

# Opportunities for Improving Managed Care for Individuals with Dementia:

## Part 1—The Issues

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### **Abstract**

**In this first part of a two-part article, we review the prevalence of, costs associated with, and treatments for Alzheimer's disease and related dementias, a leading cause of disability in the elderly. New, innovative, and costly drugs to combat dementia are being introduced, causing pharmacy costs to rise. These new drugs, however, may reduce overall medical costs and improve the quality of life of patients with dementia and their caregivers. Issues of cost, excessive service utilization, and quality of life will have significant impact on managed care organizations in the near future as the rapidly aging population experiences significant disability and illness related to dementia. In the second part of this article, we describe the framework for a disease management program for patients with dementia, similar to programs in existence for diabetes and other chronic diseases, that could enable managed care organizations to effectively care for these patients.**

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**T**he population of the world is aging rapidly. The most rapidly growing segment of our aging society is those individuals over the age of 80. Dementia is the most common cause of disability in these individuals,<sup>1</sup> and Alzheimer's disease

(AD) is the most common cause of dementia. The prevalence of AD and related dementias (ADRD) is estimated to be 6% in individuals over age 65. In individuals older than 85, the prevalence rate may approach 40%.<sup>1-6</sup> Annual direct and indirect health-care costs for ADRD are currently estimated at \$100 billion.<sup>7</sup> Medicare and Medicaid pay for the majority of the direct costs, while indirect costs are largely borne by patients and their families.

During the past 5 years, the number of elderly individuals enrolling in managed care programs has increased at a rate of approximately 30% annually.<sup>8</sup> At present, approximately 15% (about 5 million) elderly individuals are in various types of managed care programs. With passage of the Balanced Budget Act of 1997, new forms of managed Medicare programs within Medicare Part C (called Medicare + Choice Coordinated Care Plans) will expand the range of managed care options for the elderly and likely increase the rate of enrollment in these programs.

This two-part article explores issues related to the care of individuals with dementia in managed care organizations (part 1) and provides a framework for the development of disease management efforts focused on dementia in this setting (part 2). Currently, dementia is not considered an important focus for active medical management by most managed care organizations (MCOs), largely because its impact on managed care now and in the future is not appreciated. The position of our expert council, as presented in these articles, is that effective medical management systems for elderly individuals with dementia in MCOs are urgently needed at present and will become increasingly important in the future.

### **Early Diagnosis of Dementia**

Early diagnosis of dementia is important because of the high direct and indirect costs associated with this disorder, the emergence of efficacious treat-

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ments, and the promise of coordinated disease management programs to improve outcomes for persons suffering from dementia.

Dementia refers to a syndrome of multidimensional cognitive impairment that is usually chronic and progressive in nature. The fourth edition of the Diagnostic and Statistical Manual of Mental Disorders<sup>9</sup> defines AD, the prototypical form of dementia, as a disorder characterized by deficits in memory and other cognitive domains that causes significant impairment in social or occupational functioning. This impairment represents a significant decline from a previous level of functioning. AD is by far the most common cause of dementia in the elderly, comprising at least 60% of cases. AD, dementia due to stroke (vascular dementia), Lewy body dementia,<sup>10</sup> and dementia associated with Parkinson's disease are the most common types of dementia<sup>11-13</sup> and account for the vast majority of cases. Less than 10% of cases are thought to be due to potentially reversible causes, such as vitamin B<sub>12</sub> deficiency, hypothyroidism, chronic alcohol abuse, tumors, and hydrocephalus.<sup>14</sup> The diagnosis of ADRD can be confidently based on a combination of inclusion and exclusion criteria.

Despite the emerging view that ADRD can be diagnosed with a reasonable degree of certainty, there are still formidable barriers to the early detection of dementia in primary care practices. Rarely do patients themselves seek medical attention for the symptoms of dementia. The assessment of dementia is usually driven by family concerns, yet family members are often inhibited or delayed in bringing the individual with dementia to a physician.<sup>15</sup> One reason for this delay is a lack of appreciation by the family of the patient's cognitive failures. A recent survey of caregivers of patients with diagnosed AD indicated that an average of 1.7 years elapsed between the onset of symptoms and consultation with a physician about those concerns (J. Donohue, Alzheimer's Disease Caregiver Project, Consumer Health Sciences, Princeton, NJ; unpublished data).

