Brief and Accurate Cognitive Assessment: The Key to Delivering Accountable Care for an Aging Population

Under the Affordable Care Act of 2010 (ACA), Medicare has embraced a new economic model for delivering higher quality health care at lower costs. This legislation establishes the groundwork for new entities known as “Accountable Care Organizations” or ACO’s, with specific operating guidelines and a new reimbursement model. The model is outlined in the Medicare Shared Savings program, and has been put forth as the solution to sustainable viability for the Medicare program.

The concept of accountable care shifts the focus of the medical system from “treating disease at all costs” to “maintaining wellness at justified costs”. The philosophy is to reward ACO’s for investing in wellness, and for reducing the burden of redundant medical interventions and expensive emergency care. The twin pillars of accountable care are “quality outcomes” and “reduced costs”.

Cognition: A Key Lever in Delivering Accountable Care

In considering the factors that affect accountable care, it is clear that cognition is a key lever affecting both the quality and the cost of care.

A patient with a memory deficit or poor judgment is less likely to stay compliant with prescribed therapy for chronic conditions such as diabetes and hypertension. It follows that poor compliance, and a general inability to perform effective self-care, can translate into a cascade of declining health and worsening outcomes across a host of medical problems. This in turn drives worsening health, increased medical attention, and expensive emergency care, all of which exact a financial toll and work against the accountable care principle of cost control. In this regard, cognition plays a key role in the quality of care and the ensuing costs of delivering high quality care.

The magnitude of this financial toll has been calculated using recent Medicare data. Cost analyses compiled by the National Alzheimer’s Association in partnership with Johns Hopkins University, has clearly delineated the striking cost differential between demented patients and non-demented patients.¹

Cost of Care

For a Medicare recipient aged 65+, the average annual cost for physician visits, hospital stays, procedures, and medications, is $3,851 if the patient is not demented. However, if the patient is demented due to Alzheimer’s disease, the most common cause of dementia, the annual cost to Medicare is $15,998.¹ This demonstrates a massive economic
opportunity to constrain the rising costs associated with caring for an aging population, by delaying the current rate of progression from Alzheimer’s related cognitive impairment to dementia.

Alzheimer’s Disease: Early Detection is Critical

The most immediate opportunity to improve care in the field of Alzheimer’s disease is in earlier detection and intervention. For many patients, doing so will facilitate a delay of cognitive decline and postpone the high costs of dementia by up to several years in some cases.

It is well understood that Alzheimer’s disease has a long period of pathological progression, beginning many years prior to clinical symptoms, and we typically do not intervene until the final stages of the disease. In fact, Alzheimer’s is typically diagnosed only after the patient becomes demented, in years 8 through 10 of a typical 14-year clinical disease course. At that stage, massive irreversible brain damage has occurred and the opportunity to forestall progression has been largely missed.

The importance of earlier detection and intervention was highlighted in April of 2011, when the National Institute of Aging announced new diagnostic guidelines for Alzheimer’s disease. The new guidelines reflect the knowledge that the disease is present, is progressing, and is treatable, long before patients reach the expensive stages of dementia.

Why is Alzheimer’s detected so late?

The current practice of late intervention is primarily due to the difficulty in distinguishing Alzheimer’s earliest signs from the outwardly similar signs of normal aging. Since working memory and cognitive processing speed decline linearly through mid-life and later adulthood, many people over the age of 50 have a subjective sense that their cognition is declining. Given that such mild memory disturbances are also the most common early signs of Alzheimer’s disease, it is difficult for a busy primary care physician to distinguish, in an economical manner, those patients who are aging normally from those patients who need a more thorough evaluation.

Detection of Alzheimer’s Disease and Normal Aging

Some physicians are making an effort to evaluate subtle memory concerns and identify progressive cognitive decline early on. Unfortunately, the vast majority of MRI scans ordered as part of a work-up for memory loss, are negative. This belies an underlying trend of increasing patient concerns about memory, even among the normally aging
population, and is a major driver of unnecessary cost increases. As bio-markers for Alzheimer’s disease are commercialized in the coming years, awareness of such diagnostic approaches is expected to drive increasing demand from an aging and anxious patient population. This will put additional pressure on the cost structure of delivering accountable care.

Despite a somewhat more proactive physician population, studies have shown that 75% to 90% of patients with mild cognitive impairment are not diagnosed in primary care.\(^2\) Rather, patients with impaired cognition are allowed to progress until more severe symptoms warrant a specialist referral. The implications of this approach are “lower quality care” and “increased costs,” a stark rebuttal to the principles of accountable care.

