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The convergence of health care trends
Innovation strategies for emerging opportunities

Executive summary

The convergence of powerful trends – new technologies, the demand for value, a growing health economy, and the government as an influencer – is transforming the traditional US health care market. While this convergence is creating substantial challenges for health care stakeholders, it is also creating opportunities for innovation in four major areas:

Everywhere Care: Shifting the spectrum of care from hospitals to lower-cost sites

Wellness & Preventive Care: Shifting disease management from reactive to preventive

Personalized Care: Shifting offerings from mass generalization to mass customization and precision

Aging, Chronic, & End-of-Life Care: Shifting the focus from institution-based aging to community-supported aging, and leveraging big data and personalization to manage chronic conditions

To survive and grow in a changing health care landscape, organizations should consider developing innovation strategies that can capitalize on these emerging opportunities. Where should they start? Doblin, a leader of global innovation and part of Deloitte Consulting LLP, provides a framework, "Ten Types of Innovation," which details the building blocks of innovation plays that organizations should consider implementing.

"All problems are opportunities in disguise."

– M.V. Hansen and R. Allen

Defining innovation

There are many ways to define innovation. According to Doblin, "Innovation is the creation of a viable new offering." This definition has some important implications:

- Innovation in not invention. Innovation may involve invention, but it requires many other things as well – including a deep understanding of customers' needs, how organizations can work with partners to deliver innovation, and how it will pay for itself over time.
- Innovations have to "earn their keep." Simply put, innovations have to return value to the enterprise; they must be self-sustainable; and they must return the weighted cost of capital.
- Very little is truly new innovation. More often than not, innovations require the elegant combination of things that already exist.
- The most powerful innovations look beyond products. They can encompass new ways of doing business and making money, new systems of products and services, and even new interactions and forms of engagement between an organization and its customers.

Source: Larry Keeley, Ryan Pikkel, Brian Quinn, and Helen Walters, *Ten Types of Innovation: The Discipline of Building Breakthroughs.* Page 5. (Hoboken, New Jersey: John Wiley & Sons, 2013)

Michael Raynor, co-author of *The Innovator's Solution,* defines innovation as, "Any combination of activities or technologies that breaks existing performance tradeoffs in the attainment of an outcome, in a manner that expands the realm of the possible."

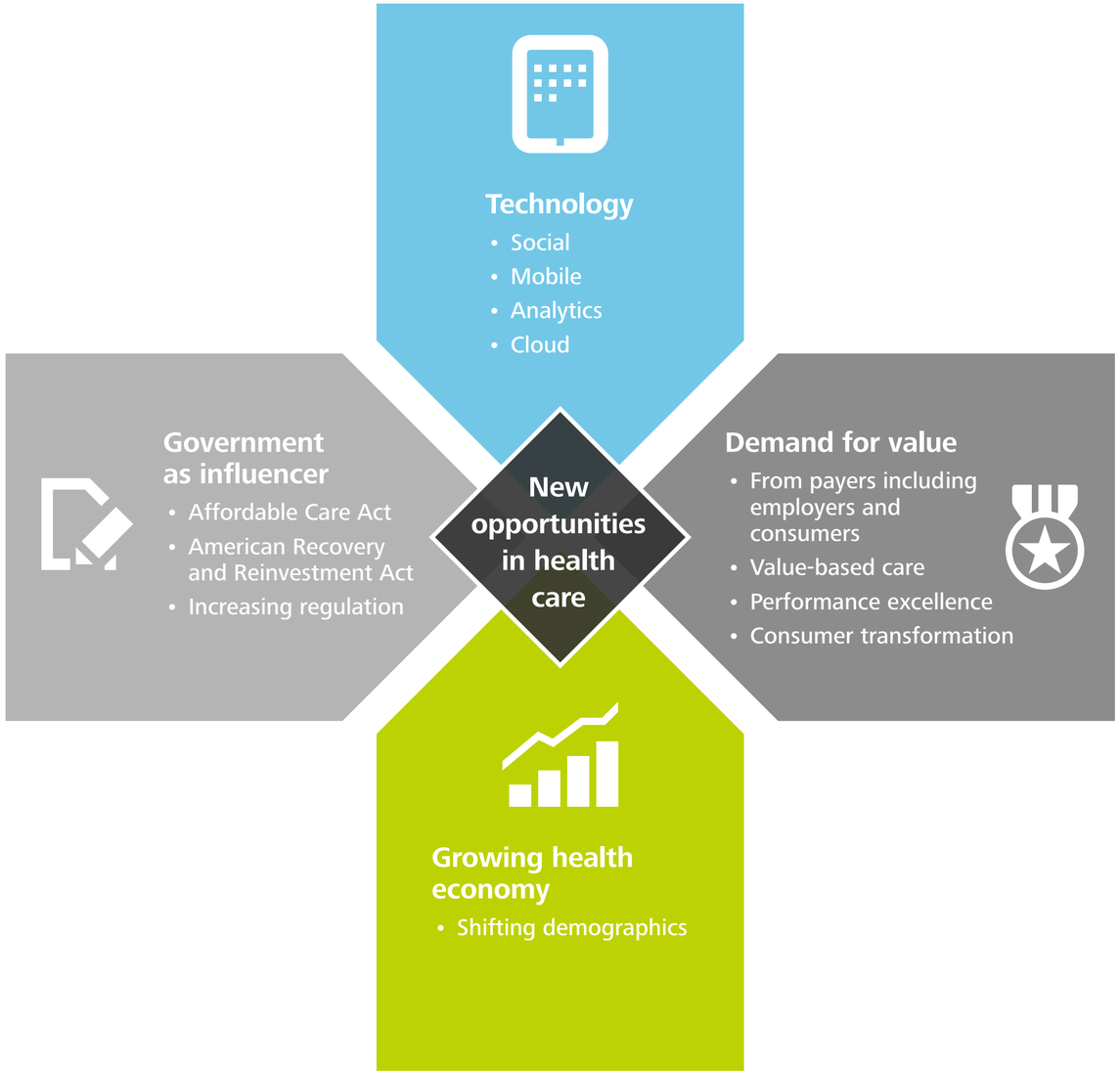
Source: Michael E. Raynor. "Introducing perspectives on innovation." Deloitte University Press. April 30, 2013. Available from: http://dupress.com/articles/introducing-on-innovation/

