheimer's	37
Vascular	13
Frontotemporal	4
Lewy body	3
Mixed, other	43
Mini-mental state examination score ($M \pm SD$, range)	19.4 \pm 8.4, 0-30
Dependency in ≥ 2 basic activities of daily living, %	48
Average number of visits per year per patient/caregiver dyad	3
Average number of non-visit care management interactions per patient per year (phone, email)	14.9
Hospitalization rate for patients with a minimum of 1-year enrollment per 1,000 person-years	204
Re-hospitalization rate within 30 days, %	5.0

Note. Folstein, Folstein, and McHugh (1975).

more basic activities of daily living. Fifty-two percent are low-income patients by federal poverty standards. The interim between follow-up visits for these patients in 2013 averaged 4 months with as-needed communication via phone or email for additional support. Each patient/caregiver unit had on average 15 non-visit contacts per year with a care manager or a physician to address interim care concerns. All charts met the PQRS-established criteria for Dementia Measures Group reporting in 2013 (see Table 1).

While patients and caregivers receive continuous education and resource information through clinic visits and interim communication specific to their needs, 139 enrolled caregivers completed Caregiver College and 38 enrolled caregivers attended at least two meetings of a MemoryCare peer support group in 2013. According to the annual caregiver survey, 40% of caregivers utilize the resource center/lending library. No utilization data are available for enrolled caregivers in regard to caregiver workshops open to the general public. These workshops are offered on average twice yearly, and attendance is not taken at these events.

Table 5. Caregiver Impact Survey Responses 2013.

Question	Affirmative response
“Has your knowledge of memory disorders improved since enrollment in MemoryCare?”	192/201: 95%
“Has your ability to manage your loved one’s behavior improved due to MemoryCare’s program?”	173/192: 90%
“If your loved one is still living at home, has MemoryCare helped you keep them in the home setting longer?”	70/84: 83% ^a
“Is MemoryCare’s caregiver fee acceptable for the services provided?”	148/174: 85%
“Overall, are you satisfied with MemoryCare’s program?”	189/193: 98%

Note. Number of surveys returned/mailed is 203/400 (51% return rate).

^a90 caregivers responded that this question was not applicable to their situation.

Program Evaluation Measurement and Analysis

Two hundred and three of the 400 Caregiver Impact Surveys mailed to randomly selected primary caregivers in 2013 were returned for a 51% return rate. Not all questions were answered on all surveys. Specific question response rates varied and are reported for individual questions in Table 5. Affirmative response rates were calculated utilizing the number of caregivers who responded to each individual question as the denominator. Caregivers report improved dementia-specific knowledge (95%) and increased ability to manage dementia-related behaviors (90%). For those for whom the question was applicable, 83% perceive that dementia care management offered by MemoryCare increased their ability to keep the individual they are caring for in a home setting for a longer period of time. Ninety-eight percent reported overall satisfaction with the program. All charts met the PQRS-established criteria for Dementia Measures Group reporting in 2013. Ninety-three percent of all patients had documentation in their medical records of advance care planning within 1 year of enrollment, a criterion that was added to PQRS reporting standards in 2015.

Hospitalization rates were examined for a subset of 196 patients who fulfilled the criteria of having been enrolled in the program for a minimum of 2 years at the end of 2013. Thirty-eight of these patients had 40 admissions in the hospital during 2013 (38 with single admissions, 2 with 30-day readmissions), yielding an annual hospitalization rate of 204 (146, 278; 95% CI) admissions per 1,000 person-years. The re-hospitalization rate was 5% (see

Table 4). MemoryCare's lower rate of hospitalization is statistically significant compared with the rate of 419 admissions per 1,000 person-years (389, 451; 95% CI) reported by Phelan et al. (2012), in a similar cohort of dementia patients followed in an integrated health system.

