A LeadingAge CAST Report

A LOOK INTO THE FUTURE:

Evaluating Business Models for Technology-Enabled Long-Term Services and Supports

LeadingAge™ CAST
center for aging services technologies

A Look into the Future: Evaluating Business Models for Technology-Enabled Long-Term Services and Supports

A program of LeadingAge

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LeadingAge Center for Aging Services Technologies:

The LeadingAge Center for Aging Services Technologies (CAST) is focused on development, evaluation and adoption of emerging technologies that will transform the aging experience. As an international coalition of more than 400 technology companies, aging-services organizations, businesses, research universities and government representatives, CAST works under the auspices of LeadingAge, an association of 5,400 not-for-profit organizations dedicated to expanding the world of possibilities for aging.

For more information, please visit http://LeadingAge.org/cast.aspx.

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Section I:

Introduction: Looking to the Future by Building on the Past

At the October 2010 meeting of the LeadingAge CAST Commissioners, Chair Mark McClellan M.D., Ph.D. challenged CAST to take steps during 2011 to educate aging services providers about innovative business and operational models and to provide members with the tools they need to successfully implement those models.

As a first step in that process, CAST began work in early 2011 on an informal scenario planning process aimed at developing a vision for the future of long-term services and supports. The scenario planning process was designed to:

- Identify potential characteristics of the future operating environment.
- Delineate categories of potential business models that could represent viable options for LeadingAge members.
- Evaluate how changes in the characteristics of the operating environment would affect these potential business models.

Later efforts will attempt to identify and recommend specific solutions or present detailed blueprints that members could follow to address immediate financial and occupancy-related challenges. These efforts will be supported by a mechanism to develop specific policy recommendations aimed at transforming how aging services are currently delivered or financed.

The first part of CAST's scenario planning process involved in-depth interviews with a variety of CAST members and LeadingAge senior staff, as well as input from members of the CAST Commission. *A Look into the Future: Evaluating Business Models for Technology-Enabled Long-Term Services and Supports* synthesizes these insights and, in the process, attempts to provide a "window on the future." We hope this report helps LeadingAge and CAST members imagine what the next decades could hold for providers of long-term services and supports. At the same time, we hope the report will encourage members to begin preparing for the changes and challenges that may lie ahead.

During the second phase of the scenario planning process, already underway, CAST will present in-depth case studies outlining the steps that some pioneering members have taken to prepare for the future. These case studies will be available later this year.

Ten Years in the Making

While work on this document began in 2011, many of the ideas contained here have been percolating since 2002, when the American Association of Homes and Services for the Aging (AAHSA), now LeadingAge, began its first scenario planning exercise and published a document called *Service for the Aging in America: Four Scenarios for the Next Decade.*[1] Significantly, that 2002 document outlined many key challenges that still face the aging population and providers of long-term services and supports.

[1] AAHSA. 2002. *Services for the Aging in America: Four Scenarios for the Next Decade.*

Not surprisingly, many of the challenges identified by AAHSA planners in 2002 revolved around funding for skilled nursing care, assisted living and home and community-based services, as well as the likely impact of budget deficits at the state level. In addition, the 2002 report cited challenges related to the future adoption of new technologies. On the one hand, planners felt technology could change the very nature of aging services and improve quality of life among older people. But they also worried that aging services technologies might be expensive, lead to regulation and controls to protect privacy, and increase loneliness among older people if "high-tech" innovations resulted in "low-touch" service provision.

After this initial scenario planning exercise, AAHSA embraced three key strategic initiatives that still occupy a prominent place in LeadingAge's agenda: a commitment to quality improvement through Quality First; the creation of the Center for Aging Services Technologies; and an exploration of alternative approaches to financing long-term services and supports.

While moving forward with these three strategies, AAHSA also decided, in 2006, to revisit the scenario planning process, this time focusing on the projected impact of the aging baby boomer cohort. A second planning report, entitled *The Long and Winding Road: Histories of Aging and Aging Services in America, 2006-2016*,[2] focused primarily on the extent to which a demanding future older population would impact society and the delivery of long-term services and supports. The report also addressed whether or not aging services providers would have the ability to attract and retain talented individuals who were trained for and interested in providing care for a growing older population.

Moving Forward with Common Themes

LeadingAge continues to focus on many of the issues raised by both the 2002 and 2006 planning processes and many of those issues are reflected in this report. They include, but are not limited to, the following:

Financial sustainability. In July 2006, the AAHSA Finance Cabinet developed a seminal document entitled *Financing Long-Term Care: A Framework for America*,[3] which addressed the high cost of providing long-term services and supports to a growing older population and the unsustainable growth in Medicaid costs. That cabinet proposed a model for future long-term care financing that eventually became the basis for the Community Living Assistance Services and Support (CLASS) Act, which in 2010 was incorporated into the Affordable Care Act. CLASS is a voluntary, federally administered, consumer-financed insurance plan designed to help consumers pay for the costs of long-term services and supports.

