

Innovation & the Health Care Needs of Seniors

An assessment of how the changing landscape of care coordination and providers are centering on collaboration and care in the home.

THIS IS THE FIRST IN A SERIES ON CHRONIC ILLNESS.

INDUSTRY PERSPECTIVE



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UNCOMMON
CLARITY



Dear Reader:

Our society is confronting a major dilemma around health care for older Americans. Fortunately, the healthcare landscape is seeing a range of innovative approaches to positively impact this situation.

Four significant challenges are discernible as we consider the health and care of older Americans:

- **The prevalence of chronic illness** – a natural accompaniment to aging and something that expands as improved treatment of medical problems begets chronic conditions in need of on-going intervention.
- **The availability of adequate numbers of care professionals** – those who actually deliver care and support to individuals – for the growing “in need” population.
- **The huge cost of our healthcare system itself** – including the cost of support and medical interventions, the tools and technologies applied to those efforts, and the administrative infrastructure and its associated bureaucracy.
- **The human desire to live longer at virtually any price** (and frequently in the face of certain personal discomfort, emotional suffering and minimal or no chance for reversal or significant life extension), which underpins a broad-based, consumptive societal view about resource use – no matter how limited, unproven or expensive.

A wonderful outcome of our society’s focus on health – and the great advances in technical interventions led by American medical science and the industry it supports – is that we are living longer. Yet much of the illness that accompanies aging is treatable and tolerable rather than curable, and as a consequence we are aging with an increasing burden of chronic illness. Indeed, 80 percent of seniors (defined as those 65 years or older) live with at least one chronic illness, and as our age increases the number of such co-morbidities increases, with the average 75 year-old suffering from three chronic conditions.



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Referencing a comprehensive report on aging and health, The New England Journal of Medicine noted that the average Medicare recipient sees seven different physicians in a given year and takes five prescription drugs. And within the medical community, sub-optimal care delivery is an inevitable result given the general lack of communication between care providers (we note that nationally, a common or shared health record for each individual does not exist, and an electronic health record, with some potential for shared access if designed for that end, is used by less than 20 percent of physicians today). Efforts to correct this are underway, but it is fair to say that compelling solutions, with high levels of acceptance within the medical community and resulting obvious gains in care improvement and cost reduction, are years away.

Complexity of care, another outgrowth of multiple medical conditions afflicting an individual, adds to the problem. As the number of chronic conditions increase, so too do the number of specialists and care providers involved in the care plan (this is especially prevalent in a healthcare system with a bias towards specialist care as the foundation for the system). Additional consequences of an uncoordinated system such as unnecessary and/or redundant testing and duplicate or competing prescriptions are then added to the overall challenges of dealing with complex and chronic conditions.

The end result? Resource consumption, missed interventions, poorer health and spiraling costs – particularly for those individuals who are the most sick and vulnerable. But in the end, all share the huge and persistent burden – both in social as well as economic terms.

Barriers to Change and Innovation

Despite the obvious challenges and the innovative responses to them (many of which are technology-based), the adoption of new approaches to care has been slow. The barriers to change are meaningful, led by factors such as:

- **Slow adoption:** Despite the potential value in technology solutions, seniors are traditionally slower than average adopters of technology. Less than half of all seniors over the age of 65 are online, and although about 90 percent of Americans ages 18 to 49 own cell phones, they are owned by only 57 percent of seniors 65 and older. One significant underlying reason for this is that most products are not designed with seniors in mind.
- **Physician resistance:** While studies show a positive link between patient health and technology adoption by physicians, doctors are far too often reluctant to change how they approach caring for their patients (distinct from the frequently quick use of newly introduced and marketed therapies, prescription drugs and medical equipment and devices). Further, a lack of Medicare and personal health insurance reimbursement for many new care delivery approaches for those without face-to-face interaction between doctor and patient among them – is a contributing factor. Economic incentives to engage all parties must be applied when striving for progressive change in our healthcare system.
- **Out-of-pocket costs:** A recent study from PriceWaterhouseCooper revealed that of the U.S. consumers willing to buy a remote monitoring device, 64 percent would only do so if it cost less than \$50; and they would only use a mobile phone service to manage their health if it cost less than \$5 per month! The costs of most devices far exceed this threshold, although representing a fraction of the costs for more traditional approaches to care.



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- **Reimbursement issues and lack of defined sales channels:** Virtually all of the potentially relevant products have yet to meaningfully gain a presence in the senior market. This is at least partially a result of (1) the lack of third party reimbursement; and (2) relatively low levels of direct-to-consumer marketing in these areas to date.
- **Regulation:** The FDA has indicated that it intends to regulate the flow of health information, and there is significant confusion around what this means. This creates legitimate concerns with those developing health information products, and fosters ambivalence among those who might use them. Neither is good news for the prospects of adopting services that many view as positive change.
- **Products instead of solutions:** A key issue is that there are now dozens – if not hundreds – of technology products for the elderly and their caregivers, but they lack integration with each other in ways that will truly facilitate solutions to meaningful health and well-being challenges (rather than responding to single or occasional potential “events”).