Introduction

Four overarching trends are transforming the US health care market (Figure 1):

- **Technology:** From genetic breakthroughs and nanotechnology to digital health and the cognitive cloud, technology is changing health care.
- **Demand for value:** Traditional payers such as health plans and employers, as well as engaged consumers, are demanding more – quality, evidence, and transparency – for fewer dollars. Historical payment models are being upended. New alternative payments are incentivizing providers to reduce waste and inefficiencies.
- **Growing health economy:** By 2030, one in five Americans will be 65 or older,[1] likely increasing the percentage of people needing chronic care. The demand for health care is expected to drive greater employment and investment.
- **Government as influencer:** Over the past seven years, the federal government has reshaped the health care landscape. In 2009, the American Recovery and Reinvestment Act (ARRA) included the Health Information Technology for Economic and Clinical Health (HITECH) Act. Health insurance exchanges, Medicaid expansion, and new payment and delivery models grew out of the 2010 Patient Protection and Affordable Care Act (ACA). Federal agencies, including the US Food and Drug Administration (FDA) and the US Federal Trade Commission (FTC), have also made their mark on health care through regulations and guidelines.

Figure 1. Converging health care trends



As trends collide, they create challenges for industry stakeholders as well as opportunities for innovation in four significant areas (Figure 2):

- **Everywhere Care:** Shifting the spectrum of care from hospitals to lower-cost sites
- **Wellness & Preventive Care:** Shifting disease management from reactive to preventive
- **Personalized Care:** Shifting offerings from mass generalization to mass customization and precision
- **Aging, Chronic, & End-of-Life Care:** Shifting the focus from institution-based aging to community-supported aging, and leveraging big data and personalization to manage chronic conditions

In early 2015, the US Department of Health and Human Services (HHS) set a goal of linking 30 percent of Medicare payments to quality or value through Accountable Care Organizations (ACOs) or bundled payments by the end of 2016, and 50 percent by 2018. HHS saved $417 million through existing Medicare ACO programs.[2]

