CONNECTED HEALTH SUMMIT

Engaging Consumers

September 9-10 2015
The Omni Hotel
San Diego

Hosted By

Event Summary
Connected Health Tracker Service

Core Research Areas
Consumerism of Healthcare
Digital Disruptions in Healthcare Service Delivery

Nearly 30% of U.S. broadband households own a connected health device.
Over 50% of U.S. broadband households use at least one health app on a monthly basis.

Health Consumer Segmentation
Developed by Parks Associates

- 30% Unhealthy and In Denial
- 27% Challenged but Mindful
- 23% Healthy and Engaged
- 20% Young and Indifferent

Understanding Consumer Adoption of Connected Health Devices and Services

Parks Associates connected health research addresses:

- Consumer adoption and usage of healthcare devices and services, including five years of consumer survey data
- Case studies of care providers leveraging technologies to change consumer behaviors
- Market entry, business models, and engagement opportunities for care providers, device makers, fitness companies, and health programs

Headed by Harry Wang, Director, Health & Mobile Product Research, Parks Associates, a recognized expert in digital health research since 2005.

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Connected Health Summit: Engaging Consumers

Event Summary

Several common themes emerged across panels during Parks Associates’ second-annual Connected Health Summit, all of which point in a single direction—progress. This year, panelists spoke less about trials and how to get solutions off the ground, and spoke more about refining methods, validating outcomes, and improving the user experience. While many obstacles remain, industry players are optimistic that the convergence or regulatory reform, technological advancements, consumer empowerment, and new investments in this space will make a real impact on the triple aim of improving outcomes, decreasing costs, and improving access to healthcare services.

Technology and policy are advancing the consumerization of health

- Technology advances, moving in parallel with healthcare policy reforms, are pushing the consumerization of healthcare forward.
- Consumers increasingly have a financial incentive to engage in better self-care but need the tools to do so effectively.
- The growing connected health technology market aims to offer consumers and care providers solutions that close the care gap between doctors’ offices and the home while potentially alleviating costs and resulting in better outcomes.

The consumer-centric care model is growing up

- The journey to a consumer-centric care model is moving from the shallows to the deep-sea zone. The healthcare and tech industries now fully embrace the notion that the key to this successful transition is active consumer participation and engagement.
- Industry players must go beyond getting affordable self-care tools into consumers’ hands. They must also ensure that consumers find the user experience so delightful that they will continue to use them until old, bad habits are replaced by new, healthy ones.
- Such an outcome requires insight into consumers’ motivations, passions, and triggers for change, as close to the personal level as possible. Without such knowledge and insight-based solution features and programs, the tech industry’s push and care stakeholder’s pull will fail.

Personal data will drive consumer engagement

- The insights necessary for sustained consumer engagement will be enriched by personal data generated from our increasingly connected lives. Big data analytics will guide implementation of personalized care in this industry.
• Unlocking the value of data for health and well-being is a huge business challenge but also an unprecedented opportunity for both the tech and healthcare industries.

• Even though today we remain at the stage of aggregating and standardizing data, the industry is putting the pieces in place to unleash the power of data for consumer care.

**New entrants are pushing market innovation but require partnerships for success**

• The connected health market is attracting players from outside of the traditional healthcare space.

• Broadband and mobile service providers, smart home players, consumer electronics manufacturers, and app developers bring fresh ideas and new business models to the health space.

• For new solutions to be both sustainable and effective in bringing about better care outcomes, partnerships between traditional healthcare stakeholders and new entrants are essential.

**Validated outcomes are required to move to mass-market appeal and adoption**

• The connected health market is steadily moving past the trial phase, but continued market development requires that ROI and improved care outcomes be validated.

• Industry stakeholders must work together to provide investors, regulators, and payers with evidence that connected health technologies make a difference.

**Wednesday, September 9**

**Welcome and Research Presentation: Engaging the Connected Health Consumer**

Key areas of focus to move connected health technologies and services into mass-market appeal include measurability, control, engagement, convenience, and awareness.

**Speakers:**

• Stuart Sikes, President, Park Associates

• Harry Wang, Director, Health & Mobile Product Research, Park Associates

**Notes:**

• Connected health is ultimately behavioral economics, so understanding different segments of consumers is critical to providing personal services that are valuable and effective.