The MCI Screen: A Primary Care Traffic Cop

To improve detection of emerging cognitive problems in a primary care setting, physicians need a brief but accurate tool for cognitive assessment. The tool must effectively distinguish between patients whose perceived memory decline is likely to be caused by a medical condition, and those whose perceived decline is likely due to normal aging. This will facilitate a justified investment in working up those who need further evaluation and treatment. It will also constrain unnecessary diagnostic investments in the increasing number of healthy people who are concerned about Alzheimer’s disease.

The MCI Screen Accurately Classifies Cognitive Status

The MCI Screen is a tool that fills this need. It is a ten-minute test that requires no specialized training or knowledge to administer, is appropriately reimbursed by Medicare, and differentiates disease-related declines from those due to normal aging with 96-97% accuracy.\(^5-7\) This enables early intervention against medical problems that, left untreated, would drive poor self-care, declining health, and increased costs. Importantly, the MCI Screen also accurately detects normal aging, which effectively discourages unwarranted diagnostic investment in those who are aging normally.

Economic Impact of Managing Cognitive Health in Primary Care

The model below is useful in understanding the potential savings associated with better management of cognitive health in a primary care population. The model is based on the following assumptions, which denote a typical small group practice of 2-3 physicians, with a primary care population of 6500 patients, and published prevalence of cognitive impairment, progression rates, and costs of care.
This analysis distills the incremental costs of care, in an aged 65+ patient population, attributable to the incidence of dementia within that population, over a ten-year timeframe. It demonstrates the potential cost savings that accrue from vigilantly monitoring cognitive health, intervening as appropriate, and delaying the onset of dementia to the extent achievable.

These conservative projections, based on a typical primary care practice, show that about 413 out of 1300 patients 65 years and older will become demented over a 10-year period. This is based on data showing that, for patients 65 years and older in a primary care practice, the prevalence of cognitive impairment is 25%\(^6,10,14\) and about 15% of the impaired progress to dementia each year. Approximately half of these demented patients will have Alzheimer’s disease, with the next most common cause being cerebrovascular disease, the progression of which can be arrested with proper intervention. Given the significantly higher costs associated with care for demented patients, any delay in the rate of progression to dementia will significantly constrain the economic impact of managing an aging population.

Based on these assumptions, 20.6% of the primary care patient population will become demented over a ten-year horizon and they will generate 48% of healthcare costs across the entire practice. In fact, dementia-related care will increase costs for this cohort of patients by $29M, from $50M (if no patients were demented) to $79M (based on the expected prevalence of dementia).
Below are the calculated costs of implementing a rigorous cognitive assessment program, including follow-up evaluations, and added to the known costs of providing general care for a primary care population aged 65+ years. The table also includes the calculated savings associated with incremental delays in the rate of progression to dementia, and the expected savings for an organization delivering such accountable care to its patient population.

<table>
<thead>
<tr>
<th>Cohort of 1300 Patients Aged 65+</th>
<th>10-Year Costs</th>
<th>$ Savings</th>
<th>% Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>With No Dementia</td>
<td>$50.0 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Expected Dementia</td>
<td>$79.2 M</td>
<td></td>
<td></td>
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<tr>
<td>Incremental Cost of Expected Dementia</td>
<td>$29.2 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With 1-Yr Delay in Expected Dementia</td>
<td>$74.8 M</td>
<td>$4.4 M</td>
<td>5.6%</td>
</tr>
<tr>
<td>With 2-Yr Delay in Expected Dementia</td>
<td>$70.8 M</td>
<td>$8.4 M</td>
<td>10.6%</td>
</tr>
<tr>
<td>With 3-Yr Delay in Expected Dementia</td>
<td>$67.2 M</td>
<td>$12.0 M</td>
<td>15.1%</td>
</tr>
<tr>
<td>With 4-Yr Delay in Expected Dementia</td>
<td>$64.1 M</td>
<td>$15.1 M</td>
<td>19.1%</td>
</tr>
<tr>
<td>With 5-Yr Delay in Expected Dementia</td>
<td>$61.5 M</td>
<td>$17.7 M</td>
<td>22.4%</td>
</tr>
</tbody>
</table>

An effective program detecting a high percentage of cognitive problems and delaying progression to dementia by 2-3 years would unlock double-digit savings on a percentage basis, across a typical primary care practice. It should be clear that proactive management of cognitive health is a key strategy for optimizing patient health, while effectively constraining dementia-related cost increases. The MCI Screen is a proven and effective tool for enabling such accountable care in a clinical environment.
Reference