Figure 2. Health care innovation opportunity areas

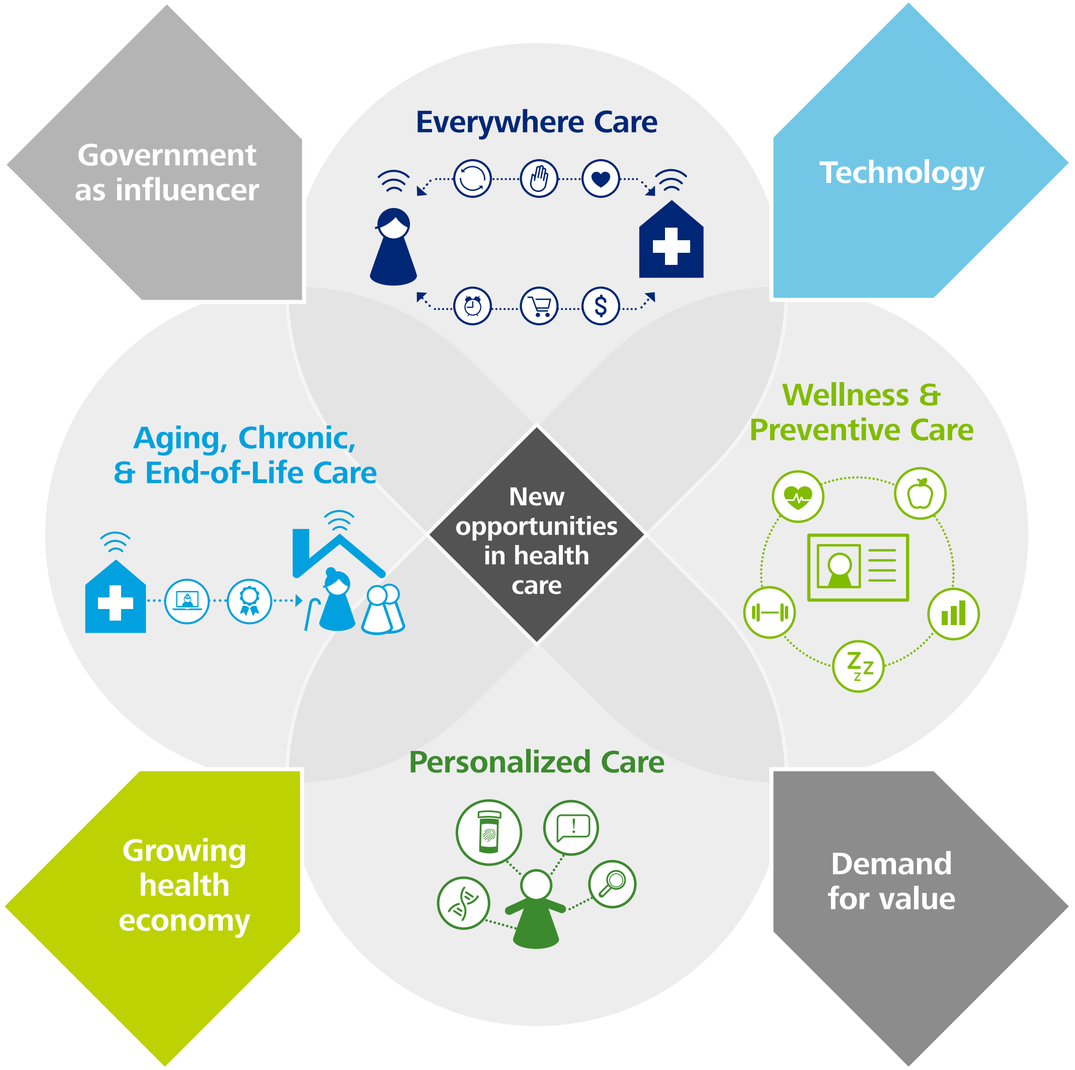
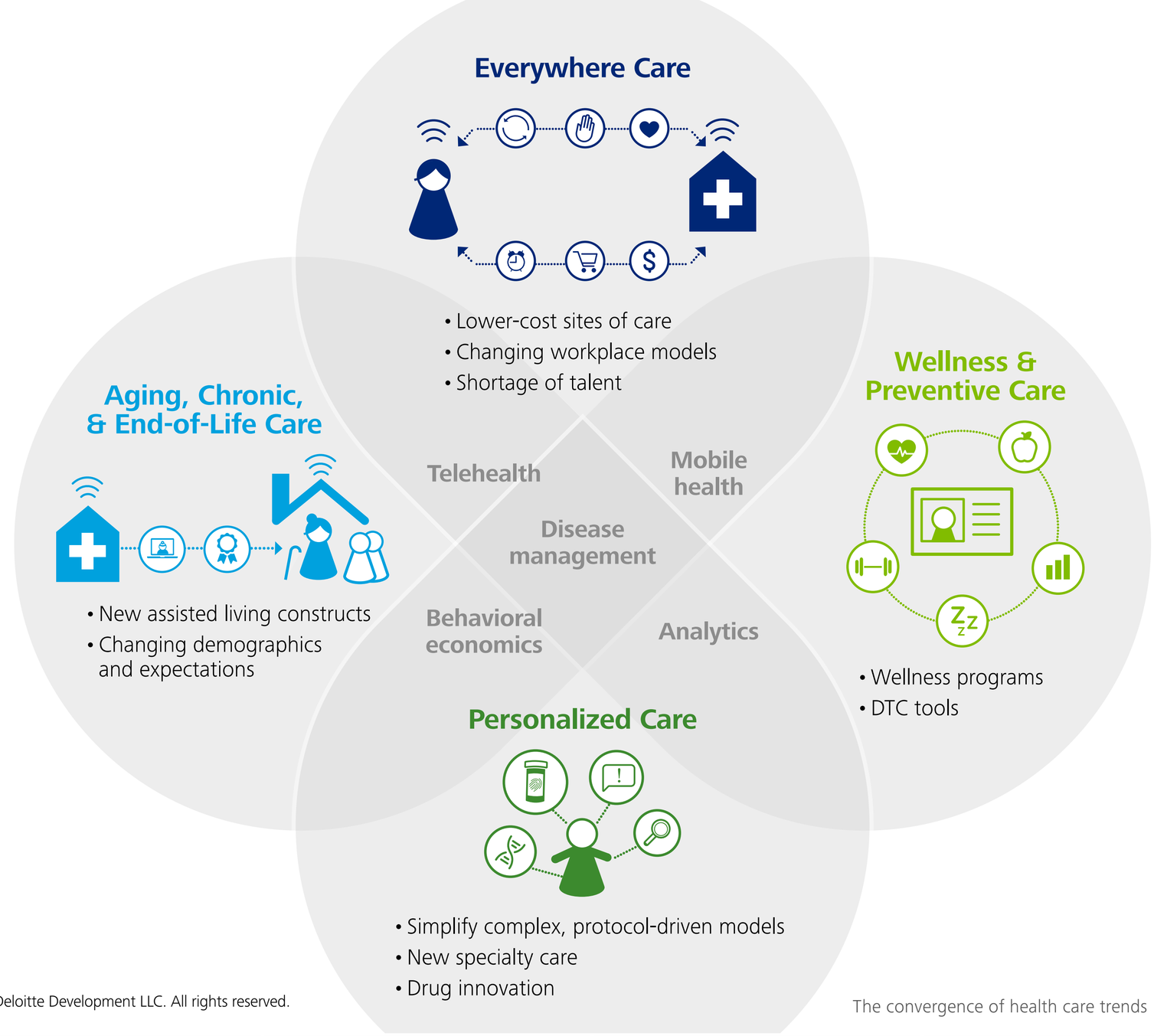


Figure 3: Innovation opportunity overlap

Opportunities, and their enabling capabilities, may overlap, allowing organizations with effective strategies to innovate in multiple areas concurrently (Figure 3). For example, telehealth capabilities may be applied to opportunities in both Everywhere Care and Aging, Chronic, & End-of-Life Care.



Singularity University

As technological capabilities exponentially increase, organizations should consider understanding how to utilize this change to their benefit. Singularity University provides education and collaboration to "inspire and empower leaders" to reinvent the future of health and medicine.[3]

In 1998, Doblin analyzed nearly 2,000 examples of the then-best innovations and broke them down using pattern recognition and complexity management techniques. From this empirical analysis Doblin fashioned its "Ten Types of Innovation" framework (Figure 4). Some combination of these types might be used in a successful innovation offering.

Organizations can use the Ten Types of Innovation framework to make the innovation process easier and more effective. The framework can diagnose and enrich an innovation, analyze existing competition, and increase understanding of organizational challenges. It also might make it easier to spot errors of omission, absent dimensions that may make an innovative concept stronger.

