Special Article

The Future of Home Health Care: A Strategic Framework for Optimizing Value

Steven Landers, MD, MPH1, Elizabeth Madigan, PhD, RN, FAAN2, Bruce Leff, MD3, Robert J. Rosati, PhD1, Barbara A. McCann, MA4, Rodney Hornbake, MD5, Richard MacMillan, JD, RN6, Kate Jones, MSN, RN, CCM7, Kathryn Bowles, PhD, RN, FAAN, FACMI8, Dawn Dowding, PhD, RN9, Teresa Lee, JD, MPH10, Tracey Moorhead, MA11, Sally Rodriguez, MPH12, and Erica Breese, MBA12

Abstract
The Future of Home Health project sought to support transformation of home health and home-based care to meet the needs of patients in the evolving U.S. health care system. Interviews with key thought leaders and stakeholders resulted in key themes about the future of home health care. By synthesizing this qualitative research, a literature review, case studies, and the themes from a 2014 Institute of Medicine and National Research Council workshop on “The Future of Home Health Care,” the authors articulate a vision for home-based care and recommend a bold framework for the Medicare-certified home health agency of the future. The authors also identify challenges and recommendations for achievement of this framework.

Keywords
home health, home-based care, hospital at home, hospice, palliative care, technology, workforce, quality

Introduction
America is experiencing a dramatic shift in demographics, and in 2019, people older than 65 years will outnumber those younger than five. As Americans age and live longer, increasing numbers of them will live with multiple chronic conditions, such as diabetes or dementia, and functional impairments, such as difficulty with the basics of life like mobility and managing one’s household. One of the greatest health care challenges facing our country is ensuring that older Americans with serious chronic illness and other maladies of aging can remain as independent as possible. Our success with this challenge will help ensure that Americans age with dignity in a manner that meets their expectations, preferences and care needs. The financial health of our federal and state governments also hangs in the balance because of the implications for Medicare and Medicaid costs. Meeting this challenge will require envisioning the potential value of home-based health care, creating a pathway for home-based care to maximize its potential, and integrating it fully into the U.S. health care system.

In this article, the terms “home-based care” and “home health care” have distinct meanings. “Home-based care” refers to the spectrum of services provided in the home to support patients, including caregiving and personal care services, skilled services (such as nursing and therapy) provided in the hospital setting. On the other hand, “home health care” refers to the care provided by Medicare-certified home health agencies, which traditionally includes skilled services like nursing and therapy, but not personal care services or hospice care. This distinction is important because it reflects the different regulatory and reimbursement frameworks that govern these two types of services. The authors propose a strategic framework to optimize the value of home-based care in the evolving U.S. health care system.
home, home-based primary care, hospital-at-home, and even hospice when it is provided at home. “Home health care” in this article refers to Medicare skilled home health care, which is paid for under the Medicare home health benefit and delivered by Medicare-certified home health agencies. Home health care is one type of home-based care.

The article builds upon the themes that arose at an Institute of Medicine (IOM) and National Research Council (NRC) workshop on the “Future of Home Health Care,” which was held on September 30 and October 1, 2014.1 The research and discussion in this article are intended to be a call for action among home health agencies and home-based care providers, policy makers, providers, patients, caregivers, and others interested in the field. The article seeks to clarify and define the spectrum of home-based care, the relevance of this spectrum to overall health care, and the critical roles, characteristics, and capabilities of the home health agency of the future. The article also identifies key needs to address to enable home health agencies to serve patients and the health care system in the future.

Of foremost importance is leadership to build toward a clarified vision for high-value home health care in the U.S. health care system. The authors seek to provide a strategic framework to enable home health care to pursue concrete, meaningful change. The history of home-based care is at least as old as the beginnings of the nursing and medical professions given that health care delivered in the home (in the form of house calls) was the standard of practice, long before the development of hospitals and office-based medical care. The changes that this report seeks to propel are the major next steps in the long history of home-based care.

Background: Factors Driving Change

Demographic impetus and cost. The graying of the U.S. population is a major impetus for change in health care. According to the Medicare Payment Advisory Commission (MedPAC), Medicare enrollment is projected to increase by more than 50% over the next 15 years from 54 million beneficiaries today to more than 80 million in 2030.2 This reflects an overall aging of the United States population: the Census projects that by 2030, the proportion of U.S. residents older than 65 will have nearly doubled from 2010 (20% vs. 13%).3 Among the oldest Americans, the Census predicts that the population age 85 and above will double by 2036 and triple by 2049.2

Although by some accounts the upcoming Medicare population is healthier than previous generations—life expectancies are longer and smoking rates have declined—baby boomers have higher rates of obesity and diabetes compared with previous generations.4 According to a 2002 study, 88% of people 65 years or older have at least one chronic condition, with a quarter of these having four or more conditions.5 The effect of these chronic conditions on spending is massive: Estimates suggest that chronic illness accounts for three quarters of total national health care expenditures.4 As the number of older beneficiaries with multiple chronic conditions continues to rise, providing care in the most effective and efficient setting will become even more critical.

Health care delivery system reform: The Triple Aim and HHS goals. With demographic trends and spending concerns as a backdrop, the Medicare program began to emphasize achievement of the “Triple Aim” in 2009. A framework initially conceived by the Institute for Healthcare Improvement, but now almost universally accepted in health care policy and delivery, the Triple Aim has focused efforts to innovate in the Medicare program and has propelled considerable change. The Triple Aim declares that to improve the U.S. health care system, it is vital to pursue three goals simultaneously:

1. Improving the patient experience of care (including quality and satisfaction);
2. Improving the health of populations; and
3. Reducing the per capita cost of health care.6

The Triple Aim has been used by policy makers and other leaders in health care delivery to focus their goals in reforming the health care delivery system.

Policy movement toward achievement of the Triple Aim can be seen in the many initiatives undertaken by the Center for Medicare and Medicaid Innovation (CMMI), and in the time-specific goals to move Medicare reimbursements from volume to value that the secretary of the U.S. Department of Health and Human Services (HHS) announced in early 2015. HHS’s goals are twofold:

1. To tie 30% of traditional (fee-for-service [FFS]) Medicare payments to quality and value through alternative payment models (APMs; including bundled payments or Accountable Care Organizations [ACOs]) by the end of 2016 and 50% by the end of 2018 and
2. To tie 85% of all traditional payments to quality or value by 2016 and 90% by 2018 through programs such as Hospital Value-Based Purchasing Program (HVBP) and Hospital Readmissions Reduction Program (HRRP).7

HHS has made strides toward achieving these goals. While quality programs in the Affordable Care Act (ACA) primarily focused on hospitals, recent legislation and regulatory actions have expanded quality and value programs to post–acute care with the skilled nursing facility (SNF) value-based purchasing program and the home health value-based purchasing demonstration. In addition, post–acute care providers are increasingly finding themselves affected “downstream” by programs directed at other entities, such as bundled payments and hospital value-based purchasing. A summary of some of the most recently
developed current and future mandated quality and value programs for Medicare providers and the legislation creating them are provided in Figure 1. A description of the estimated impact of these alternative payment models is provided in Figure 2.