• Connected health devices, services, and technology need to be convenient, affordable, and high quality.
As other industries know, engaging consumers is not a one-size-fits-all task. Different types of consumers will respond to different triggers, products, and programs. Based on its consumer survey data, Parks Associates has identified 14 unique consumer segments that vary based on their personal health status, current health behaviors, level of concern about their health, technology use, and perceived need for outside help. Each segment requires a different engagement strategy.

Parks Associates Consumer Health Segmentation

Engaging Consumers for Coordinated Care

The U.S. boasts the world’s largest healthcare market, accounting for $2.8 trillion in spending, or 17.2% of the country’s GDP in 2012. Spending on treatment for patients with chronic conditions accounts for approximately two-thirds of total health expenditures. In the past, healthcare providers and insurers have tried multiple approaches to address cost, access, and quality of care challenges, with little to no success.

The Affordable Care Act (ACA), passed in 2011, is the latest attempt by the U.S. legislature to shake up the care delivery and financing models in this country. Among many of its groundbreaking rules, the
ACA mandates new care approaches in which care is coordinated among different care providers along the continuum of care. This requirement recognizes the fact that a patient may receive care not only in a doctor’s office or hospital’s ward, but also at many other touch points from other types of care professionals, such as pharmacists, dietitians, and homecare nurses. These new care engagement efforts may focus on patient education and coaching, self-assessment and monitoring, preventive care, or wellness maintenance, all requiring active patient/consumer participation and strong adherence to generate positive outcomes. For care providers who are used to intervening only when a patient becomes sick, these new care programs and their delivery methods can be a real challenge.

This panel discussed why the healthcare industry needs to quickly learn about engaging consumers for coordinated care delivery. It also highlighted the best approaches for care providers to deliver more convenient and collaborative care that inspires consumers to act more proactively on their own health and wellness.

**Speakers:**

- Chris Chan, Innovation Imagineer, *Mercer Health Innovation LABS*
- Ron Ozminkowski, Chief Scientific Officer and SVP, OptumHealth Care Solutions, *UnitedHealth Group*
- Karissa Price, Chief Marketing Officer, *Care Innovations*
- Glen Tullman, Chief Executive Officer, *Livongo Health*
- Conrad Wang, MD, Senior Director, Corporate Development, *Medtronic*

**Moderator:** Harry Wang, Director, Health & Mobile Product Research, *Parks Associates*

**Notes:**

- Consumers welcome proactive engagement from their providers and want specific advice and action plans.
- Health, like education, is slow to innovate. Consumers are currently driving changes, and the healthcare industry needs to meet that force.
- Pay-for-performance reinforces this shift to more consumer-centric approach to care delivery, because the consumer is driving such shift, which impacts providers by incentivizing them to reach out to consumers in the home setting.
- Health companies need to provide content—meaningful health information—to consumers at the right moment when the consumer is open to the information and in need of it.
- Employers are hungry for standards for evaluating quality of care; currently, different organizations and players are grading quality differently.
• The potential of coordinated care has not yet been realized because the current health system works best in vertically-integrated silos. It is very hard to formulate financial incentives that tie non-vertically integrated partners together, but the industry is trying.

• Inject humanity back into healthcare. Industry players must build in support systems for all of the non-clinical activities that may affect a person’s ability to stay on a care plan.

• Every touchpoint in healthcare is a brand marketing experience.

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**Keynote: Connected Health, the Plecosystem, and the Gift Economy**

The exponential growth of connected people and connecting data has emerged as a multi-Platform ECOSYSTEM, aka PLECOSYSTEM. Growing numbers of open collaborations and open source products are increasingly exploiting this Plecosystem to generate opportunities for health and fitness that were previously unimaginable. Social networks increasingly amplify the adoption and utility of connected tools and represent a “gift economy platform” leading to a “social and behavioral symphony of wellness.” This session defined what the Plecosystem is and how it transforms the innovation opportunities. Dr. Mattison gave examples of how the combination of connectedness and open source work is re-inventing a global gift economy.

**Speaker:**

• John Mattison, MD, Chief Medical Information Officer & Assistant Medical Director, **Kaiser Permanente**
Personalizing the Consumer Experience: Challenges and Best Practices

The U.S. healthcare industry is waging an unprecedented effort to deliver quality care at lower costs to its more than 300 million citizens. Healthcare reforms and payment model changes in recent years have pressured payers and health service providers to find innovative ways to engage consumers so that potentially costly and life-degrading health problems can be identified, and cured or prevented, at an early stage. How to engage consumers to effect behavioral change for the good has become a strong focus of the healthcare business community.