The framework is divided into three color-coded categories. The configuration types on the left side of the framework are the most internally focused and distant from customers; moving towards the right side, the types become increasingly apparent to end users. Within each type are multiple discrete tactics – over 100 have been analyzed and are outlined as "relevant innovation tactics" throughout this report. Many of these tactics have existed for decades or even centuries, such as publications using subscriptions for their profit model. Each tactic has defined uses and limitations and can be combined and recombined to produce new constructs in fresh ways.

The Ten Types of Innovation and innovation tactics comprise a playbook which enables organizations to take a disciplined approach to conceiving and creating breakthrough innovations. The following scenarios depict potential innovation plays (each using five tactics) for the four opportunity areas of Everywhere Care, Wellness & Preventive Care, Personalized Care, and Aging, Chronic & End-of-Life Care.

Figure 4: Ten Types of Innovation

Source: Doblin

Everywhere Care:

Shifting the spectrum of care from hospitals to lower-cost sites

Overview: Cost pressures, consumer preferences, changing staffing models, and technology create a business case for care anytime, anywhere.

Value-based care strategies such as ACOs and bundling, coupled with consumer preferences and increased cost-sharing, are driving consumers to seek care at lower-cost settings.

Retail clinics: Staffed by nurse practitioners and physician assistants, retail clinics are gaining traction with their convenient locations and hours and lower costs of care. These clinics are expanding from primary care to chronic disease management.

$2.2 billion a year could be saved if patients used retail clinics instead of physician offices, urgent care centers, and emergency departments.[4]

Minute Clinic

Owned by CVS Health, Minute Clinic offer a range of services including vaccinations, diabetes monitoring, cholesterol screenings, and weight-loss programs.

Scanadu

This early-stage company is developing a suite of consumer medical device products that connect with smartphones and allow consumers to monitor their health. From temperature and heart monitoring to urine analysis and analytics, Scanadu aims to enable consumers to live healthier lives.

American Well

This telehealth provider offers software and mobile and web services that connect physicians with patient through live, on-demand video visits. American Well's services have a goal of reducing medical costs, improving access, and increasing patient satisfaction.

Privia Health

Privia Health is a wellness company that uses web-based technology to create private social networks among the patient, doctor, and wellness team. Care collaboration aims to keep patients healthy between office visits.

Home care: With technology and advances in monitoring, home health care may reach hospital-level care. It also provides treatment with reduced costs and improved patient satisfaction.[5]

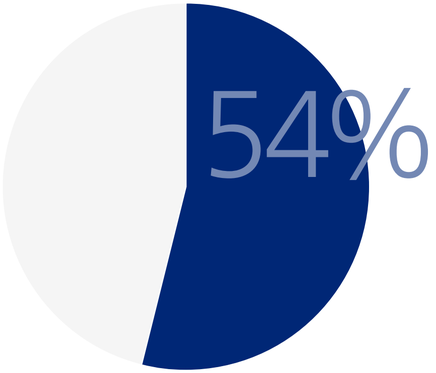
Medicare saved, on average, nearly **$8,000 per person** when patients used home health care directly after hospital discharge.[6]

90% of people age 65 and older want to stay in their homes as long as possible, making home care appealing to this group.[7]

The US home health care market was valued at $77.8 billion in 2012 and is projected to grow to $157 billion by 2022.[8]

Nurse practitioners: Expanding the scope of practice for nurses and other clinicians can increase patient self-care, leverage technology, and address physician shortages.[9]

If nurse practitioners provided care and prescribed medications independently in retail clinics, savings could increase by **$1.2 billion.**[10]



of surveyed health care consumers agree or strongly agree that a nurse practitioner or physician assistant can provide primary care that is **comparable in quality to care provided by a primary care doctor.**[11]

Digital health venture funding exceeded $4 billion in 2014; telemedicine was the fastest-growing segment with 315 percent year-over-year growth from 2013-2014.[12]

Online tools: Online communities can empower patients and provide a source of information and social/emotional support.[13]

Nearly 40% of surveyed health care consumers looked online for information related to health and treatment.

23% used social media for health-related purposes.[14]

Telehealth: For patients with congestive heart failure, diabetes, depression, and other chronic conditions, digital health technologies such as home telemonitoring can reduce hospital readmissions and increase the ability of individuals to live independently.[15]

The Center for Medicare & Medicaid Innovation, with $10 billion in funding for 10 years, is encouraging grant winners to use and test telemedicine and home health services, among other offerings.[16]

According to Deloitte's *2015 Survey of US Health Care Consumers,* respondents view telehealth as an acceptable care alternative.[17]

18% of surveyed consumers consulted a provider using secure messaging, texting, or email.

28% are very interested in doing so in the future.

13% of surveyed consumers used video, a computer program, or mobile app to learn about treatment options.

17% **are very interested in doing so in the future.**

28% of surveyed consumers used technologies to monitor and manage their fitness/health, compared with **17% in 2013.**

Consider these innovation plays

Simplify and integrate the "monitored self" – Create a unified platform that aggregates consumer data from point-of-care devices and consumer actions, and easily and seamlessly integrates them into the care system.

Relevant innovation tactics

PROFIT MODEL
Subscription
Integrates all the point-of-care purchases that consumers make across channels into a single subscription fee

PROCESS
User-generated
Taps into the growing health-hacker movement to allow additional customization and improvement suggestions from users

PRODUCT SYSTEM
Product/service platforms
Establishes platform partners that integrate sensors, online coaching, and third-party information services into one harmonized user interface

CHANNEL
Context specific
Tracks daily routines and makes health-related suggestions based on an individual's unique profile (e.g., exercise pattern, medication preferences); provides the ability to integrate communication and payment to providers or suppliers based on actions

CUSTOMER ENGAGEMENT
Community and belonging
Simplifies the process for care team expansion to include resources in the consumer's community for support and guidance

Home care switchboard and SWAT team – Match clinical and non-clinical services to address integrated consumer health needs and deliver transparent outcomes.