Delay in recognition of dementia by a physician is also a frequent occurrence.<sup>16,17</sup> Among patients who subsequently proved to have AD, the correct diagnosis was conveyed to caregivers in only 30% of cases during the early phase, and more than 1 year elapsed until the correct diagnosis was made in these patients, according to caregivers in a national survey (J. Donohue; unpublished data). Many primary care physicians have not been trained in validated methods for mental status testing, in the eval-

uation of cognitive function, or in diagnostic algorithms for dementia. Many physicians regard ADRD as a diagnosis of exclusion requiring autopsy for a definitive determination; this is an inappropriate view, as very good clinical correlates are currently available. A recent neuropathological study from a consortium of AD research centers found that the accuracy of the clinical diagnosis was 87%.<sup>18</sup> Nevertheless, ADRD tends to remain undiagnosed until the relatively late stages of disease. Reasons for late diagnosis include the structural barriers of a medical system that depends on patients demanding attention, and a lack of early recognition by physicians knowledgeable in the diagnosis of dementia.

### The Effects of Dementia on Care Utilization and Costs

Although the costs associated with diagnosing ADRD are modest, the illness is a costly one to manage. Estimates of current annual direct and indirect costs range as high as \$100 billion.<sup>7</sup> A recent report from the Health Care Financing Administration<sup>19</sup> showed that patients with a diagnosis of ADRD had per capita expenditures of \$7682 annually, compared to \$4524 for elderly individuals with no mental health conditions. Other data have indicated that patients with dementia in managed care have considerably higher utilization than patients with other chronic diseases usually targeted for disease management programs.<sup>20</sup> This study showed that the average per capita cost for patients with a diagnosis of dementia was \$9824, which exceeded the per capita cost for patients with cancer (\$8992), depression (\$5990), diabetes (\$6665), and heart disease (\$7626). Data from Medicaid patients in California (MediCal) also revealed that ADRD patients (defined as those receiving care with a coded diagnosis of AD or a related disorder) had more hospitalizations than a control group matched for comorbidities, gender, and age.<sup>21</sup> MediCal patients with ADRD had annual costs that were approximately \$8000 higher than control patients, principally attributable to nursing home costs. Other studies have demonstrated that hospitalized patients with dementia have twice the length of stay and inpatient costs than medical inpatients without a diagnosis of dementia.<sup>22</sup>

The ways in which ADRD drive excess costs are not fully understood. The majority of patients with dementia ultimately suffer comorbid medical illnesses that often require medications, hospitalization, or admission to skilled-care nursing homes. These illnesses include pneumonias as a result of malnutrition and aspiration, urosepsis from inconti-

nence, hip fractures from falls, the results of other accidents, and wound infections or pressure sores from immobility. Medications for the treatment of dementia, and the ambulatory care monitoring required for the use of those medications, also lead to increased pharmacy costs and physician visits.

Noncompliance with medications and other therapies and management strategies is frequently a problem in individuals with dementia, leading to exacerbation of disease and preventable hospitalizations. In addition, caregivers frequently suffer from stress and are uneducated in the care of individuals with dementia, leading to preventable office visits to physicians and emergency rooms. The doubling of hospital length of stay for patients with dementia admitted with medical illnesses is probably due to an increased risk of delirium, accidents in the hospital (such as falls), and noncompliance with nursing care, medications, and other treatments and diagnostic tests.<sup>22</sup>

Delirium is a medical complication of dementia that directly impacts hospital use. Delirium occurs in a minimum of 10% to 20% of hospitalized elderly. Patients with delirium have nearly double the length of stay of those without it.<sup>23,24</sup> Cognitive impairment that antedates the hospitalization is a recognized risk factor for the development of delirium. Prevention or reduction of the risk of delirium may be an important benefit of early recognition of ADRD and its prospective management.<sup>25,26</sup>

The specific medical effects of missed diagnoses of dementia are of uncertain impact. It is not known how often medically reversible conditions that mimic ADRD are missed. Patients with dementia caused by the fully reversible conditions of hypothyroidism or subdural hematoma will not be detected if there is no diagnostic assessment. Premature nursing home placement might also be a consequence of late or missed diagnoses or failure to utilize cholinesterase inhibitors or other disease-modifying treatments.<sup>27</sup>

Patients with dementia eventually require long-term care, including either home care or hospitalization. Approximately 75% of ADRD patients eventually reside in nursing homes and remain there for about 3 years.<sup>28</sup> The lack of long-term care insurance coverage for most individuals with dementia means that long-term needs are met either through personal savings or by Medicaid.

Long-term care is a major source of increased healthcare costs for patients with dementia. Costs of long-term care appear to exceed acute-care costs when data on the 2 have been collected on the same

patients.<sup>28</sup> Long-term care, either at home or in a nursing home, is not covered by traditional Medicare or Medicare managed care beyond coverage of 100 days of skilled care annually. The lack of effective long-term care in the continuum of care for patients with dementia in managed care systems adversely affects both quality of life and health of patients with dementia and frequently increases their medical costs. Unmet long-term care needs may result in medical comorbidities that increase healthcare utilization and subsequently become the concern of the health plans and their contracted providers. Unmet long-term care needs may create caregiver burdens that further contribute to the decline in health and increase in medical costs of both individuals with dementia and their caregivers. Alternatively, premature nursing home placement may be seen as a way of reducing costs borne by an MCO, to the detriment of the participant. Thus, although MCOs may not be directly financially responsible for long-term care, payment issues involved in long-term care directly impact MCOs.