It is obvious that the challenges that inhibit or delay change are significant, but the opportunity to improve how we care for and support our aging population is real and of immense importance. Despite the barriers and shortcomings in our approaches to date, this challenge is being addressed through a considerable number of innovative efforts to bring real solutions to the support of older Americans.

The enclosed report “Innovation & the Health Care Needs of Seniors” provides a foundation for considering the issues. It will be followed by a second installment addressing issues of equal importance, such as financial planning considerations and care for caregivers. We trust you will find these publications informative and useful.

– TripleTree Research



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EXECUTIVE SUMMARY

In 2011, the first wave of the baby boomers will turn 65; by 2030, it is projected that there will be 72 million elderly Americans – more than double the number in 2000. This startling demographic change has tremendous implications for our society, ranging from the availability and utilization of our healthcare resources and economic costs to the fundamental mores that shape our lives. Despite the importance of these issues, we are ill prepared to address these challenges, and with each day seeing another 10,000 people turn 65 years old, the situation is steadily becoming more problematic.

Individual health, and with it the cost of ensuring that health, is at the center of this challenge. Unfortunately, the current healthcare system lacks much of the infrastructure to support the complex needs of our aging population. The costs associated with our current approach to care delivery are driving innovation and may occur as incremental change or more aggressive moves. Such steps must be based on the understanding of needs and practical ways to meet them.

The issues surrounding the health and well-being of older individuals will be met by a variety of business responses, many of them highly innovative and bringing forth solutions from non-health care disciplines. Regardless of their individual specifics, they will likely be representative of, or responsive to, one of a half dozen major trends:

- Care providers will increasingly be organized into more cohesive, interactive and provider-centric organizations designed to address the entire spectrum of health needs.
- Reimbursement for services will slowly, but progressively, shift from “pay-for-doing something” to a more global, fully inclusive fee that encompasses the entirety of care for the individual.
- Vehicles to enhance well-being and prevent illness will be increasingly important and in demand.
- Technology will play an increasingly important role in the management, delivery and assessment of medical care. Relevant services will deal with administrative support, data collection, information sharing, remote illness assessment and monitoring, and personal education.
- Seniors, spurred by both economic realities and personal preference, will seek to remain in their own homes, even when confronted with illness and disability.
- Health and wellness interventions will progressively move to where people live, thus providing a more consumer-responsive approach to care and illness prevention.

This report will discuss current and emerging efforts that address the needs of this important demographic group – seniors – by considering products, services and approaches intended to meet their particular needs and circumstances. The parties attempting to meet these challenges are many and share a vested interest in success. They include the Federal and state governments, public companies, both for-profit and not-for-profit private entities, special interest support groups, families and individuals themselves.

The majority of new efforts in this arena are technology-based or enabled, a fact that should make the prospects for greater efficiency, and in turn lower cost, an expected outcome. It is also worth noting that while this report focuses on the age band of 65 years and older, much of what is discussed is applicable to those individuals 50 years of age or more who are striving to enjoy the second half of their lives. This translates into an even larger population and “market” – to say nothing of the breadth of need – than that defined by the moniker ‘seniors.’

The scope of these efforts are immense, as are the number of parties involved. Recognizing this, and while acknowledging the vast number of efforts being made in this arena by public entities and not-for-profit organizations, the focus herein will be largely on private companies who are responding in new ways to the various needs of older Americans. This report will in particular focus on the delivery of care itself; efforts to facilitate safe and healthy personal living situations; and various benefit coverage, personal finance and decision-making processes.

In so doing, it is hoped that insights into a number of new approaches and innovations will benefit the advancement of the health and well-being of seniors and older individuals throughout this country.

CHANGING THE DELIVERY OF MEDICAL CARE TO SENIORS – WHERE, HOW AND WHY:

Innovative vendors are advancing new, improved ways of preventing and treating illness among seniors, as well as better ways to support their day-to-day living.

As these enlightened approaches to advance health and well-being are developed, it is inevitable that they be implemented in terms of where seniors live, how and by whom they are supported, which vehicles and approaches are used to meet their medical care needs, and how we organize to support them.

Where We Live

The dramatic shift in our country's demographic profile has been the source of endless debate regarding the appropriateness and sustainability of our current care delivery infrastructure. A parallel discussion centers on approaches and resources for housing the growing population of older Americans. An aging population – combined with a growing number of chronic conditions and shrinking pool of qualified caregivers – brings into question how our “legacy” system of nursing homes and assisted living facilities can adequately support the long-term needs of the senior population. A number of studies have questioned whether there will be enough facilities in the coming years to house everyone with a chronic disease; and even if there were, considerable doubt exists whether our system would be able to support the costs associated with this form of institutional care.

Over the last decade we have seen a wide-range of diversified housing alternatives emerge as consumer preferences and reimbursement trends have shifted seniors away from the traditional nursing home. There will be continuing need for nursing home and assisted living facilities, but these are increasingly a distant second choice to staying at home among seniors and their loved ones. According to the AARP, more than 90 percent of seniors want to stay in their own homes as they age into retirement, creating significant demand for technologies and services that facilitate independent living. In response to these strong preferences, single family homes can now be equipped with remote monitoring devices and related services to help family members and care providers monitor seniors from afar. Companies like **MedCottage** have gone so far as to create portable, high-tech modular homes for senior family members that can be installed in the backyard of their adult children.