Relative to other industries that directly market their products and services to consumers, the healthcare industry is inexperienced in understanding consumer behavioral change triggers and motivators, and is less experienced in designing consumer-centric products and services. Healthcare consumers also behave differently than they do with typical consumer products and services. They may find enjoyment in buying a TV or signing up for Netflix, whereas they feel reluctant to eat healthy foods or jump on a treadmill. Thus, the healthcare industry must guide consumers on the right course for personal health and wellness through the most appropriate and effective means of engagement.

In addition to segmentation strategies, innovative companies in the connected health space are helping care providers, insurers, population health management programs, and employers to develop ways of personalizing care programs to achieve better engagement. From a technical perspective, personalization strategies can encompass the need to diversify sources of data, integrate various streams of data, produce meaningful analysis of that data, make timely and accurate suggestions to care providers, and craft messages to consumers that are digestible and impactful.

This panel assessed successful strategies for personalizing the consumer experience for better engagement and outcomes. It also discussed the challenges inherent in tailoring health services and devices to individual needs, including how to avoid overwhelming consumers as more tools and options are pushed their way.

Speakers:

- Ash Damle, Founder and CEO, Lumiata
- Chris Nicholson, CEO, mPulse Mobile
- Ralph Perfetto, PhD, Chief Analytics Officer, Eliza Corporation
- Dr. Khan Siddiqui, Chief Medical Officer & Chief Technology Officer, Higi
- Syama Sundar, Head of Healthcare ISU, TCS

Moderator: Jennifer Kent, Director, Research Quality & Product Development, Parks Associates
Notes:

- Personalized care requires an understanding of individual challenges.
- Consumers’ privacy/security concerns need to be addressed for personalization efforts.
- The key to developing personalization is having the necessary data. However, a consumer’s healthcare needs are dependent on more than just factors directly related to their health—social, emotional, and other factors often influence how consumers participate in their personal health. Companies must think outside the box to piece together the bigger picture. For example, if a patient misses a scheduled physician appointment, data that shows the weather in their area that day or the status of nearby parking can often tell more about why the patient canceled or did not show up than their health information can.
- Data collection should be considered like a conversation. Consumers often expect to receive something after they give up something, such as their personal data. If they continue to receive nothing for their contribution, they will inevitably end the relationship.
- Individuals must first trust health technology before they will embrace it and use it to its fullest potential. To that end, data collection practices must be transparent, easy to understand, and ensure data privacy.
- What motivates one consumer to engage will not necessarily motivate other consumers. The personal connection or human touch—such as a glucometer that congratulates a diabetes patient when their glucose levels are below a certain threshold—will be the driving factor in influencing consumers to increase participation in health programs.

Keynote: Wellness 3.0: Creating a Culture of Wellness to Increase Health & Productivity

Making the consumer experience pleasant, engaging, easy to manage, and targeted to the individual is vital. It is paramount that the connections we make between consumer-based devices, the data they collect, and the partnerships that we foster, help lead consumers to their next best decision. Creating a culture that instills trust, takes advantage of strong technology and business ecosystems, and is measureable over time can be the difference between whether employers and employees have a wellness program that ultimately leads to better health and wellness.

Kristine shared best practices for helping consumers learn how to choose total well-being over sickness and sadness.

Speaker:

- Kristine Mullen, Vice President, Wellness Strategies & Solutions, Humana
Incorporating Platforms into Consumer Engagement Strategies

The need to involve consumers in the care process has never been this large. Healthcare providers are in a rush to build service platforms to communicate, interact, and engage their patients. Providers need platforms to help them deliver a positive care experience and influence patients’ health behaviors, while also delivering value-based care and complying with “meaningful use stage 3” requirements for their health IT investments. Such a care service platform is not a completely new concept. Many care providers have set up a patient portal to allow patients to pay medical bills, request appointments, and review health records. But many have recognized that limited functions and a lack of interactive features significantly reduce such a portal’s ability to engage consumers.

New technology and white-label solutions are now available to help care providers improve the efficiency and effectiveness of patient engagement efforts. Many such solutions are offered as a care platform, giving providers both the versatility and flexibility to offer applications that fill the gaps in their services. These platforms also free care providers from becoming tangled in complex technology protocols, a plethora of emerging devices and applications, and increasingly heterogeneous health data sets.