Technology. A 2005 video featuring an affable character named Ernesto brought to life for consumers many of the dreams for technology-enabled services and supports that surfaced during the 2002 planning exercise. In addition to educating viewers about how technology could help older people remain healthy, safe and independent, *Imagine – the*

[2] AAHSA. 2006. *The Long and Winding Road: History of Aging and Aging Services in America, 2006-2016.* Available online at http://www.aahsa.org/WorkArea//DownloadAsset.aspx?id=500

[3] AAHSA Finance Cabinet. 2006. *Financing Long-Term Care: A Framework for America.* Available online at: http://www.aahsa.org/WorkArea//DownloadAsset.aspx?id=1160

Future of Aging[4] made it clear that technology-enabled services and supports could bring older people closer to their families and caregivers while fostering dignity and independence for older people. The Imagine video was followed, in 2007, by two reports on the *State of Technology in Aging Services,*[5] which presented a veritable catalogue of technology-enabled devices that would help address the safety, health, wellness and social needs of older people seeking to maintain their independence. The potential of technology to reach these goals was endorsed in 2007 by the National Commission for Quality Long-Term Care (NCQLTC), led by former Congressman Newt Gingrich (R-Ga.) and former Senator Bob Kerrey (D-Neb.).[6] The commission urged the nation's leaders to launch a multifaceted transformation of long-term care that included the adoption of "emerging technologies that will help maximize the independence of older consumers and make care provision more efficient."

Consumer empowerment. NCQLTC also recommended placing the needs and preferences of consumers at the heart of every care setting and fostering the right of consumers to make care and lifestyle decisions for themselves. That consumer-centered approach was clearly reflected in *Imagining a Different Future: Planning Now for a New Generation of Older Consumers* [7] a report developed in 2009 by the AAHSA Cabinet on Future Needs of Consumers. An accompanying *Consumer Research Digest*[8], which is updated annually, provides LeadingAge members with research findings that shed light on the preferences and needs of future consumers.

Community-based care. Closely related to LeadingAge's support for consumer empowerment is its ongoing work to ensure that older people can receive needed services and supports in the setting of their choice, which in most cases is the place they call home. Another 2009 report, entitled *In the Place They Call Home: Expanding Consumer Choice through Home and Community-Based Services,*[9]outlined strategies for making this dream a reality. In addition, the LeadingAge Center for Applied Research, formerly IFAS, continues to focus its research agenda on policies and practices fostering housing-with-services models that allow older residents of affordable housing to age in place.

Collaborative care models. The passage of the Affordable Care Act in 2010 added a new dimension to LeadingAge's support for person-centered care by raising the real possibility that providers across the continuum would be encouraged to step out of their silos and work together to care for the

[4] Center for Aging Services Technologies. 2005. *Imagine – the Future of Aging.* Available online at: http://www.aahsa.org/article_cast.aspx?id=10153

[5] Center for Aging Services Technologies. 2007. *State of Technology in Aging Services.* Available online at: http://www.aahsa.org/article_cast.aspx?id=10730

[6] National Commission for Quality Long-Term Care. 2007. *From Isolation to Integration: Recommendations to Improve Quality in Long-Term Care.* Available online at: http://www.qualitylongtermcarecommission.org/reports.html

[7] AAHSA Cabinet on the Future Needs of Consumers. 2009. *Imagining a Different Future: Planning Now for a New Generation of Older Consumers.* Available online at: http://www.aahsa.org/WorkArea//DownloadAsset.aspx?id=9544

[8] LeadingAge *Consumer Research Digest.* Available online at: http://www.aahsa.org/ConsumerDigest2009.aspx

[9] AAHSA Home and Community-Based Services Development Cabinet. 2009. I*n The Place They Call Home: Expanding Consumer Choice through Home and Community-Based Services.* Available online at: http://www.aahsa.org/WorkArea//DownloadAsset.aspx?id=7772

whole person. The fall 2010 meeting of the CAST Commissioners focused on the role long-term and post-acute care (LTPAC) providers could play in the interdisciplinary, coordinated health care teams, called Accountable Care Organizations, which will be created as a result of the health reform legislation. This theme of collaboration was echoed in early 2011 when the LeadingAge Transitions and Integrated Services Taskforce examined a variety of service-delivery models involving a host of community stakeholders that work together to provide high-quality, efficient and cost-effective services and supports.[10] Silo-busting collaboration has also been embraced by the Long-Term Quality Alliance (LTQA), a broad-base group of stakeholders of which LeadingAge is a member. LTQA's 2011 report, *Innovative Communities: Breaking Down Barriers for the Good of Older Consumers and Their Family Caregivers,*[11] presented a case for the development of local collaboratives through which a broad range of community stakeholders would work together to help older people and people with disabilities remain healthy and independent.

Bringing a Decade of Themes into Focus and into the Future

The vision and models described in the following pages are closely aligned with the future that LeadingAge has been trying to create for 10 years through research, education, policy development and advocacy. That vision calls for consumer empowerment, sustainable financing, and a holistic approach that addresses the entire person through a coordinated and integrated service delivery system. This LeadingAge vision has evolved over years of careful thought and deliberate action. With this report, it also becomes the CAST vision.

Section II:

What Kind of World Do We Want?