In 2013, at the primary health system in our region, there were 2,649 admissions of patients with a diagnosis code for dementia with a median cost per admission of US\$12,004 (Internal report, Mission Health System, 2014). Based on the hospitalization rates of MemoryCare patients given above and the median cost of hospitalization of US\$12,004 in our primary health system, we estimate that the 40 avoided hospitalizations in our program participants yielded an annual cost saving of US\$480,160.

Discussion

MemoryCare has fully implemented and delivered a community-based program for 15 years that closely mirrors suggested best practices for dementia care (Alzheimer's Study Group, 2009; Callahan et al., 2006; Centers for Medicare and Medicaid Services, 2014; DHHS, 2012; Lines et al., 2013; Maslow, 2012; Mittelman, Haley, Clay, & Roth, 2006; Rabins et al., 2006; Shih, Concannon, Liu, & Friedman, 2014). The program was crafted to meet the concerns of persons with dementia and their family caregivers in western North Carolina, a predominantly rural region with a high prevalence of older adults. As a specialty dementia management medical practice, MemoryCare fully engages persons with dementia and their caregivers in a plan of care while closely collaborating with primary care and other health care providers. Community-dwelling persons with dementia and their caregivers have many unmet needs for care, services, and support (Black et al., 2013), and caregivers report that they turn to their health care providers as their top source of information in caring for their family member (National Alliance for Caregiving & AARP, 2009). MemoryCare teams have been able to demonstrate a high degree of caregiver engagement and satisfaction by utilizing an interprofessional approach combining comprehensive patient assessment with direct involvement of caregivers. Although the program's supplemental resources mentioned previously such as Caregiver College, support groups, resource center/lending library, and workshops open to the public are valuable tools for patients, caregivers, and community members, utilization data provided in the Results section suggest that the majority of the efficacy of MemoryCare's program comes from direct interaction with MemoryCare providers and care managers during and between scheduled appointments.

Caregivers perceive that MemoryCare enables them to keep cognitively impaired older adults in the home setting longer, and others have reported

delayed institutionalization with caregiver support (Long, Moriarty, Mittelman, & Foldes, 2014; Tam-Tham, Cepoiu-Martin, Ronksley, Maxwell, & Hemmelgarn, 2013). With 52% of MemoryCare's patient population being low income and 48% experiencing significant impairment in basic activities of daily living, MemoryCare may facilitate significant savings to Medicaid and family financial resources and this will be a focus of future study.

Feng, Coots, Kaganova, and Weiner (2013) report variability in studies regarding hospital utilization in those with dementia but acknowledge that most show higher rates of hospital use. They note that finding ways to address potentially avoidable hospitalizations can have important implications for health care costs and quality of life. We were able to analyze inpatient hospitalization data on a subset of patients who had been enrolled a minimum of 2 years by the end of 2013. While conclusions are limited by the lack of a randomized control group for comparison, utilization rates were considerably lower than previously published rates that are two- to threefold higher for persons with dementia than for the general population (Bynum et al., 2004; Phelan et al., 2012; 2014 Alzheimer's Disease Facts and Figures, 2014). Our use of the relatively lower hospitalization rate in the Phelan et al. cohort for a point of comparison and calculation of cost savings is conservative. Their dementia patients were part of an integrated health plan and are likely to have lower hospitalization rates than less integrated fee-for-service systems (Phelan et al., 2012).

A study by Lin, Fillit, Cohen, and Neumann (2013) reported that coordinating medical care with the patient's primary care home and other providers and engaging caregivers in the patient's care management may affect costs associated with hospitalizations. The authors would agree that including caregivers in the chronic disease management of an individual with dementia is likely to have multiple benefits that may affect hospitalization rates. Potential cost savings include improving the management of other co-morbid conditions, medication compliance, nutritional oversight, prompt recognition of changes in health status, advance care planning, and attention to multiple other safety issues that can prevent injuries.