Another approach is demonstrated by community-based organizations like **Beacon Hill Village** in Boston, which have emerged as models for aging-in-place, allowing seniors to live independently with the help of a coordinated team of volunteers that serve as advocates and assist with everyday tasks such as meals, exercise, and transportation. It has been estimated that at least 50 similar non-profit communities are up and running today, with another 100+ being planned across the U.S. These annual fee-based programs tend to attract mid- to upper-income individuals, calling into question whether this model can work economically across a broader set of geographies. Accordingly, a number of organizations are exploring variations such as co-housing and intergenerational communities.

We expect these home-based support alternatives to take on a more central role in the care delivery continuum. However, as more seniors stay in their home we will be faced with new challenges in efficiently delivering care to a larger and more geographically dispersed population. The sheer number of seniors necessitates an expanded use of nurses and other care professionals as “force multipliers” to coordinate and direct care across a range of care settings. Nurse-driven models of care have become much more widespread as organizations look to increase access while lowering costs.

In addition, older persons will inevitably have physical limitations that impact their ability to travel between physician offices and other care facilities. Telehealth¹ and other home-based services will become critical components to serving the needs of seniors with mobility issues or those in rural communities. All are evidence that innovative efforts that provide technologies and services to overcome these challenges and better coordinate care across an expanding care delivery system are underway in many forms.

¹ See Exhibit #4 on page 16.

Integrating Care and Changing Approaches to Care Delivery

Care delivery models designed around holistic approaches to the individual are increasingly viewed as offering better long-term outcomes as well as lower costs. There are national and international models that have shown promising results relative to maintaining individual health with a relatively lower cost structure. One approach has featured organized medical groups that form the basis for all care and related health decisions. Well established examples include the **Kaiser Health System** in California, **Group Health** of Puget Sound in Washington state, various multi-specialty medical groups in southern California (operating under capitation payment arrangements for enrollees in Medicare risk plans), and many smaller medical group-centered Medicare Advantage (MA) plans.

The ability of such programs to manage care in a comprehensive manner has been based on an integrated model featuring a diversity of professional care providers with a primary care focus. It demands internal communication between providers and their staff, tools and services to direct and coordinate all levels of care, and a mindset that the objective is care for the individual through all stages of their life rather than at episodes of acute illness.

With this as a backdrop, efforts to move to wider availability of comprehensive health approaches were advanced by the medical home and accountable care organization (ACO) initiatives of the Federal government in 2009. Spurred by legislative support and a significant economic push in the form of government subsidies, an entirely new economy has exploded in response to the needs of such potential care delivery systems. Nowhere is this approach of more value than in dealing with the needs of an expanding and often chronically-ill population of older Americans.

A significant component of the work to operationalize and optimize medical homes and accountable care organizations – each functioning as vertically and horizontally integrated entities that deliver health and wellness services while being at risk for the costs and outcomes of those services – involves technology-based products, services and support. These range from the use of technology to extend the care provided by physicians and others to new and innovative approaches for data collection, analysis and application in actual care decisions and interventions. Each of these is currently the focus of a number of different development efforts by companies with a variety of backgrounds and skill sets.

HEALTHSPRING: COORDINATED CARE FOR MEDICARE ADVANTAGE

HealthSpring [HS] works with primary care medical groups to facilitate coordinated care and holistic patient management for seniors enrolled under Medicare Advantage (MA). The company provides tools and support that promotes data collection and sharing, accountability to care and outcome measures, and attention to the patient's comprehensive health. Now working with discrete medical groups in 14 sites across many states, data provided by the company points to positive outcomes, improved patient experience, enhanced efficiency in medical group operations, and lower aggregate costs.

Getting Smarter: Data to Help Coordinate Care and Enhance Care Delivery

One of the fundamental challenges for the senior population has been the lack of real-time, actionable patient information that can help the care provider monitor patient status, and in turn, optimize care. Physicians are generally limited to the intermittent, episodic assessments and observations that are captured during an increasingly short office visit – one that is typically in response to a short-term problem. When data is available, it is most frequently collected by health plans, insurers and other fiscal intermediaries who rely on administrative claims data (related to benefit administration and provider reimbursement) and/or telephonic encounter documentation that is captured during medical or case management discussions. This data infrequently makes its way to the doctor and only retrospectively when it does. Instead, it is used by the third party in their own efforts to help “manage” the illness, facilitate other programs or respond to other needs.

These data points are merely snapshots and typically do not provide a complete longitudinal view of the individual’s clinical condition, nor are they presented on a real-time basis in order to be actionable at the point of care. Furthermore, these data points do not offer contextual insight into other non-clinical factors – such as emotional, environmental, financial, and socio-economic information – that can be equally important to an individual’s overall well-being.

Recognizing the situation (and resultant opportunity), innovative companies are responding to these needs with care management services that hope to shift the healthcare system toward a more patient-centric model of care.