There are also more established programs that leverage home-based care. Examples include the Veterans Administration’s Home-Based Primary Care program, which administers longitudinal interdisciplinary home-based medical care to veterans in need of skilled services, case management, or activities of daily living (ADLs), and the Program of All-Inclusive Care for the Elderly (PACE), a Medicare and Medicaid program in which PACE organizations contract with providers and specialists to offer nursing home-level medical and supportive services in the community.

**Misaligned incentives persist and block progress.** Despite these new and existing initiatives, misalignment of incentives remains common in traditional Medicare and in the health care system overall. This misalignment remains a barrier for better care coordination and continues to be a driving force behind initiatives that focus on the Triple Aim and HHS’s goals. A further challenge is that the vast majority of the above-mentioned APMs and value-based programs pursued to date are built on FFS architecture. In other words, the APMs pursued tend to use delivery models that are triggered by the delivery of certain services or by a certain episode of care that is paid for under traditional Medicare, with a retroactive opportunity for shared savings or risk against a historical cost target or benchmark; few, if any, APMs are truly pursuing population-based payment. As a result, even within many of these APMs, many of the core issues with traditional Medicare persist, hindering progress toward the Triple Aim.

**Consumers driving care.** As patients become increasingly engaged with their care and the health care system strives to empower patients in their care, patient preference and satisfaction are increasingly becoming key measures of performance. When asked about their care preferences, older Americans overwhelmingly articulate a desire to age in place and receive care at home rather than in institutional settings. A 2010 AARP (formerly the American Association of Retired Persons) survey found that nearly three quarters of a survey population of those age 45+ strongly agreed with the statement, “what I’d really like to do is stay in my current residence for as long as possible.” This is echoed in the last stages of life, where the Dartmouth Atlas researchers found that more than 80% of patients say that they “wish to avoid hospitalization and intensive care during the terminal phase of life.”
Recognizing these preferences and the potential for home-based care to reduce care delivery costs system-wide, policies have begun to prioritize noninstitutional care settings. State Medicaid offices have led this trend toward consumer-based care. In 2013, in the context of Medicaid long-term services and supports, there were more home- and community-based service providers than institutional providers, an 18% increase since 1995. Medicaid expenditures for home- and community-based services have also grown significantly, reflecting the rise in use of home-based services as opposed to institutional care, more than doubling from $25.1 billion in 2002 to $55 billion in 2012.

Shifting to a Community- and Home-Based Model for Health Care

All of these drivers of change point to a shift in the delivery system toward clinically appropriate care in the community, with the home as a central node. As illustrated in Figure 3, technology and policy will need to shift to accommodate these changes and deliver appropriate care to patients.

Consistent with this paradigm shift, payers and providers engaged in APMs are developing a key strategic emphasis on shifting the site of care toward the community and the home.

The spectrum of home-based care. As the health care system shifts toward additional care in the community, the spectrum of available services and supports for home-based care becomes critical. Medicare skilled home health is part of this broad spectrum of home-based care services. In this article, it is important to understand the differences in terms between “home-based care” and “Medicare skilled home health.”

As captured in Table 1, “Medicare skilled home health” care or “home health care” refers to services offered by Medicare-certified home health agencies under the Medicare home health benefit. A wide array of different types of care provided in the home by a wide range of parties. The continuum of different types of home-based care delivered in the home varies in terms of different dimensions, including acuity, type of care provided, and degree of physician involvement. Home-based care includes both formal and informal personal care services, Medicare skilled home health, physician house calls, and even “hospital-at-home” services.

Table 1. Home-Based Care and Medicare Skilled Home Health Care.

| Term                                      | Definition                                                                                                                                 |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| “Medicare skilled home health” care or “home health care” | Services offered by Medicare-certified home health agencies under the Medicare home health benefit. A wide array of different types of care provided in the home by a wide range of parties. The continuum of different types of home-based care delivered in the home varies in terms of different dimensions, including acuity, type of care provided, and degree of physician involvement. Home-based care includes both formal and informal personal care services, Medicare skilled home health, physician house calls, and even “hospital-at-home” services. |
| “Home-based care”                          |                                                                                                                                              |
As captured in Figure 4, which is drawn from the workshop summary of the IOM-NRC workshop on “The Future of Home Health Care,” it is important to note that the vast majority of services provided in the home are provided by family caregivers, sometimes referred to as “informal services.”

This phrase grossly underestimates the critical role family caregivers play in the care of patients at home. Particularly among patients with multiple limitations on ADLs, caregiving is crucial. Without caregivers in the home, health care at home is simply impossible for those with functional limitations. Upward of 10 to 15 million individuals receive help from family caregivers. AARP estimates that 34.2 million adults have served as caregivers in the last year alone.

According to the Urban Institute’s “The Retirement Project,” in 2000, approximately 2.2 million individuals received “formal personal care services,” defined as personal care services that are paid for by various means; this increased to 2.5 million in 2010 and is projected to increase to 2.9 million in 2020. Some patients may be eligible for Medicaid or other state programs that provide coverage for such services; however, there is considerable variation in such programs and their scope. Some may have private long-term care insurance that enables coverage. Still other patients may have no private or public insurance coverage for formal personal care services and may need to pay out of pocket for such services.

Approximately 3.4 million people receive Medicare skilled home health care, which supports homebound patients by providing coverage for intermittent skilled nursing and therapy services that are provided by Medicare-certified home health agencies subject to a physician’s plan of care. In 2014, Medicare spent $17.7 billion on home health care.

Home-based primary care and hospital-at-home are models of care that serve patients with conditions that are more acute or severe and are less commonly used. The skill needed to provide the services increases accordingly. Home-based primary care is a model that makes use of home care physicians and nurse practitioners, in connection with an interdisciplinary team of professionals, including skilled home health professionals. The hospital-at-home model serves to supplant hospital admission for certain patients with intensive, hospital-level care in the home. Those receiving this highest acuity level of home-based care have been shown to experience 19% lower costs, higher satisfaction, and equal-to-better care outcomes when compared with similar inpatients.

In addition to these varied services along the spectrum of home-based care, it is also critical to include mention of the role of palliative care and end-of-life care. For patients that have been diagnosed with severe or serious illness, palliative care is often a core element of treatment of the patient in a holistic fashion that emphasizes function. Palliative care may be delivered outside of the Medicare hospice benefit in various settings, including at home by home health agencies, or in facilities including hospitals. For many patients who use palliative care, the Medicare hospice benefit may eventually be used at home or in a facility-based setting as well. Including palliative care and hospice in the spectrum of home-based care services enables a full understanding of how care may be shifted toward the community and the home from birth to death.

**Methodology**

The Future of Home Health project was a multiphase project initiated by the Alliance for Home Health Quality and Innovation (the “Alliance”). As part of this project, the Alliance sponsored an IOM-NRC workshop on “The Future of Home Health Care” held on September 30 and October 1, 2014. The themes that surfaced during this workshop then became the subject of a literature review and qualitative research to further explore the key considerations for the future of home health care.
The literature review and qualitative research were commissioned by the Alliance. The work was performed by Avalere Health, an independent research firm. As a first step, Avalere Health conducted an extensive literature review of both scholarly and trade publications on the value and role of home health care. Building upon that literature review, Avalere Health conducted unstructured interviews with individuals considered key stakeholders. These key stakeholders were identified by virtue of their leadership in organizations representing patients and caregivers, or their experience as policy makers and payers. The individuals were interviewed regarding priorities to address the needs of these constituents for the future and to understand their perspectives on the role and relevance of home health care.