Just as AAHSA's leaders set out in 2002 to envision the future of long-term care, members of LeadingAge CAST pause in 2011 to envision a future for long-term services and supports. In our collective view, that future will encompass eight primary components:

1. **A holistic approach.** We envision a future in which all older consumers receive the services and supports that enable them to age in the place of their choice. This collection of services will include primary, acute and traditional long-term services and supports, but it will also emphasize wellness promotion and disease-prevention. Older consumers will have full access to a variety of non-clinical interventions—in the areas of home maintenance, household management, social interaction and transportation—which are critical to successful independent living. Senior centers and other community-based providers will offer lifelong learning and skills development opportunities that allow older people to seek either employment or volunteer opportunities that increase their financial stability, enrich the quality of

10 LeadingAge Transitions and Integrated Services Task Force. 2011. *Moving Forward with Transitional and Integrated Services: the Long-Term Services and Supports Providers' Perspective.* Available online at: http://www.aahsa.org/WorkArea//DownloadAsset.aspx?id=12332

11 Long-Term Quality Alliance. 2011. *Innovative Communities: Breaking Down Barriers for the Good of Older Consumers and Their Family Caregivers.* Available online at: http://www.ltqa.org/wp-content/themes/ltqaMain/custom/images//Innovative-Communities-Report-Final-0216111.pdf

their lives and/or allow them to continue contributing their expertise to society.

2. **Simplified coordination.** The consumer of the future and his or her family caregivers will call one telephone number, or log onto one website, to gain access to a community-wide network of services and supports. That telephone call or web portal click would connect the consumer or family member to a trained, personal advocate who might work for an Accountable Care Organization (ACO) composed of primary, acute and long-term and post-acute care (LTPAC) providers; a membership organization that manages home and community-based services for its clients; an LTPAC provider offering a coordinated package of services from a campus hub; or the service coordinator in a local housing program.

3. **Person-centered service.** The future consumer will be familiar with, and familiar to, the "one-stop-shop" that receives his or her request for assistance. A "concierge"—who could be a trained case manager, service coordinator or health coach—will know the consumer by name and will have immediate access to that person's medical and service history through an interoperable electronic health records (EHR), made available with the consumer's permission. Such technology will help the concierge quickly assess the consumer's needs and mobilize a comprehensive network of health and service providers to meet that need. Those providers will develop a personalized care plan, in collaboration with the consumer and his/her family caregivers, and will deliver quality services at a fair price. Responsive customer service will be at the core of this network's culture.

4. **Hands-on case management.** Some older customers and their families will be able to arrange their own services, while others will need the concierge to take ownership of their case and negotiate the community's health and service system on their behalf. The concierge will use technology, including conference calls or video consultations, to bring consumers and service providers together, in real time, in order to discuss or arrange services.

5. **Transparency.** No one connected to the older consumer will be left "in the dark" about that consumer's health and well-being or his/her need for services and supports. As a matter of course, the concierge will inform all the consumer's health care and service providers—as well as family caregivers—about the consumer's needs and preferences and the network's response to those needs and preferences. Participants in the network will periodically discuss the consumer's status among themselves and with the consumer. In addition, relevant data about the consumer and interventions with that consumer will be added to the consumer's interoperable EHR.

6. **Person-centered follow-through and feedback.** The concierge will follow up after the intervention to make sure that the requested services and supports were actually provided, to gauge the consumer's impression of the quality of those services and supports, and to ascertain whether additional services and supports might be needed. The existence of a personalized care plan will facilitate this follow-up by outlining the consumer's goals and objectives and providing a framework for monitoring and evaluating progress, outcomes and the effectiveness of in-

terventions. Quality measures and monitoring technologies will be in place to help the service team continually assess whether the consumer's health status, service needs and capacity to remain independent is improving or declining. Services and supports will then be adjusted accordingly so older consumers are supported in what they cannot do and enabled to exercise capacities that they still possess. This continual monitoring and assessment will create the opportunity for the service team to identify health and quality-of-life issues before they become crises and to intervene early before a 911 call becomes necessary.

7. **Technology-enabled services and supports.** Consumers of the future will view technology as a resource that supports human interaction but does not replace it. Following this philosophy, the community-based health team will employ a variety of technologies that help improve the quality and efficiency of its services and supports while expanding the team's capacity to spend more time listening to consumers and assessing their needs and preferences. These technologies might include:

    - Interoperable EHRs that ensure that all providers have the same, accurate and up-to-date information about the consumer.
    - Personal health records that help consumers manage their own health.
    - Medication management and monitoring technology to encourage compliance and avoid potentially dangerous drug interactions and medication errors.
    - Telehealth monitoring to help consumers manage chronic conditions and avoid medical episodes and rehospitalizations, and to allow providers to adjust the care plan or dispatch supportive services when necessary. These telehealth technologies would monitor vital signs like weight, blood pressure and blood glucose levels and would detect behavior changes that might signal a health change that requires early intervention.
    - Emergency Response Systems that bring needed help to the consumer's doorstep in the event of an emergency.
    - Wellness-oriented technologies that encourage consumers to eat a nutritional diet, manage their weight and remain physically active.
    - Communication technologies to keep individuals connected with family, peers and their caregiver network. These technologies could also allow physicians to conduct "virtual visits" with consumers who have trouble traveling to office visits.
    - Cognitive fitness technologies that keep consumers stimulated and engaged.
    - Disease-specific education and coaching delivered through the Internet.
    - Broadband access in the home to facilitate telehealth and telecommunications.

8. **Connectivity.** The community service network would not have to operate in a vacuum and could be connected to umbrella organizations that achieved regional or even national scale. Despite these broad connections, however, the

network would emphasize its local roots and would help older consumers remain connected to local service and social networks.