Relevant innovation tactics

PROFIT MODEL
Switchboard
Creates a "market maker" between clinical and non-clinical services to establish a continuum of care, including simple interfaces for consumers to access a network of caregivers for short-term needs

CUSTOMER ENGAGEMENT
Curation
Limits choices to only the proven home care solutions, removing all clutter

SERVICE
Guarantee
Certifies the quality of different provider types and creates more efficient feedback loops on the outcomes generated

SERVICE
Self-service
Increases use of self-service clinical systems, including retail locations and home care products and services

BRAND
Transparency
Sets standard data and pricing rules for services to increase transparency and match consumer needs with different service levels

Wellness & Preventive Care:

Shifting disease management from reactive to preventive

Overview: Preventive care and disease management become watchwords in the midst of government incentives and powerful big data methods that can drive precise identification of personal risk factors. Self-directed services emerge as low-cost tools for changing health behaviors.

Employer incentives to offer wellness programs are growing.

Wellness programs: According to a 2013 study, about half of US employers with 50 or more employees have a wellness program.[18] The ACA gave employers more flexibility to use incentives in wellness programs to promote healthy behaviors.[19] Wellness programs have the potential to improve health and save costs, however, results to date are mixed.[20] Even as employers expand their programs, they will likely look for more effective methods using incentives and penalties to engage their employees and secure a return on their investment.

Yingo Yango
This mobile platform delivers consolidated, personalized information and resources, and enables payers, employers, and providers to analyze episodes of care to fully leverage outcomes and improve efficiencies.

Ginger.io
This health app collects patient data in real time to assess patient conditions, allowing providers to use behavioral analytics to manage patient populations.

GeckoCap
GeckoCap is a pediatric asthma technology platform that includes mobile, analytics, and gamification to improve medication adherence. These techniques can be applied to other medications and behaviors.

Apple® HealthKit[21]
The Apple HealthKit Cloud application programming interface (API) integrates data from multiple sources. A partnership with EPIC and other EHRs aims to link patient data with provider data. Apple ResearchKit's open source framework helps researchers develop apps for medical studies that could include patient-generated information.

Qualcomm Life 2net Platform
A cloud-based, universally-interoperable system designed to enable two-way wireless connectivity, the 2net Platform captures and delivers medical device data to consumers and providers.

Data and behavior change: Organizations that share health records online with patients have seen use of preventive services increase.

25% of patients that used an interactive preventive health record which links to their clinician's record, provides health information in simple terms, lists patient-centered recommendations, and sends reminders, were up-to-date on all preventive services – **double the rate of non-users.**[22]

Venture capital funding for biosensing wearables increased five times from 2011 to 2013, reaching $282 million in 2013.[23] As of 2014, Jawbone had received $471 million in funding while both Fitbit and MC10 had received more than $60 million in total.[24]

Other technologies – digital health, mobile health, and wearables – will engage consumers and generate health information. Also, with consumer devices, electronic health records (EHRs), and nontraditional sources such as social media gathering increasing amounts of data, analytics could identify new care pathways and high-risk individuals.[25]

Interoperability: Lack of interoperability among devices currently limits big data's promise and, by extension, overall wellness and prevention initiatives. Interoperability has the potential to decrease costs[26] and improve care coordination.[27] With more open systems, data sharing should improve, aiding wellness and prevention efforts.

- ONC is also supporting interoperability through $1 million in grant funding for the Community Interoperability and Health Information Exchange Program.
- EHR vendors are waiving their record-sharing fees in the short term to increase interoperability among providers.[28]

Consider these innovation plays

Big data and digital therapeutics construction kit – Create a "developers" kit that combines powerful diagnostics and analytics with new advances in behavioral economics.

Relevant innovation tactics

PROFIT MODEL
Microtransactions
Transparently shared rewards and small "nudges" to drive incremental (but sustained) changes in patient behaviors

PROCESS
Predictive analytics
Algorithms that tap into clinical and non-clinical data systems, creating more powerful analytics to uncover at-risk individuals

PRODUCT PERFORMANCE
Customization
Patient- and doctor-generated programs that package clinical interventions with behavioral change methods to address increasingly personalized health needs segments

PRODUCT SYSTEM
Modular systems
Plug-and-play smart devices that act as building blocks to track progress and have real-time data streams on consumers' deviations from the correct care path

CUSTOMER ENGAGEMENT
Experience simplification
Experience wrapper that dramatically simplifies information, making it easy and fast for providers and consumers to engage

Clearinghouse for early intervention programs – Create transparency into the effectiveness of programs that slow disease progression and establish standards for preventing future health care system costs.

Relevant innovation tactics

PROFIT MODEL
Membership
Emerging business models that charge membership fees to participating companies to gain access to ratings and shared data/insights

STRUCTURE
Competency center
Centers of Excellence (COEs) that house industry-leading experts on disease progression across conditions

PROCESS
Predictive analytics
Algorithms that use clinical and non-clinical data (e.g., shopping behaviors) to identify micro-correlations between specific actions and overall risk of disease progression

SERVICE
Supplemental service
Novel auditing and improvement services that evaluate third-party disease programs based upon outcomes

BRAND
Certification
New ways to certify the value of preventive health programs, including new ratings system for proven providers, akin to bond ratings that allow for a commonly traded risk and benefit

Personalized Care:

Shifting offerings from mass generalization to mass customization and precision

Overview: Scientific advances can provide optimal value when targeted to particular consumers. Widespread adoption of "personalized/precision care" will likely be made possible through offerings that integrate drugs and devices with low-cost diagnostics, disease management programs, and clinical decision support.