Unlocking Actionable Patient Data in the Home

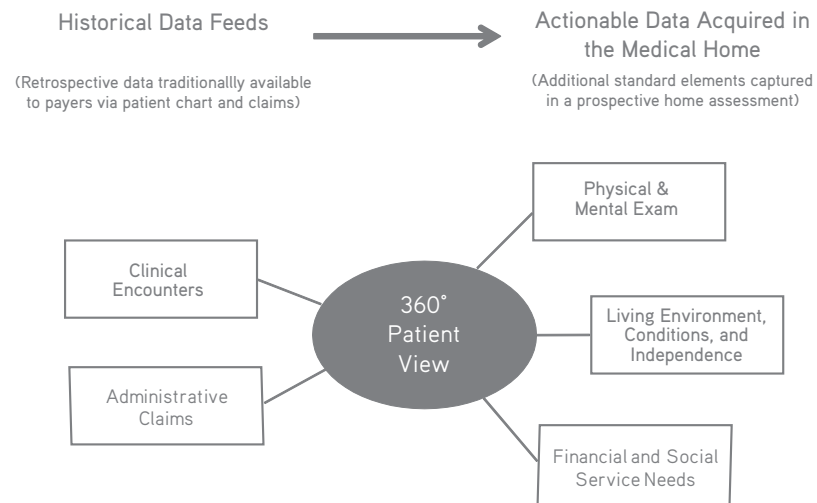
An accurate, 360° view of the patient requires assessing and monitoring the well-being of patients where they reside – whether in the home, nursing home, or assisted living facility. Unlike historical claims data which can lag by as much as 90 to 180 days, live visits and digital technologies can provide near-time or real-time data. This patient-level intelligence can then be used to identify gaps in care and route appropriate notifications to care providers to ensure the right level of care is provided at the right place and time.

**MATRIX MEDICAL:
PROSPECTIVE IN HOME ASSESSMENTS**

Matrix Medical provides prospective medical assessments and care optimization services to Medicare Advantage plans and risk-bearing provider groups. The Company uses a dedicated network of Nurse Practitioners to perform in-home medical assessments to capture extensive, real-time clinical data that identifies prevalent risk factors and conditions (i.e., prescription medication use problems, changing physical state, depression indicators). The Matrix staff work hand-in-hand with primary care physicians and case management staff to identify gaps in care and route information/notifications to the most appropriate party to facilitate interventions in a timely manner. Different from retrospective risk adjustment efforts (i.e., “medical chart audits”), the Matrix assessment programs are designed and clinically validated to identify opportunities to improve member care and well-being. (At the same time, they may provide prospective information for recording clinical codes that are necessary for revenue integrity purposes.)

In this regard, prospective medical assessments (PMA) in the home are increasingly used as a way to enhance clinical understanding and to facilitate better patient care. In-home medical assessments initially gained traction in the Medicare Advantage population as an opportunity for payers to ensure accurate documentation of co-morbid conditions for purposes of risk-adjusted reimbursement. Today, however, innovative service providers are increasingly leveraging this unique one-on-one interaction in the home to capture real-time patient data that can be used to better coordinate care. Assessment data can help identify intervention opportunities that would otherwise go undetected in historical claims/encounter data, and may also create opportunities to assess complementary factors that affect the patient’s well-being that are generally never found in the typical medical chart (for example, an environmental assessment of the home to gauge fall risk).

EXHIBIT # 1: MEDICAL ASSESSMENTS CREATE UNIQUE DATA SET TO OPTIMIZE CARE



Source: TripleTree

**XL HEALTH:
MEMBER SURVEILLANCE PROMOTING ENHANCED
CHRONIC CARE MANAGEMENT**

XL Health operates under the mandate of Medicare with a specific design for individuals with chronic conditions such as diabetes or heart failure (often referred to as a Chronic Special Needs Plan or C-SNP). The Company has taken an innovative approach to chronic care management by developing customized care coordination programs, along with data management and analytics tools, to identify risk factors, anticipate health-related problems and look for illness complications.

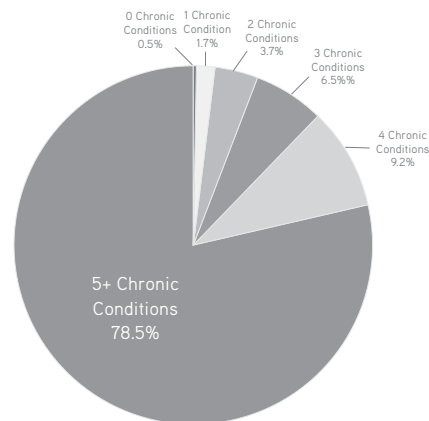
A key differentiator for XL Health is their ability to capture and analyze member data through continuous member touch points – including in-home medical assessments and 24x7 remote patient monitoring. These continuous data feeds enable XL Health to effectively serve as a “surveillance” company, using real-time patient data to detect early warning signals and proactively intervene before complications spiral out of control. The company’s nurse and physician staff are armed on a daily basis with the most recent and relevant patient specific data (provided through offshore human capital that allows for 24-hour shifts dealing with data collection, analysis and transfer) to help them coordinate care on an individual basis.