### **Efficacious Treatments for ADRD**

*Primary Therapies.* Over the past 10 years and especially in the past 2 or 3 years, research has established that cholinesterase inhibitors have efficacy in treating AD. Considerable evidence now indicates that enhancement of cholinergic transmission has a salutary effect on the symptoms of the disease. Several well-designed studies show that tacrine,<sup>29</sup> donepezil,<sup>30</sup> and other cholinesterase inhibitors have beneficial effects on cognition in patients with AD. A recent assessment of tacrine's long-term benefits in a controlled but not randomized study suggested that multiyear, high-dose tacrine use was associated with reductions in nursing home placement.<sup>27</sup> The reduction in nursing home placement was about 300 to 400 days per individual. A reduction in nursing home placement of this magnitude is significant for individual patients and populations in managed care. Tacrine, however, is difficult to use and requires laboratory monitoring. Drugs developed subsequent to tacrine with a similar mechanism of action lack the systemic side effects that require such monitoring.

The second cholinesterase inhibitor to be approved by the Food and Drug Administration for use in mild to moderate cases of AD is donepezil. In contrast to tacrine, donepezil is given as a once-a-day dose, introduced at half-maximal doses, and increased to maximum doses after 4 to 6 weeks. Cholinergically mediated gastrointestinal side

effects such as nausea and diarrhea may occur with donepezil but are usually mild and transient. Its efficacy is similar to that of tacrine. Several studies have shown that donepezil is efficacious in treating AD in some patients. The Clinician's Interview-Based Impression of Change plus (CIBIC+) rating scale showed that patients taking donepezil (as compared to those taking placebo) demonstrated significant improvement in general function, cognition, behavior, and activities of daily living.<sup>30</sup> The CIBIC+ measures clinically important global changes as rated by a physician. In these studies, physicians scored as improved 26% of patients treated with 5 mg/day of donepezil and 25% of those on 10 mg/day. However, only 11% of patients treated with placebo were scored as improved. Likewise, results from the Clinical Dementia Rating, Sum of the Boxes scale (an assessment of memory, orientation, judgment, and the like) indicated that AD patients taking donepezil improved from baseline while patients on placebo declined. Results from a study completed by the Alzheimer's Disease Caregiver Project showed that caregivers of AD patients taking donepezil had a lower caregiving burden (direct, instrumental, and interpersonal care rated individually and together) than did caregivers whose loved one was not taking donepezil.<sup>31</sup>

Several other cholinesterase inhibitors may enter the market in 1999. Rivastigmine (ENA-713)<sup>32</sup> and metrifonate<sup>33,34</sup> have cognitive effects that appear very similar to tacrine and donepezil. Rivastigmine and metrifonate, like donepezil, are tolerated better and easier to use than tacrine.

In addition to enhancing cognition, cholinesterase inhibitors may improve behavior, producing reductions in apathy, hallucinations, and other neuropsychiatric symptoms.<sup>35,36</sup> Behavioral disturbances are common precipitants of nursing home placement and may require treatment with psychotropic agents (which commonly have side effects) or nonpharmacologic interventions. Reductions in behavioral disorders with cholinesterase inhibitors may delay nursing home placement and have other cost-saving benefits.

Besides cholinesterase inhibitors, vitamin E is now frequently prescribed by dementia specialists. Evidence supporting a role for antioxidants in AD has come from a large-scale clinical trial demonstrating that therapy with either selegiline or tocopherol (vitamin E) resulted in a delay of about 8 months in nursing home placement, progression to severe dementia, or death compared with the placebo group.<sup>37</sup> Coupled with its very favorable safety and cost profile, vitamin E, rather than selegiline, can be

recommended to most patients with AD for whom such delays in negative outcomes are desirable.

Data from epidemiologic studies and small treatment trials suggest that estrogen<sup>38</sup> and nonsteroidal anti-inflammatory drugs<sup>39</sup> may also be useful in the prevention and treatment of dementia. Large multicenter trials and national prospective studies are currently under way to address these issues. Final conclusions concerning the efficacy of these treatments are not currently available.