The Affordable Care Act (ACA) places great emphasis on improving quality of care and reducing health care costs. Success in both areas is based, in large part, on appropriate use of health care interventions. As dementia progresses, goals of care commonly change toward palliative care and focus on quality of life rather than life extension (Gozalo et al., 2011; Nicholas, Bynum, Iwashvna, Weir, & Langa, 2014). In a well-coordinated system, this translates to lower utilization of higher cost interventions. MemoryCare's focus on educating and training caregivers regarding dementia stage, prognosis, and the risk and benefits of medical interventions prepares caregivers to

be strong advocates and to navigate the health care system with better success at achieving patient-centered goals of care through the final stages of the disease.

As a community-based, non-research-oriented program, MemoryCare has limitations in its ability to conduct a randomized controlled trial which would strengthen our ability to measure program impact on cost savings for the health system. MemoryCare serves a more rural and racially homogeneous population, which also limits our ability to generalize our findings to more diverse populations.

The primary barrier for growth of this program is the financial limitation on reimbursement for the time dedicated to addressing the needs of caregivers and to assisting them in managing the person with dementia's health needs. MemoryCare is committed to removing financial barriers to accessing our services through garnering community-based philanthropic support. However, this reliance on donations from the community is an obstacle to widespread replication. Public policy changes in health care reimbursement are needed before programs that co-address the needs of dementia caregivers can exist on a national scale (Callahan et al., 2014). The ability to grow in spite of these financial limitations, as well as the willingness of caregivers to cost-share when they are able, speaks to the perceived value of the services MemoryCare provides to address needs otherwise unmet in our health care system at the time of this review.

As evidence mounts to the value of coordinated dementia care to meet patient- and caregiver-centered goals, financial challenges of replicating such a model may be addressed through bundled payment systems or a redesign of the Medicare benefit program to cover integrated caregiver support services for dementia care. The Centers for Medicare and Medicaid Innovation awarded a major grant to University of California San Francisco in 2014 to conduct a longitudinal study on the effects of a comprehensive coordinated dementia-care program with similar focus on caregiver integration and adherence to PQRS quality measures. Their outcomes will no doubt influence the landscape regarding the cost-effectiveness of this approach and, if positive, may increase the willingness of private payers and Medicare to consider funding coordinated care models (Care Ecosystem; Navigating Patients and Families through Stages of Care, 2014).

Of all age-related chronic progressive diseases, dementia has great potential to exhaust human and health care resources, given its high prevalence, prolonged course of increasing functional dependency, and lack of effective treatments on the near horizon (Iglehart, 2014). There is value in reviewing the structure and experience of long-standing models of care such as MemoryCare that have grown and effectively addressed unmet needs for

both persons with dementia and their caregivers in community settings as national strategies are underway to conduct more rigorous research and evaluate which aspects of high-quality dementia care and caregiver support merit funding.

Conclusion

The perceived value of MemoryCare's program lies, at least in part, in caregivers' direct participation in the clinical evaluation and management process of the person with dementia, a value that is reflected in studies examining caregiver incorporation and integrated care (Callahan et al., 2006; Callahan et al., 2014; Reuben et al., 2013). The program's caregiver surveys reveal high levels of client satisfaction and improved perceived abilities to manage challenging behavioral aspects of dementia and maintain the patient in their home setting longer. Our hospitalization data also suggest lower hospitalization rates and related potential cost savings. MemoryCare's 15 years of experience delivering an integrated medical and care management model for persons with Alzheimer's disease and other types of dementia may inform broader initiatives to design high-quality, cost-effective dementia care.

The observational data presented in this article demonstrate that a community-based, interprofessional team program holds promise for enhancing dementia care quality, and expanding support for people with Alzheimer's disease and their families as outlined by the National Alzheimer's Project Act (DHHS, 2012). These findings encourage further study of integrated care models to facilitate evidence-based, nationwide initiatives in addressing the needs of the person with dementia while recognizing, valuing, and integrating the essential role of the caregiver(s) in the development of effective models of health care delivery to people with dementia.

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