Several similar approaches to the in-home assessment of individuals – both for enhancing clinical interventions and avoiding risk and unforeseen issues (as well as recording mandatory technical data for patient tracking, benefit administration and reimbursement purposes) – have been introduced to serve seniors living in their own homes. All include initial direct patient interviews and assessment by specifically trained nurses, the use of specialized electronic medical records, sophisticated data analysis that becomes part of the creation and sharing of a patient care plan, and transfer of that information to relevant physicians and caregivers for action.²

Getting a Handle on Complex, Chronic Conditions

As we develop new strategies for senior care, it makes sense to focus first on the segment of the population that accounts for the vast majority of overall healthcare spend. It is well known that chronic conditions drive a wildly disproportionate share of costs across all demographics, with more than 84 percent of our total healthcare dollars consumed by persons with one or more chronic disease. This becomes even more pronounced in the Medicare population, with more than 99 percent of all Medicare expenditures associated with members who have one or more chronic condition (as outlined in Exhibit #2). As a result, any successful effort to moderate the cost of health care is highly dependent on effectively managing chronic and/or multiple conditions in this segment of the population.

**EXHIBIT # 2:
PERCENTAGE OF MEDICARE EXPENDITURES**



Source: Medicare Standard Analytic File, 2007

² Services of this type were originally developed to help provide care interventions on a when-needed basis for seniors in nursing homes and assisted living centers. EverCare, a division of UnitedHealthGroup (NYSE: UNH) was at the forefront of these efforts, and was able to help generate legislative change at the Federal level which ultimately moved such services from demonstration projects to more widely employed services. This approach to care is now more widespread, and has attracted significant attention as an approach to enhancing the health of seniors. Companies such as XL Health and Senior Whole Health – are now serving tens of thousands of seniors in multiple markets. It is likely that they will be joined by others as the number of seniors coping with chronic illness increases, and gains in health outcomes and care intervention efficiency are documented.

**QTC:
HEALTHCARE SERVICES FOR AGING VETERANS**

As the generation of Vietnam War veterans enter its senior years, it is developing the same chronic conditions as the rest of the aging population. However, due to exposure to Agent Orange and other wartime hazards, Vietnam veterans are developing these conditions at a higher rate than the general population. Because many of these conditions are presumed to be connected to the veterans' military service, these veterans are enrolling in the VA healthcare system to take advantage of free or low-cost healthcare, along with applying to receive other VA benefits. This increasing demand for services is taxing the VA health and benefit systems, creating an enormous backlog. QTC, as the largest provider of outsourced disability evaluations to the VA, is assisting the VA to reduce this backlog and respond to the needs of America's heroes.

**SENIORBRIDGE:
COMPLEX CHRONIC CARE MANAGEMENT**

SeniorBridge provides home-based care management programs that are especially beneficial to those with significant chronic, and often times multiple, medical conditions. Alzheimer's disease, Parkinson's disease, congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) are of particular note in this regard. The Company's geriatric care managers lead coordinated care delivery teams to provide a range of in-home services customized for the unique needs of each individual. Unlike most home care service providers, SeniorBridge has, to date, operated largely under a retail/private pay model, suggesting a perception among seniors of meaningful value for the Company's programs and high-touch service model. The Company recently began exploring the group market (via health plan sponsors) as the need for more effective chronic care management in the home is recognized.

Individual condition management, with care plans designed and delivered in "silos," rarely improve outcomes and run the risk of adverse medication reactions, duplicative testing, and conflicting messages to patients and their families. Appropriate care delivery requires a more comprehensive and coordinated view of the individual. Proactive and continuous chronic illness management, with resources and care plans designed to balance the risks and benefits across the complexity of each patient's condition, offers the best opportunity for preventing and slowing disease progression and optimizing outcomes. Accomplishing this for individual patients is at the crux of clinical medicine. Integrated chronic illness management across large populations of seniors requires sophisticated technologies tightly orchestrated with health management services across the continuum of care for all illness conditions.

New approaches to improving outcomes for people with complex, chronic conditions through the combination of data assets, analytics, and technology-enabled service models are gaining traction in the market. For example, Special Needs Plans (SNPs) have adopted a more coordinated approach for patients within certain demographics, like institutionalized beneficiaries in a long-term care setting, or individuals with severe or disabling chronic conditions (also referred to as chronic special needs, or (C-SNPs). C-SNPs are designed to provide specialized disease management and care coordination programs for those with conditions such as diabetes, end-stage renal disease, or congestive heart failure; in other words, complex chronic disease conditions that are extremely costly to the healthcare system. These programs have shown the positive impact that proactive care coordination can have on controlling costs and improving health outcomes.

ACCESS TO CLINICAL DATA:
THE AXOLOTL AND MEDICITY STORY

In late 2010, two of the largest pure-play Health Information Exchange (HIE) platforms (Axolotl and Medicity) were acquired by large health care insurers/payers, providing new access to patient-centric clinical data that they hoped would enable new models of care. These moves by UnitedHealth Group and Aetna, respectively, helped them create the necessary infrastructure to merge both clinical and administrative patient data to identify and close gaps in care. In turn, they may be closer to having the ability to support the ACO model by providing the care system the framework to more effectively take financial risk (e.g., capitation) for the comprehensive, fully coordinated care of individuals and populations.

Already, a number of ACO partnerships and development efforts have emerged. These generally center around large regional hospital systems, with support from other parties such as health plans, or simply with the health care system relying on outside vendors to provide various technology and administrative services or tools.