Specifically, Avalere Health conducted 16 interviews with key stakeholders in health policy and innovative providers throughout the fall of 2015. The key stakeholders in health policy included current and former policy makers from the Centers for Medicare and Medicaid Services (CMS; and the Innovation Center or CMMI), advocates for Medicare beneficiaries, caregivers and disease groups, and payers (large commercial and Medicare Advantage plans). Due to the sensitive nature of their positions and to promote full honesty, Avalere Health promised anonymity to the stakeholders. Appendix C at http://ahhqi.org/images/uploads/APP_C_ Interview_Methodology.pdf describes the stakeholders interviewed as well as 12 questions that Avalere Health drew from as the basis for the unstructured interviews.

After completing the interviews with the key stakeholders in health policy, Avalere Health conducted interviews with a diverse array of individuals from provider organizations pursuing new and alternative models of care that leverage home health or home-based care to develop case studies and vignettes that shed light on the framework for the future of home health care. As a general reference, a case study compendium developed by the Visiting Nurse Associations of America (VNAA) was also used to better understand innovations in home health and home-based care. 33

Institutional Review Board approval was not required for this research activity because it did not meet the regulatory definition of human subjects research. This project involved interviews and information gathering about services and policies, rather than living individuals. All of the people who agreed to be interviewed were volunteers.

**Limitations**

This article has limitations due to the nature of the qualitative research performed. Individuals were selected for interviews based on the assumption that policy maker, payer, and consumer perspectives would be of highest priority in understanding the future of home health care. This assumption may have skewed the resulting themes by emphasizing government, payer, and consumer priorities for the future.

**Results**

The unstructured interviews with key stakeholders in health policy yielded a number of key themes involving (1) the future of payment and delivery system reform and (2) the future of home health care. In the context of these interviews, “home health care” was defined as services provided under the Medicare home health benefit by Medicare-certified home health agencies.

**The Future of Payment and Delivery Reform**

1. **Payment and delivery reform is here to stay.**

The interviewees emphasized that payment reform will continue in the direction of emphasizing value-based longitudinal payments where an entity—such as a hospital, physician group, or post–acute care provider—is financially responsible for services provided beyond their immediate care setting. There was consensus among interviewees that CMS will meet its goal of 50% of traditional Medicare payments through APMs by 2018. One interviewee stated that “[t]hese models are here to stay.”

2. **No dominant model is emerging. Continued heterogeneity across markets is expected.**

Key thought leaders interviewed were in consensus that no single payment and delivery model is emerging as the dominant model. There was consensus that bundling and ACOs, for example, will have an increasing role over the next 3 to 5 years; however, one model will not dominate across all markets. In general, payment reform will continue in the direction of emphasizing value-based episodic payments where an entity, such as an ACO, is financially responsible for services provided.

3. **Greater momentum around bundling and Medicare Advantage than ACOs.**

While some strongly supported bundled payment arrangements as a model for future payment and delivery reform, others noted that bundling currently represents a relatively small fraction of Medicare expenditures, which will likely remain the case for the next 3 to 5 years. For example, the Comprehensive Care for Joint Replacement (CJR) model is an expansive use of bundling for Medicare relative to the Bundled Payments for Care Improvement Initiative (BPCI), but CJR accounts for a small proportion of payments. The movement toward bundled payments suggests that CMS will be growing the base of a small percentage of payments. The interviewees also noted that continued growth of Medicare Advantage plans is expected, potentially with increased provider (i.e., hospital)-owned plans.
4. Locus of control (physician vs. hospital) unclear.

Key thought leaders varied in their perspectives about whether the locus of control for payment and delivery will lie with hospitals or physicians. Several key thought leaders noted that markets will likely be a hybrid of control, in which hospitals will predominate in most locations because they have more resources and market power, but other markets will have multispecialty physician practices that are sophisticated enough to succeed. For example, the CMMI was very intentional when giving hospitals control of the CJR bundles, but it is foreseeable that different entities would be in control in other clinical episodes or models.

Other key thought leaders stated that absent policy support to buttress physician practice capacity to be the convener of ACOs, hospitals will likely retain and grow control. One interviewee noted that early evidence indicates that physician-led services may lead to better outcomes, but there is not sufficient evidence to have clarity on this issue. Several interviewees also acknowledged that as hospitals increasingly acquire physician practices, the distinction may be moot.

5. Payment and delivery will continue to rely on FFS systems with retrospective reconciliation. No large-scale movement toward prospective, capitated models for bundling and ACOs.

Currently, almost all of the APMs involve continued FFS payment with a retrospective reconciliation. While capitation and prospective payment offers more opportunity to experiment with services covered and service delivery, key thought leaders agreed that the original Medicare payment system will not move to prospective payment system in the near future. Ultimately, the system is moving toward capitated payment, but the time frame to get there is unclear. It will be important to continue watching CMS to see how quickly the system evolves. Within 3 to 5 years, the Medicare system will still largely emphasize a retrospective shared savings model.

6. Flexibility greater with shared risk but limitations on innovation persist within existing FFS structure.

When providers are operating in an at-risk environment (with both upside and downside risk) and bear the consequences, then policy makers (e.g., Congress and CMS) may be more amenable to expanding or altering the home health benefit.

For example, CMS has offered waivers of certain home health benefit requirements for providers participating in APMs where they take on downside risk. CMS is willing to provide additional flexibility, including toward the home health benefit, where providers take on risk. However, providers are currently bound by the existing home health FFS payment structure, limiting potential innovation.

The Future of Home Health Care

7. Home health “big winner” in payment and delivery reforms.

All key thought leaders interviewed stated that home health stands to be a “big winner” with a substantial increase in utilization as a result of payment and delivery reforms. Payment reforms create incentives for upstream referral partners to utilize home health more substantially because it is a lower cost setting of post-acute care. In addition, patients prefer to receive care at home. The economic trend more generally is toward personalized, on-demand, direct-to-consumer services; the health care industry will similarly see shifts in consumer demand for how people consume health services.

The timing of the shift toward home health is a big question, as it is currently unclear when more services will be covered in the home. However, ultimately, the system is moving toward a broader use of home health.

8. Lack of consensus around modifying the home health benefit.

Stakeholders and key thought leaders were not in consensus about whether to revise the Medicare home health benefit, and if so, how to redefine the benefit. A majority of interviewees thought that the Medicare home health benefit needed to be more flexible, to be provided based on patients’ care need, and more integrated with a patient’s care, that is, more integrated with the primary care physician.

Several noted that it was not politically viable to expand the Medicare home health benefit to cover more services, and others went further to suggest it was unnecessary to alter the eligibility for services covered by the benefit because payments are increasingly going to shift to bundling, ACOs, and Medicare Advantage, where entities taking on risk will have more flexibility to define home health care coverage.

Some suggested removing the homebound requirement and instead focusing on whether beneficiaries have a certain number of ADL limitations or chronic conditions. One key thought leader noted the Medicare benefit should be more “nimble,” rather than being defined by a 60-day episode.