Section III:

Assessing the Future Operating Environment

"The only confident prediction we can make about the future is that it will be different from today." This sentiment is just as true today as it was in 2002 when AAHSA released its first scenario planning report. Given this reality, the best that forward-thinking providers can do is to assess how current trends are likely to play out in the years ahead. This assessment will help providers determine how these forces are likely to shape the future of aging services and what impact they will have on specific service models.

During its informal scenario planning process, CAST uncovered two sets of impressions about the future:

- ***Key trends:*** Each of the 11 key trends described below represents a highly predictable force that may have an important impact on the future of long-term services and supports.
- ***Key uncertainties:*** Each of the five key uncertainties described below represents an unpredictable force that may have an important impact on the future of long-term services and supports.

Key Trends

1. **Skyrocketing health care costs**. In its 2006 report to the AAHSA Board of Directors, the association's Finance Cabinet predicted that Medicaid costs for long-term care would double (in constant dollars) by 2025 and increase five-fold by 2045. Clearly, the increasing burdens that a growing older population will place on Medicare and Medicaid are unsustainable. However, new technology-enabled, coordinated service models could go a long way toward helping professional caregivers lower the cost of care and services while improving quality, reducing unnecessary hospitalizations and readmissions, and personalizing services and supports.
2. **Higher levels of consumer expectation and choice.** In 2009, the AAHSA Cabinet on Future Needs of Consumers cited research describing future consumers of long-term services and supports as well educated, technologically savvy individuals who will want to take charge of their own aging experience and will demand a range of choices. According to the cabinet, these consumers will expect to receive high-quality, low-cost services that are technology-enabled, personalized and delivered in the setting they prefer. Providers' ability to deliver these personalized services will depend on their willingness to listen carefully to consumers, assess a wide range of needs, and design customized service packages to meet those needs.
3. **Growing consumer frustration with fragmented health and support systems.** Participants in the Dec. 2010 Innovative Communities Summit organized by the Long-Term Quality Alliance urged long-term and post-acute care (LTPAC) providers to offer a "one-stop-shop" to consumers seeking long-term services and supports. Some providers may have the abil-

ity to build an integrated, user-friendly service and support system on their own. But most providers will find that they can only create scalable models by working in partnership with other providers at the local, regional and even national levels.

4. **Decreased emphasis on bricks and mortar**. In response to the desire of consumers to remain in their own homes, the dominance of bricks-and-mortar settings for the delivery of long-term services and supports will most likely continue to shrink in the future. While some bricks-and-mortar providers will continue to operate successfully, more aging services organizations will establish "virtual" service and support models. Through these models, a network of high-quality home and community-based service providers will deploy appropriate technology-enabled services and supports to a consumer's home.

5. **Increasing availability and quality of technology solutions**. CAST's 2007 *State of Technology in Aging Services* report outlined a variety of developments that have facilitated the proliferation of technology products and prototypes. Chief among those developments is the federal government's commitment to create a national health information technology infrastructure. Clearly, the performance, reliability and adoption of aging services technologies are increasing and their cost is declining, making it more likely that technology will eventually become a standard component of every service delivery program.

6. **Shortage of professional caregivers** to serve a growing older population. In its 2007 report to the National Commission for Quality Long-Term Care, the LeadingAge Center for Applied Research, formerly IFAS, predicted that the U.S. would need four million new direct care workers by 2050 just to maintain the current ratio of paid long-term care workers to 85-year-olds. When the anticipated 40-percent increase in that "old-old" population is taken into account, it becomes clear that providers of long-term services and supports face a huge challenge as they attempt to find qualified individuals to work in long-term and post-acute care settings. That challenge could be mitigated if unemployment continues to remain high, thus expanding the pool of job seekers.

7. **Continued reliance on family caregivers**. LeadingAge's *Consumer Research Digest* reports that a higher proportion of family members are performing intensive caregiving tasks, such as helping their relative get into and out of beds and chairs, assisting with housework and preparing meals. In addition to performing these demanding tasks, family caregivers are also incurring thousands of dollars in care costs, sacrificing hundreds of thousands of dollars in lost wages, and facing significant physical and mental health risks. These caregivers deserve additional support in light of the critical services they provide, the sacrifices they make and the health care dollars they save. Technology-enabled services can provide that support. Caregivers are likely to purchase these services to reduce their care burdens, missed work days and lost productivity.

8. **Increase in volunteer-based aging-in-place supports.** Suburban communities are experiencing a steady growth in local membership organizations, called "villages," which use

a combination of volunteer labor and paid service providers to help older people remain in their own homes. These village models are likely to gain even more popularity in the future, offering providers of long-term services and supports a new vehicle through which to market and deliver their home and community-based service programs.

9. **Continued use of capitated payments that are based on quality outcomes.** The new emphasis on quality measurement is motivated by three factors: a moral imperative to provide quality services and supports; the anticipated desire on the part of Baby Boomers to experience a different (and better) aging experience than they feel their parents had; and an effort by payers and regulators to measure outcomes achieved with their dollars. For all these reasons, reimbursement is likely to be tied to quality outcomes for the foreseeable future. This emphasis on quality will spawn payment models in which providers are rewarded for good outcomes and punished for negative outcomes. Given this climate, it seems very unlikely that payers will provide a blank check to fund technology-enabled service models. Instead, they will expect to see research-based utilization rates and a proven causal relationship between those utilization levels, improved quality and reduced costs. Succeeding in such a climate will require that providers measure quality and understand service utilization and its impact on reducing health care costs. Technology can provide the tools to measure and document quality and utilization.