*Treatment of Secondary Behavioral Disturbances.* Emotional or affective disorders are common comorbid conditions associated with dementia in all stages. Depression is often unrecognized and untreated in ADRD, yet affects up to 30% of individuals in the early stages of the disease.<sup>40</sup> Depression exacerbates disability in patients with dementia.<sup>41</sup> The newer antidepressants have excellent safety profiles. Their efficacy in typical depression suggests that they may be of value in ADRD, but there are few ADRD-specific studies of antidepressants. Treatment of anxiety, agitation, aggressiveness, and delusional thinking also are significant care issues in dementia that complicate the illness in one third or more of individuals and may increase medical costs. For example, agitation is a significant risk factor for institutionalization.<sup>42</sup>

There is a paucity of controlled-trial data to assist the practitioner in choosing medications for these disturbances in an ADRD patient. Common medications employed for agitation in patients with dementia include antipsychotics, hypnotics, sedatives, anticonvulsants, and antidepressants. Often these medications are employed inappropriately or excessively by primary care physicians, leading to increased pharmacy costs, poor quality care, and medical complications (such as falls and fractures) with subsequent hospitalizations. Some newer medications, such as risperidone, olanzapine, and quetiapine, appear to be safer for elderly individuals already at risk for Parkinsonism; these newer antipsychotics are significantly more costly compared to older but more toxic drugs like haloperidol. Nevertheless, recent studies of clozapine for schizophrenia have shown that patients treated with clozapine had fewer hospitalizations leading to an overall lower cost of therapy compared to haloperidol, even though the clozapine itself was more costly.<sup>43</sup> Whether these results can be extrapolated to dementia is speculative.

Finally, sleep disorders are also frequent in patients with dementia, and may increase use of hypnotics and sedatives.

*The Costs to Managed Care of Drug Therapy for Dementia.* The pharmacy expenses of new drugs for treating ADRD patients represent additional costs to the medical care system compared to costs prior to 1993 (when tacrine was introduced). The average cost of donepezil, for example, is about \$120/month. The costs for vitamin E are minimal and generally borne by individuals rather than MCOs. There are no other laboratory monitoring costs for current medications, but the added burden of physician monitoring of therapy probably adds several physician visits per year that might not have otherwise occurred. On the other hand, the physician visits are worthwhile for other reasons, such as to review safety issues, comorbidities, advance planning, and caregiver burden.

As with other chronic diseases, the treatment-related cost savings for dementia may not accrue within the month or year that the therapy is initiated. If delay of severe dementia occurred due to drug treatment, the cost savings to the organization might not be apparent for 3 to 6 years. Advocates of these treatments cite uncontrolled studies that suggest that prolonged therapy of 1 to 5 years is worthwhile.<sup>27</sup> The possibility that treatment may delay nursing home placement would suggest that treatment should be continued until patients reach the stage of moderate to severe dementia, but there are few data to support this view.

The development of expensive new therapeutics for cognitive dysfunction in dementia in the short and long term will increase pharmacy costs for MCOs. Consumer demand for these products will make them necessary formulary items. The increasing pharmacy costs for ADRD create an incentive for MCOs to develop clinical practice guidelines coupled with criteria for diagnostic categorization and disease severity to promote the appropriate utilization of these new therapies.

In addition to promoting appropriate primary treatment of ADRD, MCOs can also promote appropriate usage of medications for the emotional disorders complicating ADRD.

Recent studies have emphasized the increasing costs of psychotropic medications in clinical practice.<sup>44</sup> Clinical practice guidelines and educational programs directed to physicians can raise awareness of the tremendous impact of these issues on the quality of life of the patient with dementia and his or her caregiver. There are several such guidelines currently available.<sup>45-47</sup>

In summary, pharmacy costs for the treatment of dementia can be expected to rise significantly now

and in coming years with the advent of safe and effective medications for the treatment of cognitive dysfunction in patients with dementia. Furthermore, despite few definitive studies, it is likely that there are also considerable excess costs associated with the use of antipsychotics, antidepressants, hypnotics, sedatives, and other psychotropic drugs in patients with dementia.<sup>44</sup> An increasing number of individuals with dementia in managed care plans will also drive an increase in pharmacy costs for this disease.

### Conclusion

Dementia is a common and costly cause of disability in people over 65 years of age. Currently, Medicare managed care plans have not addressed the considerable cost and quality of care challenges presented by Alzheimer's disease and related disorders. In the near and long term, the number of individuals with dementia in managed care can only be expected to increase fairly dramatically. MCOs need to recognize that dementia is a highly prevalent, devastating, and costly chronic illness that affects both members and their caregivers. MCOs must also become aware that dementia is an eminently manageable chronic illness and that proactive management can lessen the impact of the issues described in this article. As we discuss in part 2 of this article, population-based MCO programs have great potential to improve the quality and manage the costs of care for individuals with dementia in managed care systems.

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