“What customers want” is still an important topic, given the complexity of the healthcare system and shifting priorities of care providers and insurers as the latter respond to regulatory mandates and industry competition.

“What consumers want” is another important aspect, as care providers start to incorporate consumer needs and preferred ways to interact with the healthcare system into their business strategy. Care platform solutions providers must offer features and solutions that meet needs of both business customers and end users in order to succeed. This panel discussed the best strategies to build an effective consumer health engagement platform and tools that will increase consumer usage of and loyalty to care services.

Speakers:
- John Bojanowski, President, Honeywell Life Care Solutions, Honeywell
- David Inns, CEO, GreatCall
- Dana Park, Ecosystem Lead, Balance Rewards for Healthy Choices, Walgreens Digital Health
- Raymond Solone, Chief Marketing Officer, Sanitas, Inc.
- John Vander Meulen, General Manager, Johnson & Johnson Health and Wellness Solutions

Moderator: Harry Wang, Director, Health & Mobile Product Research, Parks Associates
Adopting a platform strategy gives consumers more choice and provides more flexibility. It allows providers to choose best-of-breed solutions, tie them into one platform, and have access to data from all of those touchpoints.

Diverse consumer interests call for an integrated approach to consumer engagement.

The consumer does not care which health system is being used behind the scenes in the places where they seek care. Instead, they care about who, specifically, is taking care of them. In order to create this connection between a consumer and a healthcare platform, a human touch is required, often in the form of a high-quality user experience.

Consumers’ needs for and within healthcare are extremely diverse—Parks Associates research shows no single need captures more than 30% of consumers’ perceived needs. Currently, there is no “silver bullet” healthcare platform that can satisfy every need. Yet, market players are not asking consumers what they actually want or need in a healthcare platform. Customers must be the main focus when developing a product, and receiving timely feedback is critical to the success of the product.

Integration must be a priority when developing a new platform. Though there is an expectation that there will be a learning curve and technical problems along the way, consumers generally expect that a platform will work with their preferred devices and other services they already use.

The platforms that are being created must be smart and the data they provide needs to be more specific information for the customer. The customer must find value in the product for it to be successful and useful.

Customer service is a largely overlooked factor in connected health. Companies need to evolve and be there for the customer in a timely manner. Customers are initially excited about new products, but companies need to pay attention to the consumer to gauge the effectiveness of the product over time. Use the smart intelligence provided through the platform to engage with the customer.

Lack of scale is the largest barrier to the success of digital health solutions in the commercial space. Industry players tend to overlook the operations and logistics side of deploying a solution.

**Integrating Wearables for Consumer Care**

The wearables market for health and wellness is on the cusp of a significant stride forward, thanks to modern wearable technologies that provide the means to collect and manage health and wellness data.
data in a more convenient and automated fashion. Parks Associates data shows growth in several wearables categories, including digital pedometers and GPS watches.

Wearable devices and their apps offer new means for consumers to manage their health and wellness. Wearables have emerged for fitness tracking, medical condition management, wellness monitoring, and personal safety assistance, among other use cases. New form factors like earbuds, headbands, patches, and smart fabrics enable the collection of new forms of data and push the use case horizon even further.

Yet these innovations also disrupt traditional health and wellness product markets. They can be used as new tools for population health management and corporate wellness programs, for instance, but also threaten traditional fitness training and weight loss services. Furthermore, care providers struggle with the potential integration of wearables-generated health data into their medical information systems.
Panelists shared their insights on the wearables market, the potential that wearables offer for healthier and better-engaged consumers, and the difficulties involved with incorporating wearables into care plans.

**Speakers:**

- David Cloud, CEO, **National Sleep Foundation**
- Ian Ferguson, VP of World Wide Marketing and Strategic Alliances, **ARM**
- Noam Kedem, Head of Business Development, **Lumo BodyTech**
- Steve Koenig, Sr. Director of Research, **CEA**
- Yelena Kozlova, Director, Product Marketing & PR, **iHealth Lab**