Enhancing Collaboration Between Payers and Care Providers

In an effort to transition to patient-centric models of care, health plans are trying to develop more collaborative relationships with physicians to lower costs and better manage the overall well-being of patients. These collaborative efforts attempt to leverage both patient data and local provider networks to improve primary care and identify opportunities for intervention in advance of high-cost trips to the emergency room and other expensive diagnostics. This requires a coordinated approach across a range of care providers, with nearly continuous monitoring and shared communication of events both inside and outside of the physician office.

Innovative payers and health systems are now positioning themselves to provide technology services and data to these care providers. A number of recent acquisitions (see below) bring into focus an emerging health care provider model in which payers assume direct control of medical facilities. Such direct ownership (or close contractual relationship) and oversight of those actually providing care, coupled with the assumption of risk as an insurer, has been successfully championed by staff model health plans in past years, although performance has been mixed in a number of situations. Through these transactions, payers are attempting to put themselves in position to access more complete and usable data, and in turn make it available to providers of care, including those potentially participating in the formation of their own accountable care organizations.

PAYER	SUBSIDIARY	DETAILS
UnitedHealth / Optum	Monarch HealthCare	2,300 physicians in a range of specialties
	Applecare Medical Group	200 private practice physicians in Orange County
	Memorial Healthcare IPS	400 physicians in Los Angeles
	Nextdoor Health	Retail clinics at Wal-Mart in Texas
	Sierra Health Services	Nevada clinics acquired in February 2008
	WellMed	38 clinics in Texas and Florida acquired in June 2011
Wellpoint	CareMore	26 clinics in California acquired in June 2011
CIGNA	CareToday	32 clinics opened in Arizona
Humana	Concentra	540 urgent care and workplace sites acquired in November 2010 ³
Highmark	West Penn Allegheny Health Systems	Five-hospital networks in Pennsylvania over 4 years starting in June 2011

³ The acquisition of Concentra's 300+ medical centers and 240 work-site facilities demonstrates the renewed convergence of payers and care providers under the health reform model. While originally focused on workers compensation-related services, Concentra facilities are located in close proximity to approximately three million Humana members. By taking a broader view of the market space, Humana will be in a position to utilize the clinics and staff to provide primary medical care for their members and hopefully reduce utilization of outside emergency services, marginal value yet expensive interventions, various specialists before they may in fact be needed, and preventable institutional care. It also highlights the issues around, and value of, aligning care providers with benefits administration and the provision of health insurance.

UNIVITA HEALTH:
CARE COORDINATION AND CONSUMER-CENTRIC
TOOLS ENABLING AGING AT HOME

*Univita was launched in 2008 through a series of acquisitions that included the **Long Term Care Group (LTCG)**, a provider of long-term care insurance administration services. The company utilized the LTCG platform to become a broader care coordination services provider – helping seniors access care, reside safely in their home and support independent living. Univita’s care coordination model provides a single point-of-contact in effect a concierge-type service – for many of a seniors health care needs. These include skilled nursing services, home infusion therapies, specialty pharmacy and durable medical equipment (all or some of which can be subcontracted rather than owned by Univita itself). This eliminates the need for third parties (i.e., managed care plans) to coordinate care with multiple home care providers and appears to provide faster service, improved care, earlier inpatient discharges, and fewer readmissions.*

Taking the Delivery of Care to the People

Facilitating necessary health care encounters between seniors and care providers is a critical component of a successful health system. In response to that need, another “back-to-the-future” trend that has emerged is the home visit by medical professionals. While most patients needing out-patient or non-hospital based care must travel to provider sites for services, new companies are beginning to change this dynamic by taking care directly to the patient. This model is particularly advantageous for seniors, who frequently have limited mobility, lack transportation resources, often forego excursions due to personal inconvenience, and would strongly prefer to receive care in the comfort of their home.

These approaches are being pursued by companies like **WhiteGlove Health** (largely selling through self-funded companies as part of their employee benefit program) and **Carena**, who have brought back the concept of the “house call,” and provide an alternative to a trip into the physician’s office. These services, delivered by physicians, nurses, and nurse practitioners, alleviate potential trips to the pharmacy by providing necessary medications, medical supplies, and even food and beverages as needed. While this approach may increase costs on some levels (i.e., the cost of the visit itself), some evidence suggests that bringing the care provider to the patient can result in less in-patient hospital care and reduce hospital admissions by as much as 10 percent, which may more than offset the increase in cost associated with sending care professionals into the field. While not currently focused exclusively on seniors, these are very applicable care delivery models for those with chronic illness.

Other models for this type of “home” based care provide insight to future opportunities to better serve seniors. Beginning decades ago, the not-for-profit **Visiting Nurse Association (VNA)**, serving as agents of the patient’s physician and usually focusing on post-hospital care, provided valuable and appreciated outreach to patients at home. Starting in the late 1980s, **EverCare** was formed to serve seniors in nursing homes, but later moved to providing customized at-home services. They employed advanced nurse practitioners, in conjunction with geriatric care physicians, and special purpose internet-based medical record and communication systems to manage patients. The program has demonstrated the ability to lower aggregate costs, help realize favorable clinical outcomes and enjoyed tremendous patient and family satisfaction.

As previously noted, companies such as **XL Health**, **Senior Whole Health**, and **Univita** have emerged to provide similar home-based and patient-centric services for those in need among the elderly.