A variety of stakeholders discussed the need for home health care that is more responsive to patients’ needs and preferences, particularly as it relates to significant unmet need for long-term care. Some acknowledged that Medicare does not provide a long-term care benefit. Others asserted that the Medicare benefit must evolve to respond to the needs of the Medicare population, which increasingly live for a
Key thought leaders did not identify a single emerging model for managing post–acute care patients, high-risk patients, or patients with chronic conditions and long-term care needs. Some noted that there is not enough evidence in post–acute care around exactly what clinical care pathways are most effective. There is not one single post–acute care model, and it will be impossible to establish a single post–acute care model for Medicare patients because their needs and socioeconomic status are so varied.

ACO providers and hospitals in bundled payments will increasingly give attention to evidence regarding efficient, high-quality care for determining clinical care pathways and post–acute care (PAC) utilization. ACOs are concerned about the lack of evidence-based protocols for different patient populations. Managed care plans generally report having a more firm understanding of post–acute care, which they manage through selective contracting and prior authorization. However, one health plan representative stated that they are struggling to address their home health network because the industry is so fragmented.

Within Medicare FFS spending, post–acute care spending has the most variation; within post–acute care spending, home health has the most variation. Therefore, providers under pressure to manage bundles are probably going to be taking a close look at their home health utilization and network.

Several noted that the definition of rehabilitation and criteria for when rehabilitation is appropriate should be reconsidered. For example, people may need assistance with ADL limitations to avoid falls. Rehabilitation to improve mobility or speech may prevent loss of function.

10. Needs of community-referred beneficiaries less well understood.

Interviewees agreed that the composition and care needs of community-referred beneficiaries receiving home health under Medicare Part B are less clear.

Stakeholders varied on how they characterized the community-referred beneficiaries. Some noted that the increased number of episodes covered by Part B is indicative of the problem that the United States does not have long-term care coverage, and in this instance, the benefit may be acting as a long-term care benefit.

Stakeholders representing patients and caregivers emphasized that eligible patients sometimes have trouble accessing the benefit for the duration of the time that they would benefit from home health episodes. For example, physicians may be resistant to recertifying home health episodes for patients who do not have any post–acute care needs. Other practitioners may not recognize the eligibility of and benefit to certain patient populations, such as people with dementia. Several noted that the Part B population is where there is opportunity for innovation.

11. Home health agencies must adapt to the changes to Medicare payment and delivery.

Agencies will need to develop the capabilities to contract with Medicare Advantage plans and providers that are taking on financial risk. Some interviewees noted that agencies tend to focus on maximizing volume under the current episodic-payment FFS payment system, but that paradigm will quickly fade. Agencies will need to be able to articulate the value they bring to upstream referral partners, which requires being able to report on quality metrics, being able to regularly communicate with a nurse liaison, and having disease management programs.

Some interviewees suggested that the industry might undergo a period of significant consolidation. Payers and providers taking on risk will start to more carefully vet and manage their post–acute care network, including their home health agency partners. Agencies that cannot cover a large market for around-the-clock care may be excluded. The industry is currently very fragmented with many operators that may be unsuited to meeting referral partner and payer needs for a home health partner that can manage care across an episode and potentially over a large geographic area. In addition, referral partners and payers may be looking for agencies that can support patients with higher acuity postdischarge to prevent readmissions.

Linking payments to value and putting upstream referral partners (e.g., hospitals) at risk will contribute to reigning in potential fraud and abuse in home health because payers and providers will not refer patients to agencies providing unnecessary care.

12. Caregiver burden is a crisis necessitating a long-term care solution.

The growth in unmet home care needs, particularly for long-term care, is resulting in an increasing burden on family caregivers. Stakeholders indicated that caregivers are expected to provide medical services in the home with minimal training or advance notice. Many stakeholders noted that Medicare does not cover long-term care and Medicare coverage of home health care services should be expanded to include unskilled services and other long-term care services. However, some acknowledged that original Medicare program is a medical benefit and should not be expanded to provide a long-term care benefit.

Discussion

Based on the information gained in the interviews, the IOM-NRC workshop, the literature review, and case studies, we
have identified key issues and themes for future focus and synthesis. The framework and recommendations presented in the “Discussion” section of this article represent synthesis drawn from these various primary and secondary research approaches to understanding the future of home health care.

Vision and Framework for the Future of Home-Based Care

Home-based care is well positioned to drive progress toward key U.S. health care system-wide goals. As discussed, many patients prefer to receive care in the home, so the use of high-quality home-based care could support the goal of patient-centered care. Home health care is also a relatively low-cost setting of care. As the health care system grapples with high costs and expenditures, home health’s efficiency could support the goal of high-quality, low-cost care.

Despite its alignment with key goals, the home health industry must evolve to capture the opportunities stemming from changes in the health care system. Specifically, the home health industry must develop the capabilities necessary to treat higher acuity patients with broader care needs in the home and community. The spectrum of home-based care services described in Figure 5 could serve as an array of offerings that are flexibly and seamlessly leveraged depending on patient need and preference. To achieve this vision, home health agencies also need to develop new capabilities to coordinate and collaborate with other care providers, ensuring that the patient receives appropriate, high-quality care regardless of the setting or location.

To allow home health agencies to fulfill this mandate to provide high-quality, efficient care as part of ongoing reforms, the regulatory environment needs to shift to allow greater flexibility for care in the home when appropriate. A variety of new and alternative health care delivery models are creating incentives for increased use of home health and home-based care, but additional flexibility would allow home-based care to be deployed in innovative ways based on patient’s needs and preferences. The following vision for the future outlines the characteristics and capabilities that would be needed to support broader use of home health, as well as some of the barriers that may inhibit the broader use of appropriate home-based care.

Although the vision for home-based care is broader than the Medicare context, it is important to understand the specific role and relevance of Medicare-certified home health agencies in achieving this goal of providing high-quality, efficient care to more beneficiaries in the community and the home. Medicare home health agencies are by no means the only stakeholder that will be key to achieving this broad vision, but this article seeks to focus on the key characteristics and roles of Medicare home health agencies as a first evolutionary step.

Today’s Home Health Agency and the Medicare Benefit

Today, Medicare-certified home health agencies are specialists in providing in-home skilled nursing and therapy services to homebound patients who (1) have had a prior hospitalization and are recovering from acute illnesses or conditions and/or (2) need community-based care management to address their chronic conditions. Home health agencies are unique as the only Medicare providers that are specifically certified to provide skilled care to beneficiaries at home for acute, chronic, or rehabilitative conditions. Home health agencies use interdisciplinary clinical teams of health professionals, including nurses, physical therapists, occupational therapists, speech-language pathologists, medical social workers, and home health aides.
The traditional Medicare program pays in separate payment systems for different health care provider and professional services. Thus, Medicare pays short-term acute care hospitals under the hospital inpatient prospective payment system, Medicare pays physicians under the physician fee schedule, and Medicare pays home health agencies under the home health prospective payment system. Each payment system is separate and unrelated to the other payment systems.

Under the home health prospective payment system, Medicare beneficiaries are eligible to receive home health care services delivered by a certified home health agency if the beneficiary is homebound, needs intermittent skilled nursing and/or therapy services, and is under the care of a physician and needs reasonable and necessary home health services that have been certified by a physician and established in a 60-day plan of care. Medicare pays for home health care services with both Medicare Parts A and B funds in 60-day episodes of care, and pays agencies by home health resource groups (HHRGs) that are based on clinical and functional status (drawn from the Outcome and Assessment Information Set [OASIS] instrument), and service use. In general, Medicare pays with Part A funds if the home health care services follow discharge from an acute care hospital, or Medicare pays with Part B funds if a physician refers the beneficiary for home health care services as part of community-based care.