10. **Increased competition from other health care sectors.** A variety of organizations and companies in the health care arena are likely to enter the field of long-term services and supports in response to demographic changes in the older population as well as the push for more holistic and better coordinated care. Some of these competitors will not be traditional providers of long-term services and supports. Instead, "the competition" is likely to include large and well-capitalized hospitals and medical systems seeking to dominate the market, as well as consumer product companies that can mobilize health and long-term care professionals through technology-enabled call centers. In addition, non-traditional partnerships (a housing provider, medical center and broadband internet company, for example) may seek to deliver "virtual" assisted living or continuing care at home. This increased competition and other market pressures could lead to increased business consolidation within the field of long-term services and supports as strong players join forces with one another or take over weaker players in order to maximize their market share. In addition, the combination of a global age wave and a global economy may mean that providers of long-term services and supports will face competition from companies outside the U.S. or that they may be able to compete successfully in international markets.

11. **Continued respect for LeadingAge members.** Not-for-profit and faith-based providers have a long history and are known in their communities for quality services, their dedication to the underserved and their ability to thrive even in the face of significant change. This legacy could give LeadingAge members a competitive edge, particularly in their quest to join local health care collaboratives. Successful providers will

emphasize this legacy when dealing with community partners, while taking action to dispel the stereotypes that not-for-profit organizations are slow to change and provide services at too high a cost.

Key Uncertainties:

Primary Uncertainties:

1. **The government's willingness to pay for technology-enabled services.** Providers seeking funding for technology-enabled services will continue to be challenged by the fact that innovative payment models tend to lag behind innovative technologies and service models. It is possible that innovative pay-for-performance reimbursement strategies included in the Affordable Care Act could mitigate these challenges and promote technology adoption by giving providers the incentive to purchase technology as a way to improve performance. Similarly, technology adoption could be encouraged if more state governments decide to provide direct reimbursement for the costs associated with the purchase and implementation of innovation-friendly, technology-enabled care models. Additionally, it seems likely the Center for Medicare and Medicaid Services' new Innovations Center, and the pilot and demonstration programs included in the Affordable Care Act, could speed up the development and adoption of technology-enabled service models.

   In the unlikely event that health care reform is repealed, these innovative reimbursement strategies may not be implemented. Funding for technology-enabled services would also be severely curtailed in the unlikely event that public programs like Medicare, Medicaid and Social Security were cut back dramatically. However, providers could respond to these less-than-ideal circumstances by changing the way they do business in order to make services more affordable. In this case, the field of long-term services and supports could see more competition and more use of technology.

2. **Availability of capital**. Access to capital is and will remain a primary driver of providers' ability to develop new technology-enabled services and create new business structures to support those services. In the best case, an influx of new capital into the field of long-term services and supports will allow pioneering providers to be proactive in exploring new business models. Over time, the success of these pioneers will also stimulate the development of proven road maps and capital structures for technology-enabled services that other organizations could adopt with confidence. If new capital does not become readily available, however, innovation will be limited to trailblazing providers who are willing to sell assets or use reserve funds in order to explore and implement technology-enabled services and supports.

3. **Potential growth in private-pay market.** The lack of a robust private-pay market could delay the day when economies of scale make technology more affordable. This could increase the risk that an unplanned "rationing" will occur because only a small percentage of older consumers can afford technology-enabled services and supports. On the other hand, the private-pay market could grow if consumers change their current aversion to planning, saving and paying for long-term services and supports. The

growing consumer interest in popular low-cost services, like mobile and Internet-based health and wellness applications, could also help to boost the private-pay market, especially if these applications link with or lead to service offerings. Finally, market growth could come from deliberate efforts to educate family caregivers about the personal benefits that technology-enabled supports could offer to them and their older relatives.

4. **Provider's adaptability.** The ability of providers to build on their internal competencies and align with the operating environment will be a key determinant of their future success. How well providers will accomplish these goals is uncertain and will depend on their ability to:

    - **Strengthen their internal competencies.** Following a practice perceived to be reserved for profit-making companies, successful not-for-profit organizations will focus on their strengths and eliminate poor-performing operations from their portfolios. Such adaptation will drive specialization in the field of long-term services and supports. Successful companies will guard their market position by being careful not to over-diversify or stray from their missions.

    - **Tie technology to an existing service program**. Providers will have trouble marketing technology as a separate and distinct product offering because they will never be able to compete with technology retailers in that market.

    - **Create a workable "back room" technology infrastructure.** This infrastructure will ensure that deployment, trouble shooting, data mining and data analysis can be carried out to support both the service program and care-related decision making by professional and informal caregivers.

    - **Understand their operating environment.** Successful providers will have a clear picture of their individual market, their competition and their potential strategic partners. They will use that understanding to position themselves within the operating environment and build partnerships.

Secondary Uncertainties:

1. **Innovation-friendly regulations.** Too rigid a regulatory environment could stifle innovation in developing new care models and put American providers at a disadvantage when competing with providers from other countries who may have more of an ability to experiment with new models. Within the community, restrictive zoning and housing policies at the local level could affect the ability of long-term services and supports providers to develop new housing models that encourage aging in place.