Personalizing care based on genetics and individuals' health information has the potential to generate new therapies that may radically improve outcomes. For example, approximately 30-40 percent of patients take drugs for which the adverse effects outweigh the benefits.[29] This is neither cost-effective nor therapeutic. Personalized care could minimize such situations through the use of diagnostics that identify which medications, at what dosage, work best for which patients.

According to Deloitte's *2013 Survey of US Health Care Consumers,* respondents are open to personalized care:

59% **of surveyed consumers are willing to take a test that identifies the drug and/or dose that would personally work best for a disease or health condition.**

55% **of surveyed consumers are willing to take a test that predicts the likelihood of disease development.**[30]

Invitae
In addition to quick service and low costs, Invitae allows physicians and consumers to select from a menu of genetic tests to personalize testing based on, for example, hereditary conditions.

Iodine.com
This site combines medication information from medical experts and medication users to give consumers a better understanding of their health and improve their decision-making.

PhysIQ
PhysIQ is a personalized physiology data analytics platform created to track vital signs and detect changes based on each individual, rather than the population average.

Organovo
This start-up is producing functional human tissues using 3D printing for research and drug development, with an ultimate vision of producing tissue for surgical transplantation.

Genetics: Advances in genome technology have led to an exponential decrease in gene sequencing costs.

For an entire genome, costs fell from $100-$300 million in 2001 to about $10 million in 2007 and an estimated $5,000 in 2014.[31]

Targeted therapies paired with genetic tests allow physicians to select an optimal treatment the first time, avoiding the costly and risky practice of trial-and-error prescribing.

- Determining dosing for the blood thinner drug Warfarin with the aid of genetic testing resulted in 31 percent fewer hospitalizations.[32]
- Among skin cancer patients with a BRAF gene mutation, 48 percent responded to targeted treatment, compared to five percent who responded to standard treatment.[33]

Specialty drugs: Specialty drugs show potential to improve life expectancy and quality of life.[34] When used with biomarkers to target subpopulations, these drugs could improve outcomes, lower treatment cost, and even prevent disease.[35,36]

Specialty drugs are on the rise: they currently comprise 31.8% of total drug spending, but are projected to reach 44% by 2017.[37]

Patient-driven research: For-profit organizations such as PatientsLikeMe, as well as nonprofits such as the Patient Centered Outcomes Research Institute (PCORI), are creating online patient communities to leverage information, advance research on diseases and medications, and address health care questions that are most important to patients and caregivers.[38]

- PatientsLikeMe recently announced a five-year agreement with AstraZeneca to improve patient health outcomes in respiratory disease, lupus, diabetes, and oncology through patient-driven research initiatives.[39]
- PCORI established PCORnet, a clinical research network, in 2013 to collect data from millions of people across the country for various research efforts, many of which are focused on rare diseases.

Technologies such as EHRs, analytics, biosensors, and additive manufacturing (3D printing) should simplify complex, protocol-driven models as personalized medicine evolves.

EHRs: With new data available at the point of care via EHRs, many stakeholders are rethinking existing care delivery decisions and protocols. In a 3,600-subject study, when genetic information was available to doctors, hospitalization rates for heart patients were reduced by about 30 percent.[40]

The global genomics market is expected to grow from $11 billion in 2013 to $19 billion by 2018 as it expands from the US to the UK and Europe, Japan, India, and China. 2013 estimates value the next-generation sequencing market at $2.7 – $7.6 billion by 2018.[41]

Analytics: Similar to how Amazon tailors product suggestions to different consumer segments, researchers can develop more targeted and effective treatments for patient segments using biomarkers, genetics, and algorithms.[42] By using computers and big data to model potential outcomes before treating patients, predictive simulation has been shown to effectively personalize cancer treatments.[43]

Biosensors: As technology improves, many stakeholders hope that biosensors will help patients and physicians monitor, manage, and customize treatments. Google's research unit, Google X, is working on a pill that will release cancer-detecting nanoparticles that are tracked with a sensor worn on the wrist.[44]

Additive manufacturing: Advances in 3D printing may lead to production of custom and personalized organs in the future, adding a new dimension to health care. Anthony Atala, Director of Wake Forest Institute for Regenerative Medicine, has created a prototype of human kidneys with a 3D printer.[45]

Continuing education: As personalized medicine advances, physicians will likely need more support in using genetic information in patient care.

Integration of specialists: Cancer specialists may need to change existing processes as complex treatments such as companion diagnostics emerge, the demand for an adequately trained and coordinated workforce increases, and personalized approaches to care become the norm.

Funding: President Obama announced a Precision Medicine Initiative during his 2015 State of the Union Address. This initiative invests $215 million to:

- Accelerate biomedical discoveries
- Leverage patient-powered research
- Provide clinicians with new tools and knowledge to personalize treatments.[47]

As prevention or cures for many conditions become increasingly possible, regulatory agencies are likely to weigh the cost of new solutions against their potential benefits. On February 4, 2015, PCORI announced $138 million in funding for comparative effectiveness (CE) studies, $50 million specifically for research on hepatitis C virus diagnoses and treatments.[48]

Reimbursement: Although personalized medicine discoveries are increasing, payer reimbursement is "limited and highly variable." Additional research is needed to demonstrate a return on investment to payers.[49]

Nine out of 10 American Medical Association (AMA) physicians "do not feel prepared to implement FDA-approved genetic testing recommendations in their practice." Only 17 percent of Americans in 2011 "believe their physician is up-to-date and knowledgeable about genomics-based medicine."[46]

Consider these innovation plays

Integrated and targeted care bundles – Develop combinations of treatment, diagnostic, and care protocols that are optimized for impact and ease of use based on individuals' specific needs.