Given that traditional Medicare is largely FFS (and fee for episode in Medicare home health care), it is not surprising that the federal government is now emphasizing value over volume, and coordination over fragmentation. Each provider is paid only for delivering their own services, not for delivering quality care as defined by key measures. Providers and professionals historically have not been paid to coordinate care across the continuum. Home health agencies are no exception. Notwithstanding, it is clear that the health care system is evolving toward a value-based system and that home health agencies will need to change in the future to support achievement of the Triple Aim.

As the health system evolves, home health agencies increasingly will need to partner with entities formally accepting risk and even accept risk on their own. The evolving role of Medicare home health agencies is captured in Figure 6. This will be a gradual process as more agencies develop the capabilities to fully manage care and handle risk. As a first step, home health agencies must provide value to their partners (often other providers or payers) that are accepting risk in value-based arrangements. Going forward, home health agencies must partner with risk-bearing entities and actively manage patient care across settings, going beyond their current role. Finally, longer term, home health agencies can expand their role to formally accept risk under new payment models, sharing in potential savings and losses with their care partners.

**Figure 6.** The evolving role of Medicare home health.

*Source.* Avalere Health, 2016.

*Note.* APMs = alternative payment models; MA = Medicare Advantage; HH = Home Health Care.
The Medicare benefit’s emphasis on skilled nursing and therapy could allow home health agencies to play a pivotal and unique role supporting patients, caregivers, and other health care providers and professionals in pursuit of the Triple Aim. Nurses and therapists could help teach patients and caregivers self-management skills, and the home health interdisciplinary team could serve as critical boots on the ground, acting as an extension of primary care practices to manage patient care in the home and community.

Home Health Care and Recent Changes in the Health Care Delivery Environment

As stated above, the interviews with key policy and health care stakeholders confirmed their unanimous belief that these payment and delivery reforms are “here to stay” and already have broad reach in the health care system. They believed that there will continue to be variation across markets as to whether Medicare Advantage, bundled payments, ACOs, or some combination emerges as the dominant risk-based model, either nationally or regionally.

As a result of the ongoing payment and delivery reforms, all key thought leaders stated that home health had the potential to be a “big winner” with substantial increases in patient volume because of its relatively low cost compared with institutional setting.

As reflected in the evaluation of the CMS BPCI, risk-bearing providers are increasingly utilizing home health care as they look to reduce total cost throughout episodes or enrollment periods. In BPCI SNF initiated episodes, overall unadjusted average Medicare payments were lower compared with comparison groups ($11,311 vs. $16,896), but “[a]verage Part A payments for home health agency services increased significantly relative to comparison group patients during the 90-day post-discharge period.”26 If such patterns continue under the CJR demonstration, increased utilization of home health care could lead to significant savings under an episode of care. An Avalere analysis of 2012 to 2013 Medicare claims data indicates that about 31% of joint replacement episodes are discharged directly to home health, compared with nearly 40% discharged to an SNF. However, when comparing the total average episode spending, Medicare spends nearly twice as much ($27,990 on average) for episodes where the beneficiary is discharged to SNF compared with those discharged to home health ($16,755; Avalere analysis of 2012 and 2013 Standard Analytic Files [SAF]; episodes initiated between January 1, 2012, and September 30, 2013; excludes Part B physician spending).

We note, however, that this analysis did not control for differences in patients who receive care in nursing facilities versus home health care; the determination of whether a patient receives SNF-based or home health care after a joint replacement requires assessment of clinical appropriateness and the needs of the patient, in addition to considerations related to cost-effectiveness.

The Medicare Home Health Agency of the Future

To fulfill critical roles in the health care system, Medicare home health agencies of the future would need to have newly strengthened capabilities and characteristics. Home health agencies would need to possess key characteristics (articulated in “four pillars”) to meet “three critical roles” that the home health agency will play in the health care system.

Four pillars: Key characteristics of the home health agency of the future. Home health agencies must develop the capabilities and workforce to achieve the following key characteristics that are organized into four pillars. Home health agencies of the future must provide care that is:

1. Patient and person centered: The IOM defines patient-centered care as “providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions,” and includes it as one of the key components of high-quality health care.24 Because home health is, by definition, provided in a patient’s home, it offers an optimal opportunity to identify and respond to the needs of individual beneficiaries and families. A participant in the IOM workshop on home health described this more intimate relationship as one “around the kitchen table,” where health care decisions are truly made and managed.1 As the home health industry begins to care for patients more broadly, the industry needs to identify what constitutes person-centered home health care and how it is defined and measured.

2. Seamlessly connected and coordinated: The home health agency of the future must be part of a seamless, connected and coordinated home-based care continuum, as well as being connected with primary care, and facility-based care. Many of the stakeholders interviewed highlighted the potential role that home health could play in coordinating care for beneficiaries. As health care moves toward paying for value, not volume, home health agencies must coordinate patient care and ensure successful transitions from institutional care to the home. During this transition, beneficiaries interact with a wide range of health care providers, professionals, services, supports, and suppliers, so home health agencies must have the tools to manage care across these disparate entities and coordinate care and services in the transition home. In the future, all home health agencies should have these capabilities; however, the home health agency’s care coordination activities could expand beyond coordinating care after an acute event. Home health is well positioned to manage medical care with nonmedical supports, including...
family and other social supports (e.g., food assistance, transportation, etc.) and provide other services such as nurse visits. As more services are provided in the home, home health agencies are a natural partner for risk-sharing entities under APMs but would need to build additional capabilities that allow them to manage care not only after an acute event but also across the care continuum.

3. High quality: Home health agencies must ensure that they can consistently deliver the highest quality care for their patients. Medicare home health providers already serve a vulnerable population. Users of Medicare home health services are more likely to be older than 85, live alone, have multiple chronic conditions and ADL limitations, and generally have lower incomes than beneficiaries who do not use home health. Home health is and will continue to be a critical tool in ensuring that these beneficiaries received skilled nursing and therapy services, thereby supporting the patient’s goal of remaining safely at home and out of more expensive institutional settings. While home health agencies must be able to reliably care for a wide range of patients, in the current environment, some interviews with innovative home health agencies suggested the increasing need to provide specialized care for clinical conditions, such as heart failure or major joint replacement (as required by the CJR model), particularly under condition-specific bundled payment arrangements. In other cases, gerontological expertise or palliative care may be critical competencies. With the transition to value-based care, the home health industry must be flexible and responsive to changes in patient population and consistently provide reliable, high-quality care that allows patients to get and remain at home as safely and quickly as possible.

4. Technology enabled: Finally, technology is changing how health care is performed in this country. It allows patients to more easily connect with health care professionals and receive more intensive services in new settings. While this can improve access to care for many patients, it will also change the way care is delivered and chronic conditions are treated. Many of the innovative organizations Avalere Health interviewed as part of this study reported using technology, such as remote monitoring, to improve patient care, but they also noted that Medicare generally does not reimburse for this technology. Health information technology also promises to enable improved care coordination, quality, and efficiency, but home health agencies were not eligible for meaningful use incentive payments to implement electronic health records. Thus, going forward, home health agencies may face a “catch-22,” as they are expected to implement new technology without any associated reimbursement.