2. **Medical breakthroughs.** The nation's ability to reduce the number of older consumers with cancer or chronic diseases, or to help consumers better manage those conditions, could change projections regarding the pressures that an aging population is likely to place on government programs and providers of health care and long-term services and supports.

Section IV:

Three Categories of Potential Models

Category #1:
Health Care Models

Category #1: Health Care Models at a Glance

Models in this category include: Accountable Care Organizations (ACO) authorized by the Affordable Care Act; state demonstrations for Medicaid Managed Care; and Person-Centered Medical Home models, of which the Program of All-inclusive Care for the Elderly (PACE) program is a precursor.

Description: Hospitals, physician groups, providers of long-term services and supports and other providers of home and community-based services band together at the local level to serve large groups of Medicare and Medicaid beneficiaries who are frequent users of health care services. These community-based health teams also provide short-term rehabilitation and stabilize higher acuity patients after hospitalization. In return, they receive a bundled, capitated payment that is tied to patient outcomes.

Appropriate technologies: This model could employ:

- Telehealth technologies, including medications management, which facilitate the management of chronic conditions as a way to prevent hospitalizations.
- Interoperable electronic health records (EHR) and health information exchange, which give all of a consumer's care and service professionals access to that consumer's full medical history, with the consumer's permission.
- Internet portals that engage older consumers and their families in the care-delivery process.

Factors that will Drive Success

The Affordable Care Act places renewed emphasis on the need to reduce hospital admission and readmission rates, ease care transitions, improve quality and contain costs. New payment mechanisms authorized by the new law will change the culture of health care by discouraging silo operations and by rewarding health care providers that work together in a holistic effort to prevent medical crises instead of resolving those crises once they occur.

LeadingAge providers participating in health care models will be successful if they build on their core competencies and develop new competencies in order to become valuable members of community health teams. Providers of long-term services and supports could eventually assume leadership roles in these ACOs and ACO-like teams. As leaders, they would take responsibility for managing the holistic care needs of older people and mobilizing other community providers of health and home care to assist in that effort. If providers of long-term

services and supports miss their opportunity to join the new local health collaboratives, other providers will undoubtedly enter the market. Successful organizations will be ready to provide – quickly and at a low cost – pre- and post-acute services that community health teams will need in order to help older consumers preserve their health and wellness.

In the best case, the implementation of the innovation-friendly Affordable Care Act is funded and moves forward. In the worst case, public-funding options for technology-enabled coordinated health care models would be significantly reduced or taken away completely, slowing growth of this model. This unlikely worst-case scenario would induce providers to stop offering services to low-income seniors, causing underserved consumers to suffer. On the other hand, providers would be forced to offer low-cost health and wellness services enabled by technology aimed at middle-income populations.

Implementation as a Major Driver of Success

Generally, the success of team-based, coordinated health care delivery models like ACOs will depend on how well the developers of these models meet a variety of implementation challenges. As government policy makers take steps to create shared risk, integrated care delivery models that employ a shared-risk reimbursement strategy, they will be challenged to decide who will be in control of the health teams; what role aging services providers will play in ensuring that the teams take a holistic approach to service provision; and how partners in the health team will be rewarded for good outcomes or penalized for poor outcomes. In addition, it remains to be seen how consumer choice will impact the effectiveness of these teams.

Provider-Related Drivers

- The success of providers participating in health care models will depend on the ability of those providers to:
    - **Demonstrate that they deserve a seat at the "ACO Table."** Community-based health teams like ACOs won't be able to provide a full continuum of care without the experience and assistance of long-term and post-acute care (LTPAC) providers. For example, many LeadingAge members are uniquely positioned and qualified to help those teams ensure that transitions from hospital to home or nursing home are successful. However, to become valued team members, LTPAC providers will need to:
    - **Demonstrate their proven ability to manage higher acuity patients** who have just been discharged from the hospital, to stabilize and manage chronic conditions and/or to provide post-operation rehab at the skilled level.
    - **Demonstrate their technological capacity.** Providers must show that they can deploy EHRs and telehealth solutions that monitor consumers and increase caregiver knowledge of consumers' health status. Providers' ability to exchange health information with the information systems of other providers, either directly or through a health information exchange, will be key to successful care coordination. In addition, LTPAC providers must demonstrate their capacity to develop the "back room" infrastructure necessary to deploy technology, including data servers, system diagnostic and trouble-shooting

tools, and tools for data mining and data analysis. These tools must be integrated into a high-quality service package that is scaled to serve large numbers of consumers at an affordable cost.

- **Position themselves as "pre-acute" care providers** who are adept at preventing medical episodes that could push patients to higher levels of care and cost. Pre-acute care could be provided through a variety of wellness programs and health-coach services.
- **Partner with other providers to increase their collective capacity**. LTPAC providers could work together through a consortium that provides a wide range of services to large population groups. To accomplish this goal, these providers will need experience in creating strategic partnerships and negotiating contracts. In addition, it will be important to establish quality measurements that all partners must meet in order to remain in the partnership. Such measurements will ensure that each provider can continue to deliver on its "brand promise" in the local community.
- **Work in networks rather than in silos.** Successful providers with the right relationships and the right business plans can effectively make the case that the community-based health team cannot be successful without them. In addition, successful providers will speak the same language as hospitals, physicians and other health-care partners. For example, they will know the hospitalization and re-hospitalization rates associated with their core businesses. They will present themselves as useful, data-driven partners who are willing and able to help hospitals reduce their re-hospitalization rates.
- **Build their financial capacity.** Providers participating in shared-risk models may experience a significant delay in payments that are based on quality outcomes. Providers need the financial capacity to tolerate these payment delays without experiencing adverse budgetary repercussions.
- **Foster an entrepreneurial spirit.** Providers won't be able to break into ACOs or other interdisciplinary health teams if they cannot move quickly enough to take advantage of this business opportunity or are unwilling to change and adapt to a new market that demands pre- and post-acute care.