Relevant innovation tactics

PROFIT MODEL
Bundled pricing
Pricing for an integrated solution versus anchoring against benchmarks for any one component

PRODUCT SYSTEM
Integrated offering
Integrated combinations of diagnostics, treatments, and decision support systems, tailored to individuals

NETWORK
Complementary partnering
Joint development and go-to-market relationships across the health care value chain (and with consumer products companies) designed to bring a full suite of functionality

CUSTOMER ENGAGEMENT
Experience simplification
Advancements in decision support and services to simplify the process for patients and doctors to understand and to use personalized therapies

NETWORK
"Coopetition"
Previous competitors join forces so the aggregate therapies can cover a critical mass of underlying personalized therapies for larger disease

Personalized care outcomes marketplace – Increase transparency by having market players regularly set prices and demand for outcomes in tailored-use cases for patient sub-populations.

Relevant innovation tactics

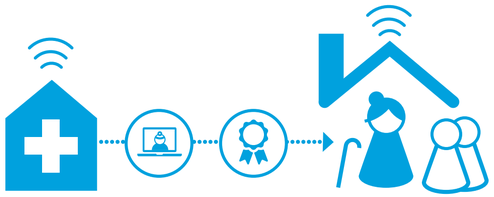
PROFIT MODEL
Subscription
Subscription or membership fee for access to granular treatment protocols or development targets that can be deployed across systems or used to guide future research

PROFIT MODEL
Flexible pricing
More dynamic price-setting schemes that enable implementation of outcome-based prices that can be set more easily across payers for a specific-use case versus broad drug access

PROCESS
Predictive analytics
Advancement of protocols and new population analytics that enable prospective and retrospective testing of increasingly personalized treatment programs

PROCESS
User-generated
Patient-organized communities that aggregate demand for specific health solutions, providing more funding and access predictability and easier clinical trial enrollment

Aging, Chronic, & End-of-Life Care:



Shifting the focus from institution-based aging to community-supported aging and leveraging big data and personalization to manage chronic conditions

Overview: A wealthy, aging population segment is likely willing to pay for new services, while others struggle to pay for unexpected bills. Caregiver involvement may increase as the "sandwich generation" looks for better solutions for their parents. This will likely result in a need for new services and care models.

Net worth: People over age 50 in the US have the highest net worth of any population segment and comprise 51 percent of consumers-over-25 spending.[50]

Sandwich generation: One in every two Americans between 40 and 50 years of age takes care of a parent 65 years or older and also raises a child or financially supports another adult.[51]

Care at Hand

Leveraging technology and community workers, Care at Hand allows the elderly to age in place and avoids preventable hospital admissions through improved care coordination.

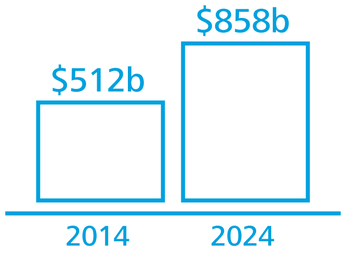
Lively

Lively provides sensors, including a watch that tracks, analyzes, and reports important daily activities such as taking medications, preparing food, and movement in and out of the house.

AfterSteps

An online, end-of-life planning platform, AfterSteps educates users on how to prepare for their passing, including estate, financial, funeral, and legacy planning. These documents are stored and shared with beneficiaries.

Spending: US spending on aging, chronic, and long-term care is substantial. Approximately one half of Medicare's total spending in 2010 was for 14 percent of Medicare patients with six or more chronic conditions.[52]



Net Medicare expenditure is expected to increase from $512 billion in 2014 to $858 billion in 2024.[53]

Long-term care spending estimates range from $210 billion to $306 billion, with Medicaid spending on long-term care totaling $123 billion in 2013.[54, 55]

Behavioral economics: Behavioral economics and social psychology methods, which include labeling positive behaviors, focusing on immediate risks, setting small goals, and implementing specific plans, could help patients control chronic conditions.[56]

Telehealth: Technology can defer the need for and/or improve assisted living and nursing home care. For example, Lutheran SeniorLife in Pittsburgh, Pennsylvania, used telehealth over a period of two years and saw the percentage of patients in nursing homes drop from 20 percent to 12 percent.[57] As positive evidence for telehealth increases, more providers are implementing programs and more payers are paying for them.

- The Veteran Affairs' Home Telehealth program allows aging veterans to live at home but still receive continuous care for chronic conditions as they would in a nursing home.[58] Beginning in January 2015, Medicare started covering several additional telehealth services including certain wellness visits, psychotherapy services, extended office visits, chronic care management, and remote patient monitoring for chronic conditions.[59]

End-of-life care: The medical community has started turning its attention to end-of-life care issues.

- In 2014, the Institute of Medicine released a report, *Dying in America,* that highlighted ways to improve end-of-life care in the US. Suggestions included delivering person-centered, family-oriented care, clinician-patient communication and advanced planning, professional education and development, policies and payment systems, and public education and engagement.[60]
- Respected surgeon, author, and public health researcher Atul Gawande's most recent book, *Being Mortal: Medicine and What Matters in the End,* brings attention to end-of-life issues, including senior living and palliative care models.[61]

The news media is also creating greater public awareness of this issue. The *New York Times* publishes a series called "The New Old Age," which explores the challenges of aging; and "The End," which features essays on death and dying. *The Atlantic, TIME* magazine, and others have also published stories on aging and end of life.

Consider these innovation plays

Community-enabled, self-directed care solutions for the elderly – Implement modular, self-directed solution sets that encompass seamless expansion of support through the end of life.