Three critical roles for the home health agency of the future. With these “four pillars” of characteristics in mind, and within the emerging value-based payment world, the home health agency of the future should serve three critical roles:

1. Post-acute care and acute care support: Home health agencies should serve as key partners that support patients’ transition home and facilitate high-quality care in the community. When deemed clinically appropriate for the patient, home health agencies could serve as posthospital and postemergency department resources for intense episodes of skilled nursing, care coordination, therapy, and related services.

2. Primary care partners: Home health agencies should be partners with longitudinal, outpatient primary care medical homes and home-based primary care, with responsive skilled nursing, care coordination, therapy, and related services during time-limited episodes where care recipients need an escalation in home-based care to avoid hospitalization or other undesired outcomes. Home health agencies should also provide limited ongoing skilled nursing services to enable ongoing primary care in the community (e.g., providing catheter care, ostomy care, and so forth, to support primary care efforts to enable patients to stay healthy at home).

3. Home-based long-term care partners: Home health agencies should be partners in home-based long-term care and social support models (i.e., formal and informal personal care providers) with responsive skilled nursing, therapy, and related services during episodes where care recipients need a brief escalation of home-based care to avoid hospitalization or institutionalization. Occasionally, home health agencies should provide limited ongoing skilled nursing services to that enable ongoing long-term care in the community (e.g., catheter care, ostomy care, etc.).

The home health agency of the future increasingly has new payment incentives and shared savings contracts for performing these roles capably and efficiently. In many instances, the home health agency of the future is structurally and formally more connected (as the owners, partners, or subsidiaries) of entities that integrate a range of home-based services beyond home health agency care.

Capabilities
In the context of the above-mentioned four pillars and three critical roles, home health agencies must develop new capabilities and business models to maximize their potential as a high-quality provider within the financial constraints that are inherent in most Medicare APMs. Figure 7 captures the overall framework for the future of home health care, which hinges
on the home health providers’ ability to provide broader services allowing them to keep high-risk beneficiaries safely in the home for as long as possible. In addition to the proven expertise of providing skilled care in the home, agencies may be responsible for offering services to high-risk beneficiaries that substitute for institutional care, prevent unnecessary acute care utilization, improve patient experience and adhere to patient preference for care in the home, and maintain function and clinical condition for as long as possible.

A subset of home health providers are already developing these capabilities and can be seen as harbingers of the future for how home health providers may ultimately progress and experience risk-based payments. Case studies highlighting innovative agencies can be found in Appendix A at http://ahqhi.org/images/uploads/APP_A_Case_Studies.pdf. In the future, these types of agencies and activities should become the norm, rather than the exception. Vignettes that illustrate the key roles, characteristics, and capabilities of the home health agency of the future can be found in Appendix B at http://ahqhi.org/images/uploads/APP_B_Vignettes.pdf.

Interviews with providers suggest that some home health agencies are finding solutions and promoting value-based care by leveraging existing capabilities and partnering to improve patient experience and outcomes. These new capabilities were relatively constant across innovative providers suggesting areas for additional investment.

The majority of these interventions, summarized in Figure 8, particularly physician house calls, telehealth, remote monitoring, and care transitions support, are intended to prevent high-cost events, including emergency department visits and hospital readmissions. Many of the providers described focus on specific clinical conditions, most often chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), and diabetes. Notably, most of the interviewees said that they were not currently reimbursed separately for providing these services. One organization said that they fund these programs as part of their mission statement. Another noted that within their health system, the cost avoidance for the system as a whole through the care coordination program far outweighed any direct costs of running the care coordination program. However, this stakeholder noted that freestanding home health agencies likely face significantly greater reimbursement concerns if costs incurred and avoided are seen only within silos. Interviewees indicate that innovative home health agencies were able to increase their value significantly in population health management initiatives primarily because of their connections to or integration within (and support from) a larger health system or network. This trade-off represents a fundamental challenge with the current home health reimbursement system: Home health agencies incur higher costs for care coordination and other services that prevent future health care system spending, but stand-alone providers often are not recognized for driving the decreased spending for the health care system.

**Challenges to Address in the Current Environment**

There is abundant literature describing the challenges that home health providers face to provide the type and quality of care that beneficiaries, and the health care system as a whole,
will demand in the future. These challenges can be loosely categorized into eight groups:

1. Financing mechanisms

The standard 60-day episode payment under the home health prospective payment system (PPS) includes payment for all services and supplies, including various skilled nursing services, therapy, and medical supplies (with the exception of durable medical equipment). However, in interviews with stakeholders, multiple people noted that the FFS payment system does not reimburse for services that are essential for integrating patient care, including health information technology (HIT) capabilities, telehealth, and staffing for care coordination and care transition support. Numerous home health providers also brought up the need for better communication and coordination across the spectrum, including referring hospitals, physicians, and other medical and non-medical providers. These providers often created mechanisms to improve this communication but did so without additional Medicare reimbursement. CMS acknowledged in recent rulemaking that “effective adoption and use of health information exchange and health IT tools will be essential... to improve quality and lower costs,” yet home health agencies, like all post-acute care providers, were ineligible for Medicare EHR (Electronic Health Records) Incentive Programs to offset the significant costs of acquiring these capabilities.

Recently, CMS announced that home health agencies may be among the parties who can be eligible for Medicaid meaningful use incentive payments, but it is unclear as yet whether such incentives alone will be able to support investments in HIT for the future.

2. Regulatory constraints

Stakeholder interviews also highlighted several regulatory barriers within the structure of the home health benefit that preclude effective care coordination, provisions that prevent the necessary level of integration and coordination with other providers. Other stakeholders highlighted the Medicare requirement that the beneficiary be homebound, which does not include all beneficiaries who truly have limited capabilities to seek services outside the home. When discussing the homebound requirement, some interviewees recommended determining eligibility based on whether the beneficiary had a certain number of ADLs or chronic conditions, as well as using Hierarchical Condition Categories (HCC) scores, similar to Medicare Advantage, but there was no consensus among interviewees on the best method to establish eligibility. In the context of APMs, where there is accountability for overarching costs in a bundled payment or shared savings construct, selective waiver of the homebound requirement was often mentioned as a means to increase access to home health services for those who need it.

3. Addressing program integrity and fraud and abuse

As with any service in which demand rises significantly in a short period of time, instances of fraud and abuse have occurred in the home health space. These issues must be addressed while also allowing patients access to needed services. CMS lists on its website a range of actions the agency is taking and has taken to support fraud and abuse detection. To prevent fraud, these include efforts around timely licensure and accreditation, transparency, and auditing. These efforts are critical to eliminating bad actors and ensuring that patients maintain access to high-quality home health services. Notwithstanding, it is imperative that such measures do not hinder patient access to quality care, and place undue burden on agencies.

4. Measuring performance: Quality and patient experience

To improve quality of care and address variation across home health agencies, CMS and others have pursued value-based purchasing, quality ratings, and other forms of reporting. In the context of the health care system’s shift toward value, these initiatives to link payment to performance and to provide public reporting have been important changes. Over time, it will be critical to identify a parsimonious measure set that enables home health agencies to focus on core measures that matter most for performance improvement. Today, a parsimonious measure set has not yet been identified; CMS’s home health value-based purchasing model demonstration project began on January 1, 2016, with 24 different performance measures that will be used to determine whether agencies in the selected states will receive positive or negative payment updates that will begin in 2018. The IOM recently called attention to the risks inherent in using too many measures in its report on Vital Signs: Core Metrics for Health and Health Care Progress. A key consideration for the future will be to identify the core measures that home health agencies should focus on as it aligns with the rest of the health care system to achieve the Triple Aim.