Reimbursement Trends Driving Care Coordination

In the traditional Medicare fee-for-service program, reimbursement is largely structured around the delivery of services as unique and independent events. In the most extreme analysis, it is a system that pays for illness and fails to reward prevention and illness avoidance. Fee-for-service participants visit multiple providers who are compensated independently based on volume, with minimal requirement for interaction or coordination. Ironically, reimbursement is often available for the most expensive and least desirable care settings (e.g., nursing homes and/or specialized nursing facilities), yet unavailable for less expensive or preferred settings for seniors, like their home.

Given the enormous funding needs of Medicare, there have been numerous legislative and regulatory efforts to lower costs and better align reimbursement with clinical outcomes and quality of care. The Medicare Modernization Act (MMA) of 2003 introduced a complete overhaul of the system, including a number of new incentives for commercial insurance providers to participate in privatized Medicare plans (i.e., Medicare Advantage). The basic premise of this initiative was to leverage the private sector's assumed ability to provide equivalent levels of care at a lower cost, while also providing seniors with a broader set of services than what is available under traditional Medicare plans.

These expanding coverage options opened up a wide range of business models and expanded set of services to facilitate senior health. The prevalent model for health plans became one of total risk assumption based on an annually adjusted capitation payment from the Centers for Medicare and Medicaid Services (CMS). Much of this risk was in turn passed on to physicians and care providers, often through subsequent capitation structures.

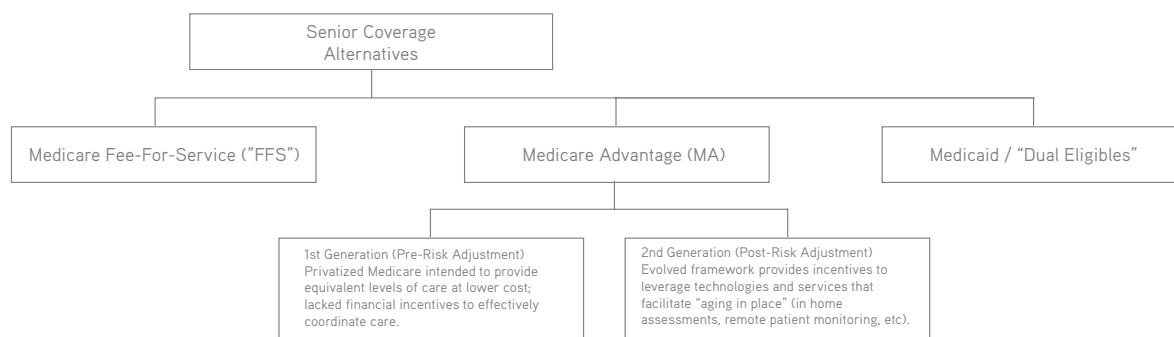
Within this system, however, many believed there was a strong incentive for at-risk care providers and payers to preferentially seek and enroll the healthiest, and hence least costly seniors. Subsequently, a key catalyst for positive change became the concept of "risk-adjusted reimbursement," whereby Medicare Advantage plans are reimbursed based on the health acuity of their member population. The challenge for payers, who want to ensure the maximum reimbursement from the government, became the ability to accurately assess the health status of their enrollees. With doctors having little incentive to record clinical information on a patient beyond the principle reason for appointments, a void became apparent.

A host of companies emerged (such as **MedAssurant** and **Outcomes**) to address this market need, providing clinical auditing services to identify previously unrecorded co-morbid conditions across the Medicare Advantage population base. These companies gained traction primarily from a revenue management perspective, ensuring proper reimbursement across the industry. For example, TripleTree advised **The Coding Source** in its recapitalization with **Parthenon Capital**, which has subsequently become a much broader revenue management platform by combining with **Social Service Coordinators** and **DCA, Inc.**

As the market has evolved, the concept of risk adjustment has ushered in what some have termed the “second generation” of Medicare Advantage. Prior to risk adjustment, plans were incented to attract only the healthiest members; the need for tools and services to manage a broad population of seniors (such as care coordination or medical management) was perhaps less important since a plan could maximize reimbursement by focusing only on healthy members. Risk adjustment shifted these incentives and opened up a significant market for technologies and services that would help plans coordinate care across their member populations. Caring for a diverse population, with reimbursement appropriate to individuals within that group, became a mandate as well as a goal.

Medicare Advantage plans and SNPs have now expanded their senior initiatives to include remote patient monitoring, medication therapy management, and several other complementary services to better coordinate care across multiple care settings. Plans are using third party service providers like **Matrix Medical** and **Censeo** to perform prospective medical assessments, enabling health plans to not only manage revenue, but also to identify intervention opportunities and better coordinate care through unique touch points in the home. These new coverage alternatives have provided the framework to more effectively leverage technologies and services that enable aging-in-place.