**Moderator:** Jennifer Kent, Director, Research Quality & Product Development, **Parks Associates**

**Notes:**

- Activity tracker adoption is growing among U.S. consumers. Re-engagement strategies are necessary for some wearables users. Most declining use is due to waning interest.
- Most wearable device owners use their device at least once a week. These devices empower each consumer to be a stakeholder in their personal health, giving them the ability to monitor their health and receive instant feedback.
- The goal for wearables is for the device(s) to take care of the owner and provide immediate and accurate data for the consumer to use effectively.
- A major limitation to wearables is power and battery issues. Currently, a wearables’ battery is just one-tenth of the power of a smartphone.
- The next move for wearables should be towards sustainability. The goal is for consumers to wear the device daily or as a routine and not to use it for fitness purposes only. Making the device a necessity for daily life would be ideal. Wearables must get better—consumers are looking for new choices, with options such as durability and waterproofing ranking high on their lists.
Keynote: Mobilizing Healthcare

Using AT&T’s network, the AT&T Internet of Things organization is working to connect people to more than ever, including cars, homes and cities. As the market shifts to a consumer driven care model, AT&T is providing solutions to make it easier for healthcare professionals, caregivers and everyday people to manage their health and wellness, empowering people to take control of their health and live life on their terms.

Speaker:
- Steve Burger, Area Vice President of Business Development & Connected Health, Internet of Things (IoT) Organization, AT&T

Investing in the Connected Health Market

The United States, like many countries worldwide, is witnessing dramatic change in healthcare that is bringing about more consumer-centric products and services. Regulators, insurers, and care providers are shifting to a patient-centered approach that engages patients as active participants in their own care management. Concurrently, design breakthroughs, technology advances, and mass adoption of mobile consumer devices have made consumer-centric care possible in ways previously impossible. Consumer electronics companies have taken note; the result is the rise of a young but very dynamic market for connected health and wellness devices that help care providers better engage their
patients as well as assist consumers with their self-care needs. This market joins other consumer-facing health technology market segments, including aging-in-place technologies and disease management.

The dramatic changes to government health legislation are, of course, giving rise to consumerization of healthcare services, giving consumers more visibility and ultimately more control over the healthcare services they select and purchase. This shift provides significant opportunities for technology products and services to serve new roles in assisting in the shopping, selection, and delivery of health services.

With smart home products increasingly offered by home security, telco, and cable companies, connected health products and concomitant cloud services are on the roadmap for service providers, who, along with care providers, are searching for convincing evidence that these products generate increasing revenues or measurable decreased costs.

This session featured investors and organizations that work to attract investment in the connected health space. The speakers assessed growth opportunities in key market segments—like aging in place, chronic condition management, and virtual care services—and current trends in funding to provide perspectives on evaluating potential partnership opportunities and practical guidance for creating a successful funding strategy.

Speakers:

- Casper de Clercq, Partner, Norwest Venture Partners
- Jeannine English, President, AARP
- Jason Russell, Director Investment Banking, Citi
- Dave Schulte, Managing Director, McKesson Ventures
- Euan Thomson, Operating Partner, Khosla Ventures

Moderator: Stuart Sikes, President, Parks Associates

Notes:

- Investors find disease management and virtual clinics appealing. They want to see companies that help consumers understand not only their health but also how technology and data can be meaningful.
The most interesting device companies are measuring interesting data. The bar is incredibly low for the ability to make an impact with data in healthcare.

Investors want actionable data—they want to know who cares and who is going to pay for it.

Companies that provide health information need to integrate it seamlessly with low effort from consumers.

Clinical outcomes are key in evaluating companies. Unlike the consumer electronics market, healthcare is very stable and predictable—there will always be millions of people with diabetes, for instance. It’s also a data-driven business; don’t do pilot programs just for the sake of it, do pilots for clinical validation.

More experimentation with business models is required.

It’s easier to see ROI with point solutions, but the industry is driving towards integrated solutions.

Investors see money in enterprise solutions right now, but to sell to enterprises, start-ups need clinical evidence or ROI data.