5. Workforce limitations

Studies have raised a number of concerns related to the home health workforce, particularly for registered nurses (RNs), including turnover and clinical training in skilled areas of care. One study identified nursing residency programs as an opportunity to gain skills and reduce turnover, but found that the prevalence of these programs in home health and hospice providers was relatively low (only 2.2% vs. 42.9% for hospitals). The IOM workshop on the future of home health raised additional concerns about the home health workforce, including availability of family caregivers, changing demographics of care workers and patients, the
need to improve geriatrics training among the home health workforce, the need to address low wages and benefits, and the overall health of the U.S. economy. The workshop describes the Department of Veterans Affairs’ (VA) home-based primary care as a comprehensive model, one in which care is provided by an interdisciplinary team of nurses, physicians, social workers, rehabilitation therapists, dieticians, pharmacists, and psychologists. This model is effective, but potentially expensive, and therefore the VA targets high-cost veterans for the intervention. In scaling such a program to the general Medicare population, the skills and workforce to staff such a comprehensive, interdisciplinary team would be critical. CMS’s Independence at Home demonstration is based on home-based primary care and may be one model that could be expanded more broadly to support the use of interdisciplinary teams.

6. Clinical capabilities related to diseases focused on by APMs

While some APMs require a focus on population health (e.g., ACOs), others would require home health agencies to develop increased clinical capabilities to address specific conditions. For example, the CIR model discussed above requires an increased focus on caring for joint replacement patients, whereas the HRRP currently focuses on heart failure, acute myocardial infarction, pneumonia, COPD, and total hip/knee replacements. Home health agencies would need to develop key capabilities to not only better manage patient care across a population of patients but also handle patients with specific needs or conditions.

7. Operational capabilities

As discussed previously, home health agencies would need to develop new capabilities in a changing health care environment. Many of these capabilities require home health agencies to provide new services or interact with a broader range of providers. However, beyond these capabilities focused on care delivery, home health agencies would need to make operational changes to align their systems with the current environment. For example, home health agencies may need to hire or otherwise develop relationships with new staff, such as medical directors to link home health services with those offered by other providers or emergency medical technicians to provide rapid responses in the case of acute events. Current staff may need to be trained to handle new responsibilities and functions, such as using information technology and developing and following patient centered-care plans.

Similarly, as home health providers become greater care partners and accept risk under APMs, they may need to change their financial or accounting practices to be able to accept risk-based payments and ensure accurate revenue recognition and reserves to handle bonus payments or potential losses.

8. Long-term care

All told, the discussion about patients’ preferences and the appropriateness of care speaks more broadly to the clinical imperative of addressing each patient’s full range of needs, which may go beyond Medicare home health benefits. These long-term care needs, which include functional capacity, care transitions, care coordination, and support for caregivers, are not strictly medical. However, they have been shown to have meaningful impacts on patients’ ability to maintain their health and remain in the community. Stakeholders, including MedPAC, have expressed concern that the increase in community-referred (or “Part B”) home health episodes may be indicative of Medicare home health being used as long-term care. The United States faces an unmet long-term care need due to a relatively weak and fragmented benefit system. Some home health agencies have separate lines of business that currently provide long-term care services through Medicaid and private duty and so are important to the broader long-term care discussion.

Recommendations and Conclusions

The demographic imperative of the quickly aging population, the shift from siloed to coordinated, value-based care, and the need to meet consumer preferences demand that home health agencies provide care consistent with the four pillars of characteristics and three roles laid out in this article’s framework for the future. The future of health care delivery hinges on the ability of payers and providers to leverage the spectrum of home-based care, with Medicare skilled home health as a formidable linchpin in that spectrum.

Medicare officials have already signaled their willingness to enable some flexibility in new payment models when providers have a financial stake in their performance against quality and cost targets; however, current challenges and structures do not allow home health care to be used optimally. We offer the following recommendations to enable the future of home health care:

- To develop the capabilities needed to fully integrate and coordinate with high-quality, population-driven health systems, home health care needs to be empowered as a full partner that both shares in risk and has freedom to deploy the best care to the patient populations who can undoubtedly benefit. Policy makers should consider opportunities to reduce regulatory barriers to risk sharing, creating the incentive to provide seamless, coordinated care.
- CMS should address financing and regulatory challenges in the context of APMs as means of enabling appropriate use of Medicare home health care in these contexts. Testing waiver of regulatory limits such as the homebound requirement in select cases may lead
the way toward using clinically appropriate and cost-effective care. Further reforms that enable greater flexibility in the delivery of home health care in APMs should also be considered.

- Program integrity and fraud should be addressed in a targeted fashion, directed toward fraud “hot spot” areas that are identified for further investigation through aberrant claim patterns. Removing the albatross of fraud in home health care will enable greater confidence in using Medicare home health by multiple stakeholders in the future.

Consistent with this report, the home health industry must commit to pursuing a process to transform home health and home-based care to benefit patients and the U.S. health care system. Through collaboration with multiple stakeholders, including patients, caregivers, policy makers, payers, and providers and professionals across the spectrum of care, pursuit of this transformation process has the potential to improve the way health care is delivered in America.

Acknowledgments

The authors acknowledge Jennifer Schiller for assisting in preparation of this manuscript.

Authors’ Note

A version of this article was presented at the National Leadership Forum on “The Future of Home-Based Care” on June 21, 2016, in Cincinnati, Ohio, and at a briefing sponsored by the Alliance for Home Health Quality and Innovation on June 30, 2016, in Washington, D.C.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors gratefully acknowledge the support of the following organizations that provided funding for the Future of Home Health project: Axxess, CHAP (Community Health Accreditation Partner), UnityPoint at Home, Corridor, and Simione Healthcare Consultants.