Category #2:

Community-Based Support Models

Category #2: Community-Based Support Models at a Glance

Models in this category: Private-pay models include the "CCRC at Home," which delivers meals, services, activities, home maintenance and health care to consumers living in their own homes. Other private-pay options could include home and community-based services delivered to Naturally Occurring Retirement Communities (NORCs) and other independent housing settings; and "village" models through which a membership group organizes and delivers programs and services so members can lead safe, healthy and productive lives in their own homes. Several models use public funds: Options Programs that offer home and community-based services to eligible individuals; special needs plans created by Medicaid Managed Care programs; State Medicaid Waiver Programs; and the Program of All-Inclusive Care for the Elderly (PACE), through which an interdisciplinary team receives a capitated payment to provide acute and long-term care services to older people who are eligible for Medicare and Medicaid, require a nursing home level of care and continue to live at home.

Description: Providers will offer a package of home and community-based services to older consumers living in their own homes and apartments in the community. Consumers could be given the opportunity to purchase services a la carte, or could become members of a "service plan" that provides an inclusive set of services for a set fee.

Appropriate technologies:

- Remote monitoring and assistive devices, including technology that monitors the individual's ability to carry out activities of daily living.
- Safety technologies, including personal emergency response systems, fall detection and prevention devices, mobility aids, stove use detectors, smoke and temperature monitors, door locks and wander management systems.
- Care coordination technologies that allow professional and family caregivers to share care burdens or, at the very least, keep families informed of the individual's health status.
- Telehealth technologies, including medication management technologies, which assist in the management of chronic conditions and help prevent hospitalization and rehospitalization.
- Communication and social interaction technologies that help foster quality of life and wellness.
- Electronic health records to supplement health-related services, such as telehealth-enabled chronic disease management.

Factors that will Drive Success

The desire of consumers to age in place is a primary driver of community-based models. Related to this desire is the need to support family caregivers who eventually are called upon to provide support to older relatives who age in place. Family caregivers will be interested in purchasing technology-enabled support services to fill gaps in care, as long as these technologies require minimal technical support.

In the best case, LeadingAge providers participating in community-based models will attach technology to an existing and well-respected program that

provides high-quality, efficient and cost-effective services. Successful providers will use the private-pay market to make a business case for technology-enabled home and community-based services and then will use their private-pay proceeds, private contributions, grants, and volunteers to provide low-cost services to lower income consumers.

Funding as a Major Driver of Success

Clearly, the availability of public funding will drive the success of technology-enabled home and community-based services. It is unlikely that most low- and moderate-income consumers will be able to pay for technology-enabled long-term services and supports without help from outside sources like state technology incentives, state rebalancing efforts, Medicaid Waiver programs and state Medicaid demonstrations. In the worst case, public-funding options for technology-enabled community-based service models would be significantly reduced or taken away completely, slowing growth of this model. In one worst-case scenario, low margins would induce providers to stop offering Medicaid services, causing underserved consumers to suffer. In another worst-case scenario, tighter budgets would make providers less likely to innovate.

It is unclear whether a robust private-pay market will exist for home and community-based services, since consumers haven't yet shown a strong interest in paying for home-based technology. Most consumers want the government to pay for these services, either through Medicare or Medicaid, for eligible individuals. The lack of a robust private-pay market will present challenges to vendors and providers alike. Innovation could be slowed if providers find it difficult to justify research and development activities for a market that has yet to emerge.

In addition, providers will be challenged to find acceptable ways to pass on to consumers the costs of technology that is embedded in a service program. Consumer awareness of the availability, efficacy and cost-effectiveness of technology-enabled services could help expand the private-pay market, as will marketing efforts that target family caregivers. Tax credits, state technology incentives and state demonstration program may also spur growth in the private-pay market.

On the other hand, the CLASS Act, a voluntary, government-managed insurance program for long-term services and supports that should be available by 2013, will create a mechanism by which consumers can pay for home and community-based services using funds they have set aside during their working years. If the CLASS Act attracts enough participants to make it financially sustainable, it will boost the availability of technology-enabled home and community-based services. CLASS, which was authorized by the Affordable Care Act, could also drive consumer awareness of long-term care insurance and may lead consumers to buy supplemental long-term care insurance that will help them purchase additional long-term services and supports. If CLASS is repealed or has low enrollment, however, the community-based models in this category are unlikely to grow quickly.

Provider-Related Drivers

The success of providers participating in community-based models will depend on the ability of those providers to:

- **Prove their effectiveness in prolonging independence and reducing costs.** Providers of long-term services and supports will need to prove to themselves and to consumers that new

models, like the CCRC at Home, are effective. This will require carefully crafted actuarial analyses; excellent prevention, wellness, disease management programming; and a robust marketing effort to ensure adequate enrollment.