EXHIBIT # 3: SENIOR COVERAGE ALTERNATIVES



Source: TripleTree

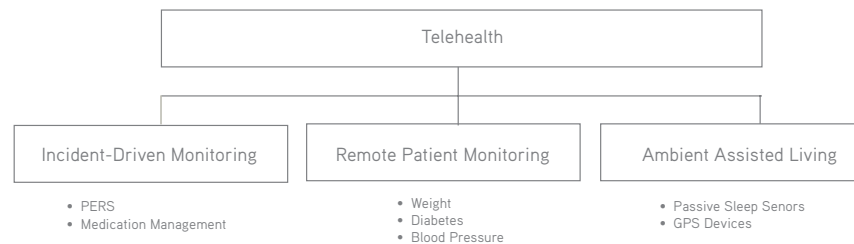
Technology as a Vehicle for Health Assessment and Care Delivery

A variety of technology applications have the potential to facilitate improved care and to provide greater access to care itself. Properly deployed, technology can and should become a force multiplier to enable efficiencies for all types of care. The potential for savings, both for individuals and the care system overall, is real. It is now time for proof of concept, and perhaps no population segment is a better target for such services than seniors – those with recurring medical needs, complex chronic illness, compromised mobility, and limited or tight financial resources.

Of particular note in this area of health care is the ability of certain technologies to serve as “physician extenders” through both direct and indirect means. One such application is popularly termed “telehealth.” This area commands great interest among technology companies and similar interest parties, and involves all manner of remote medical devices that can be used to monitor a senior’s activity and health. **Datamonitor** estimated that in 2009, telehealth technology and related services comprised a market well in excess of \$3 billion.

Historically, the term telehealth has described the use of information and communication services to transmit health information and/or to deliver health care. However, when we look at the technology universe that enables seniors to live longer at home, we see activity in the market spanning three main areas:

EXHIBIT # 4: TELEHEALTH MARKET SEGMENTS



Source: TripleTree

Incident-Driven Monitoring is the most mature segment today, focused primarily on Personal Emergency Response (PERS) solutions such as the **Philips Lifeline**. This market is evolving toward GPS-enabled devices that will do much more than just respond to a fall in the home (i.e., triggering an alert when a senior wanders away from the home), or activity sensing elements that can be used to suggest health problems (such as those deployed by **HealthSense**). Also included in this sector are the various “Medication Management” solutions, another fairly mature segment, with a variety of products from **Philips, Lifecomm**, and wireless providers like **Verizon**.

Remote Patient Monitoring includes monitoring biometric data like blood pressure, weight, glucose levels, heart rate, all interactively connected to a provider. Five companies have significant market share today (**Philips, Honeywell, Viterion (Bayer), Bosch, and Cardiocom**), but it is certain that others will emerge. This space is undergoing tremendous development as home care and nursing facility provider organizations begin to integrate these systems into their care delivery models and look for ways to help control costs. Senior living communities are also beginning to deploy these services in homes and apartments as an adjunct to their healthy living focus, and a differentiating point in their marketing efforts.

It is highly likely that this trend of remote monitoring will accelerate under the ACO rollout now beginning as care providers start to take on patient risk and thus look for ways to help control costs outside the four walls of a hospital, avoid costly re-admissions, and stay away from negative comparative performance data (that will be reported and upon which various payers will make access and reimbursement decisions).

A further application of the telehealth technology is the direct assessment/evaluation of patients using remote visual, verbal and transmitted data components. Programs such as that of **The University of Texas Medical Branch at Galveston** use a central intake center with physicians evaluating patients by utilizing remote monitoring tools (i.e., blood pressure cuffs, stethoscope, otoscope, photos and streaming video) provided at distant locations. The approach has been shown to be highly beneficial in the care of individuals in the Texas penal system and is commercialized through **NuPhysicia**. Similar systems have recently been developed and tested by companies such as **Intel, Cisco**, and **UnitedHealth Group**, and piloted in retail spaces by **Walmart** and others at various commercial business sites and campuses.

A LOOK AHEAD

The demographic shifts confronting our society, combined with the realities of age and illness, demands a highly responsive, efficient and progressive system of health care services for older Americans. Significant advances in approach to care delivery and related services, coupled with the use of important and scalable technology applications, provide us with necessary tools to implement desired programs and realize results.

Over the next several years we will see important approaches to meeting the health needs of seniors in this country, including six major trends:

1. **Cohesive**, interactive, efficient and **provider-centric care** will be sought to better address the entire spectrum of an individual's health.
2. **Meaningful changes in reimbursement services** will be slow, but progressively change. There will be a shift from "pay for doing something" to a more global, fully inclusive fee approach that encompasses the entirety of care for the individual.
3. **The prevention of illness** and enhancement of overall well-being will be an increasing focus for all parties.
4. **The management, delivery and assessment of medical care** will increasingly rely on technology – whether through improving administrative functions, facilitating data collection and information sharing, providing remote illness assessment and monitoring, or serving as a vehicle for personal education and support.
5. **Aging "in place,"** even when confronting personal illness and disability, will increasingly be the preferred choice of seniors. Economic realities – both individual and societal – will support this trend.
6. **A more consumer-responsive approach** to care, as well as illness prevention, will emerge as health and wellness interventions are progressively provided in the home environment.

Innovations in care and support are at hand, and we fully expect their on-going and increasing use to be coupled with clear advancements in the health of our society.

TripleTree Research

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This report was published by TripleTree Research and is one in a continuing series of publications designed to bring clarity to disruption and opportunities in the healthcare industry.

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