References

1. Institute of Medicine. The Future of Home Health Care: Workshop Summary. Washington, DC: National Academies Press; 2015. http://www.nap.edu/catalog/21662. Accessed August 2, 2016.
2. Medicare Payment Advisory Commission. Health Care Spending and the Medicare Program: A Data Book. http://www.medpac.gov/documents/data-book/june-2016-data-book-health-care-spending-and-the-medicare-program.pdf?sfvrsn=0. Published June 2016. Accessed August 2, 2016.
3. Ortmann JM, Velkoff VA, Hogan H. An aging nation: the older population in the United States, current population reports, P25-1140. US Census Bureau. https://www.census.gov/prod/2014pubs/p25-1140.pdf. Published May 2014. Accessed August 1, 2016.
4. Centers for Disease Control and Prevention, National Center for Health Statistics. Health, United States, 2015. http://www.cdc.gov/nchs/data/hus/hus15.pdf#058. Published May 2016. Accessed August 2, 2016.
5. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness: the chronic care model, part 2. JAMA. 2002;288(15):1909-1914. doi:10.1001/jama.288.15.1909.
6. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. Health Aff (Millwood). 2008;27(3):759-769. doi:10.1377/hlthaff.27.3.759.
7. Burwell SM. Setting value-based payment goals—HHS efforts to improve U.S. health care. N Engl J Med. 2015;372(10):897-899. doi:10.1056/NEJMp1500445.
8. Centers for Medicare and Medicaid Services. Value based programs. https://www.cms.gov/Medicare/Quality-Improvement-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/Value-Based-Programs.html. Published January 14, 2016. Accessed August 22, 2016.
9. U.S. Department of Veterans Affairs. Home based primary care—geriatrics and extended care. General information. http://www.va.gov/geriatrics/guide/longtermcare/home_based_primary_care.asp. Published 2016. Accessed March 30, 2016.
10. Centers for Medicare and Medicaid Services. PACE. https://www.medicare.gov/your-medicare-costs/help-paying-costs/pace/pace.html. Accessed March 30, 2016.
11. U.S. Department of Health and Human Services. New hospitals and health care providers join successful, cutting-edge federal initiative that cuts costs and puts patients at the center of their care. http://www.hhs.gov/about/news/2016/01/11/new-hospitals-and-health-care-providers-join-successful-cutting-edge-federal-initiative.html. Published January 11, 2016. Accessed August 22, 2016.
12. Centers for Medicare and Medicaid Services. Bundled Payments for Care Improvement (BPCI) initiative: general information. https://innovation.cms.gov/initiatives/bundled-payments/. Published July 19, 2016. Accessed August 2, 2016.
13. Centers for Medicare and Medicaid Innovation. Comprehensive Care for Joint Replacement (CJR) model: provider and technical fact sheet. Department of Health and Human Services. https://innovation.cms.gov/Files/fact-sheet/cjr-providerfs-finalrule.pdf. Accessed August 2, 2016.
14. Centers for Medicare and Medicaid Services. Affordable Care Act payment model saves more than $25 million in first performance year. https://www.cms.gov/Newsroom/MediaReleaseDatabase/Press-releases/2015-Press-releases-items/2015-06-18.html. Published June 18, 2015. Accessed August 22, 2016.
15. Keenan TA. Home and community preferences of the 45+ population. AARP. http://www.aarp.org/research/topics/community/info-2014/home-community-services-10.html. Published November 2010. Accessed August 2, 2016.
16. The Dartmouth Atlas of Health Care. Inpatient days per decrement during the last six months of life, by gender and level of care intensity. End of life care. The Dartmouth Institute...
for Health Policy and Clinical Practice. http://www.dartmouthatlas.org/data/topic/topic.aspx?cat=18. Published 2012. Accessed August 2, 2016.

17. Ng T, Harrington C, Musumeci M, Reaves EL. Medicaid home and community-based services programs: 2012 data update. Kaiser Family Foundation. http://kff.org/medicaid/report/medicaid-home-and-community-based-services-programs-2012-data-update/. Published November 2015. Accessed August 22, 2016.

18. AARP. Caregiving in the U.S. research report. AARP Public Policy Institute. http://www.aarp.org/content/dam/aarp/pti/2015/caregiving-in-the-united-states-2015-report-revised.pdf. Published June 2015. Accessed August 2, 2016.

19. Johnson RW, Toohey D, Weiner JM. Meeting the long-term care needs of the baby boomers: how changing families will affect paid helpers and institutions. The Urban Institute. http://www.urban.org/sites/default/files/alfresco/publication-pdfs/311451-Meeting-the-Long-Term-Care-Needs-of-the-Baby-Boomers.PDF. Published May 2007. Accessed August 2, 2016.

20. Medicare Payment Advisory Commission. Report to Congress: Medicare payment policy. http://medpac.gov/documents/reports/march-2016-report-to-the-congress-medicare-payment-policy.pdf?sfvrsn=2. Published March 2016. Accessed August 2, 2016.

21. Cryer L, Shannon SB, Van Amsterdam M, Leff B. Costs for “hospital at home” patients were 19 percent lower, with equal or better outcomes compared to similar inpatients. Health Aff (Millwood). 2012;31(6):1237-1243. doi:10.1377/hlthaff.2011.1132.

22. Dahlin C. Clinical Practice Guidelines for Quality Palliative Care. 3rd ed. National Consensus Project for Quality Palliative Care; 2013. http://www.nationalconsensusproject.org/Guidelines_Download2.aspx. Accessed August 2, 2016.

23. The Lewin Group. CMS Bundled Payments for Care Improvement (BPCI) initiative models 2-4: year 1 evaluation & monitoring annual report. Prepared for CMS. P 17. https://innovation.cms.gov/Files/reports/BPCI-EvalRpt1.pdf. Published February 2015. Accessed August 2, 2016.

24. Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. National Academy of Sciences; 2001. https://iom.nationalacademies.org/~/media/Files/Report%20Files/2001/Crossing-the-Quality-Chasm/Quality%20Chasm%202001%20report%20brief.pdf. Accessed August 2, 2016.

25. Avalere Health. Home Health Chartbook 2015: prepared for the alliance for home health quality and innovation. http://ahhqi.org/images/uploads/AHHQI_2015_Chartbook_FINAL_October.pdf. Published October 2015. Accessed August 2, 2016.

26. Centers for Medicare and Medicaid Services. The Medicare home health benefit. Medicare Learning Network, Department of Health and Human Services. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/Home-Health-Benefit-Fact-Sheet-ICN908143.pdf. Published December 2015. Accessed August 2, 2016.

27. Centers for Medicare and Medicaid Services. Home health prospective payment system rate update. https://www.federalregister.gov/articles/2015/11/05/2015-27931/medicare-and-medicaid-programs-cy-2016-home-health-prospective-payment-system-rate-update-home#h-28. 80 FR 68623. Published January 2016. Accessed August 22, 2016.

28. Centers for Medicare and Medicaid Services. Medicare shared savings program proposed rule. https://www.gpo.gov/fdsys/pkg/FR-2014-12-08/pdf/2014-28388.pdf. 79 Fed. Reg. 72760. Published 2014. Accessed August 2, 2016.

29. Institute of Medicine. Vital Signs: Core Metrics for Health and Health Care Progress. Washington, DC: The National Academies Press; 2015. http://www.nap.edu/catalog/19402/vital-signs-core-metrics-for-health-and-health-care-progress. Accessed August 2, 2016.

30. Pittman P, Horton K, Terry M, Bass E. Residency programs for home health and hospice nurses: prevalence, barriers, and potential policy responses. Home Health Care Manag Pract. 2014;26(2):86-91. doi:10.1177/1084822313511457.

31. Centers for Medicare and Medicaid Services. Readmissions Reduction Program. https://www.cms.gov/medicare/medicare-fee-for-service-payment/acuteinpatientpps/readmissions-reduction-program.html. Published January 15, 2016. Accessed August 22, 2016.

32. Medicare Payment Advisory Commission. Report to Congress: Medicare payment policy. Chapter on home health services. http://www.medpac.gov/documents/reports/mar13_ch09.pdf?sfvrsn=0. Published 2013. Accessed August 2, 2016.

33. Visiting Nurse Associations of America. VNAA case study compendium: innovative models for the evolving home health and hospice industry. http://www.vnna.org/files/Education-Quality/VNAA%20CSfinal.pdf. Published October 2013. Accessed August 30, 2016.