Relevant innovation tactics

PROFIT MODEL
Subscription
Pricing with predictable premiums that extend beyond Medicare coverage and can be easily managed in the context of fixed retirement or government income

CUSTOMER ENGAGEMENT
Whimsy and personality
Humanized offering descriptions for elderly buyers or caregivers that overlay medical care language with a much more intuitive description tied to personal goals

PROFIT MODEL
Switchboard
A "task rabbit" for elder care that enables seniors to get help with small tasks and allows them to remain independent

CUSTOMER ENGAGEMENT
Autonomy and authority
Enables users to shape how offerings are adapted to their lives and lets them feel a sense of control; punctuated by noteworthy experiences that reinforce emotional triggers of being independent (e.g., caring for a pet, etc.)

SERVICE
User communities/support systems
A toolkit to enable clusters of caregivers and the elderly to establish foundational capabilities and leading practices that resonate with the local culture and environment

Elder care provider certification and alternative training – Expand needed capacity to care for the elderly outside institutions by enhancing non-medical caregivers' skills mastery.

Relevant innovation tactics

NETWORK
Alliances franchising
COEs to help existing institutions leverage and expand the core curriculum and certification model

SERVICE
User communities/support systems
Resources for ongoing skill and career development and peer networking

CUSTOMER ENGAGEMENT
Status and recognition
Peer- and customer-reviewed process, including "graduation" as an approved service provider

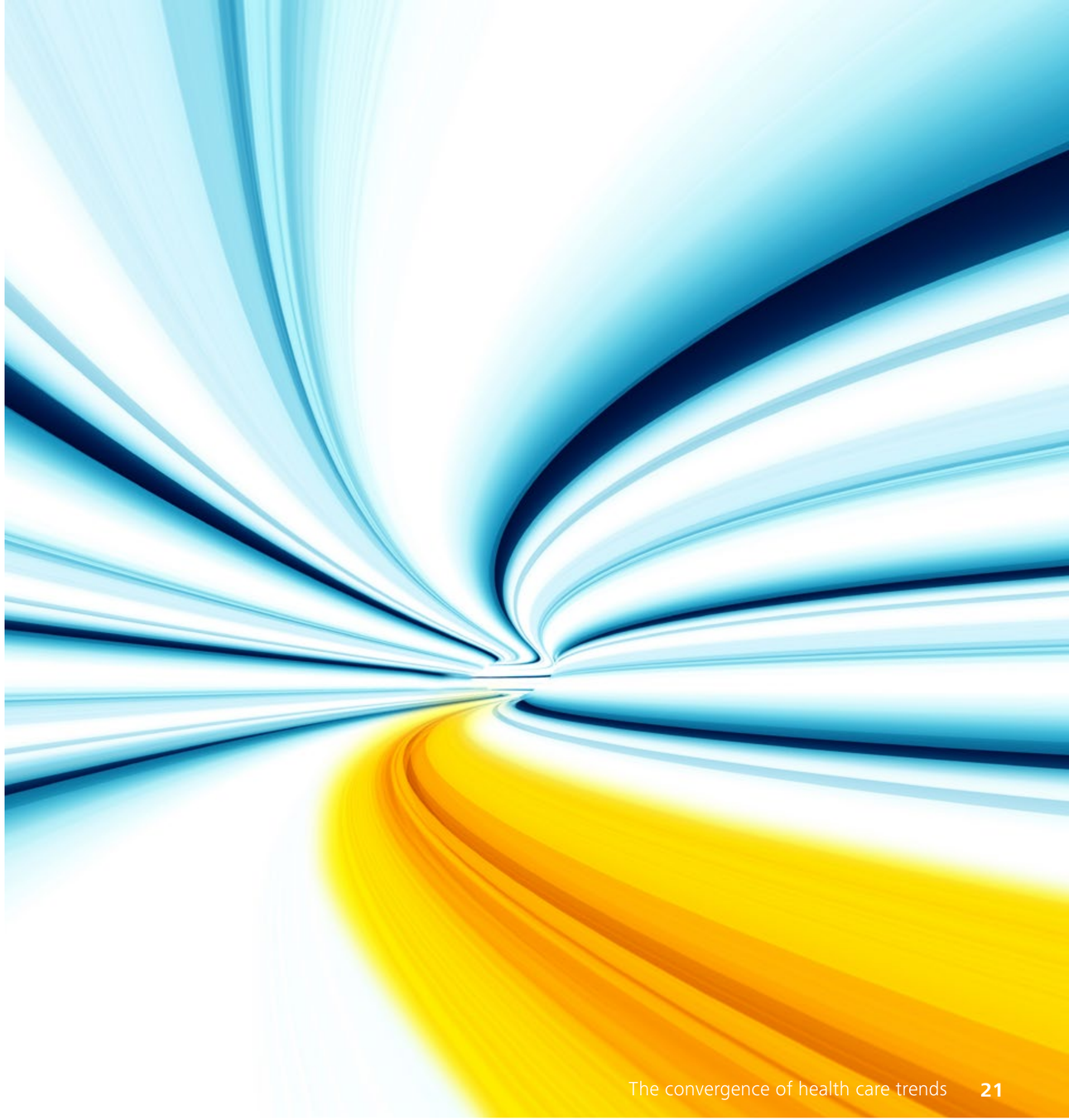
BRAND
Certification
Alternative curriculum for caregivers and non-medical support staff focused on human-centered, end-of-life issues; cascading level of mastery with continuing medical education (CME) and expert-taught courses on latest innovations and leading practices

SERVICE
Guarantee
Strong placement ties with companies to provide incentives and guarantees around future work upon program completion

Call to action

The convergence of powerful trends – new technologies, the demand for value, a growing health economy, and the government as an influencer – is generating growth opportunities for health care organizations and driving the need to innovate. Executing tailored and integrated "innovation plays" that capitalize on new technologies, delivery options, patient experiences, and partnering across the value chain can propel organizations past their competition in the changing health care landscape.

As the health care ecosystem grows to include an increasing number of varied organizations, technology, and data sources, traditional stakeholders should consider looking both internally and externally for new innovation opportunities.



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