- **Demonstrate their ability to provide responsive customer service and consumer-centered services.** Customized, personalized services will be sought after and valued by consumers.
- **Invest in technology.** Over the long-term, investments required for technology-enabled services will be less burdensome for an organization than investing in buildings. However, some investment will be necessary to ensure that providers can scale their technology-enabled service program to serve larger numbers of consumers. Given the low margins associated with aging services technologies, providers may be reluctant to invest without a realistic estimate of their return on investment. Proven business models will help providers determine the long-term payoff for a technology investment, will help them take steps to reduce investment risk, and will facilitate their efforts in financing the roll-out of these technology-enabled services.
- **Tie technology to a strong service model.** A technology-enabled program that is only about "widgets" will not succeed since consumers already have numerous opportunities to buy these widgets from established retailers.
- **Adopt an entrepreneurial spirit.** Providers cannot sit back and wait until a competitor moves into their market and makes a technology-enabled service the core of its business model. Instead, providers must step out of their comfort zones and leverage their brand to create a technology-enabled community-based service delivery model. Successful providers will recognize that a "customer" is anyone who calls with an aging- or family-related need, not just someone who is interested in buying or leasing an apartment.
- **See caregivers as their market.** On average, family caregivers already spend $5,500 a year of their own money to help relatives stay at home. That figure jumps to $9,000 a year for long-distance family caregivers. Successful providers will offer high-quality service programs where family caregivers can spend that money.

Category #3:
Real Estate-Based Models

Category #3: Real Estate-Based Models at a Glance

Models in this category: Continuing care retirement communities (CCRCs); independent living communities managed by providers, including affordable housing communities; formal housing-with-services programs; assisted living communities; and skilled nursing facilities. Sources of funding include private payers, Medicaid (for nursing facilities) and long-term care insurance.

Description: Facility- and housing-based models in category #3 can be used to provide both on-site services to residents and community-based services to older people living in the place they call home. For example, CCRCs and housing communities with services could participate in Accountable Care Organizations or other integrated care delivery models. They might also partner with "village" membership programs to help older people age in place, or establish their own "CCRC at Home" programs to provide a full range of services to community-dwelling elders who pay an up-front fee. Providers in this category could also use an existing campus as a hub to provide services to community-dwelling elderly through a membership or an a la carte program.

Appropriate technologies: As an insurance model, CCRCs may have the greatest incentive to deploy technology as a way to keep residents healthy, active and independent, thus preventing or delaying moves to more intensive and expensive levels of care. Providers with real-estate models have more control over their physical plant and greater flexibility in creating and maintaining their technology infrastructure. Technologies for use on and off campus include:

- Remote monitoring and assistive devices, including technology that monitors the individual's ability to carry out activities of daily living.
- Safety technologies, including personal emergency response systems, fall detection and prevention devices, mobility aids, stove use detectors and smoke monitors.
- Care coordination tools that allow professional and family caregivers to share the care burdens or, at the very least, keep families informed of the individual's health status.
- Telehealth technologies, including medications management technologies, which assist in the management of chronic conditions and help prevent hospitalization and rehospitalization.
- Technologies that foster quality of life, wellness, communication and social interaction.
- Electronic health record technology would be used in these settings for health-related services, such as chronic disease management using telehealth.
- Facility management technologies like ones used in physical plan maintenance, point-of-sales, access control and wander management.

Factors That Will Drive Success

Declines in the housing market over the past several years have caused CCRC occupancy rates to fall as declining prices and sales keep many prospective residents from selling their homes. It remains unclear whether this downturn will correct itself soon enough to bring new capital and renewed growth to real-estate models. In the interim, a number of providers are using their real-estate base as a launching

pad for delivery of home and community-based services (HCBS) both to individual consumers living at home, to consumers who are members of "villages," or to consumers living in NORCs. This movement toward HCBS delivery is likely to continue as more real estate-based providers begin using their campuses as entry points to drive ancillary services that help expand their client base and bring diversity to their revenue streams.

While many of the real-estate models, including the CCRC at Home, will depend on private-pay dollars to succeed, affordable housing-with-services models will be driven by the availability of public funding through the Medicaid program and HUD affordable housing programs. In addition, the CLASS Act will help housing residents purchase services. If funding streams for housing with services are eliminated, not developed or cut dramatically, however, the potential growth of this model will be diminished considerably. Similarly, if home prices and sales remained low, it will affect growth in the real-estate based market for middle-income seniors.

Provider-Related Drivers

The success of providers participating in real-estate models will depend on the ability of those providers to:

- **Develop an entrepreneurial spirit.** Successful providers will look beyond their campuses for customers, and will be more interested in selling services than apartments. However, these providers will be careful not to spread themselves too thin by pursuing too many markets or expanding into too many new areas. It will be important to focus on services that providers can deliver with a high degree of success.
- **Use innovative programs to attract new residents.** Certain real-estate models may continue to thrive if providers focus on introducing design and operational innovations that make these communities attractive to retirees who are seeking services and amenities they cannot obtain in their own homes. These services and amenities may include universal design features that cannot be affordably incorporated into existing housing, as well as services that offer convenience and hospitality. The success of these innovative real-estate models will depend on economic factors, including providers' ability to launch new construction projects and consumers' ability to afford service-rich, market-rate housing.

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