If you demonstrate clinical value, payment will follow. Consumers will be the biggest champions of clinical value, because it’s their health. Providers sometimes won’t support a solution with incredible clinical value if it reduces their ability to get paid (for instance, by replacing a need for services). Top advice:

- Choose investors wisely
- Have a stabilizing, intermediate business model
- Focus on clinical value
- Assemble a good finance team, CFO
Thursday, September 10

Welcome and Research Presentation: Connected Health Market Trends and Strategies

Speakers:
- Harry Wang, Director, Health & Mobile Product Research, Parks Associates
- Jennifer Kent, Director, Research Quality & Product Development, Parks Associates

Notes:
- The impact of the Internet of Things:
  - Use and availability of technology will explode
  - Driven by emotional engagement with devices
  - Disaggregation and displacement of traditional business models will accelerate
  - Traditional products are commoditized
  - Customer experience is the only differentiator
  - If you are not serving the customer, someone else is
  - No one company will dominate IoT
  - Partnerships are mandatory
  - Customer ownership is the prize—who owns the customer?
  - New, unimagined business models will emerge

Disrupting and Rebuilding: New Care Service Models for Consumers

Consumers are gaining increasingly active roles in their healthcare services. Spending is shifting from employers to employees, and personal technologies give consumers the ability to make informed decisions about their healthcare. Consumer-centric healthcare represents a radical change in the way the U.S. healthcare industry operates. For many health industry players, consumer choice, pricing transparency, and patient feedback have all been irrelevant to business operations—until now. New solutions offer consumers the ability to compare, rate, and review their physicians and care facilities online and even gain insight into the costs of specific procedures. In other cases, technologies and solutions provide care services when and where it is most convenient for the consumer—at retail clinics or in the home.
Though these activities are relatively new, Parks Associates data shows consumers are already showing interest—7% of consumers in U.S. broadband households report using a health portal of some kind to engage in a real-time video consultation with an online doctor or nurse, a figure that rises to 13% in households with children. 11% of broadband households have used a portal to calculate health expenses, an activity primarily happening through insurers’ websites.

These new tools arm consumers with knowledge that had previously been very difficult, if not impossible, to access. Now that consumers can make more informed choices, care providers must evolve their way of engaging new and existing patients. This is particularly important now that consumers have more choice of when and where to receive many care services. Providers must demonstrate to consumers that they offer high-quality care that is also responsive, convenient, and cost-effective.

Insurers are also grappling with disruptive products and services. While connected solutions promise to bring costs down and increase compliance with care regimens, payers must evaluate the real ROI and effect on outcomes of the many solutions on market. Furthermore, new convenience care options may threaten the existing provider network model, forcing insurers to make plans for an uncertain future.
In this panel, speakers discussed the ways in which greater consumer knowledge in the shopping process, as well as increasing options in the ways in which consumers receive care, is shaking up healthcare.

**Speakers:**

- Lena Cheng, MD, Vice President, Medical Affairs, **Doctor on Demand**
- Aneesh Kumar, Vice President, Enterprise Product Solutions, **Cigna**
- Patrick Leonard, CTO, **iTriage**
- Jeff Mahan, Executive Vice President of Sales, **HealthSpot**
- Leigh Ann Ruggles, EVP, Business Development and Client Success, **MDLIVE**

**Moderator:** Jennifer Kent, Director, Research Quality & Product Development, **Parks Associates**

**Notes:**

- Consumers are shifting health service consumption to online services.
- Insurers are offering new services to encourage proactive self-care.
- Industry leaders see convenient care as the top disruptive force in healthcare.
- Success in the health industry will not come from looking at or following peers, but from looking at companies outside the traditional market.
- The access point is key—like in the retail market, self-service will help engage consumers.
- Consumers need the opportunity to try out a new technology before adopting it.

**Keynote: Using Technology to Connect the Dots in the Retail Health Space**

Retail healthcare, electronic medical records, and telemedicine are three relatively recent innovations in the healthcare space. This presentation gave insight into both the retail healthcare model as well as how MinuteClinic, the largest provider of retail healthcare in the nation, is using technology to expand points of access while connecting with existing healthcare systems.

**Speakers:**

- Tobias Barker, MD, Vice President of Medical Operations, CVS/MinuteClinic, **CVS Health**
Connecting the Dots: The Roles of Service Providers in the Connected Health Market

Developed and developing markets around the world, including the United States, are facing major challenges in the healthcare space. National economies are burdened with rising healthcare costs, made more severe by aging demographics for citizens and inadequate legacy infrastructure. In many markets, access to healthcare services and quality of care is inconsistent. However, healthcare markets everywhere are changing. Due to a confluence of government initiatives, technology innovations, and a growing sense of health consumerism, healthcare markets around the globe are transitioning toward connected, high-quality care that is more accessible and potentially more affordable.

In the U.S., the prospect of a booming digital health industry is hindered by legacy and proprietary health information systems, poor interoperability between such systems, and a reimbursement environment slow to adapt to digital health technology innovations and new care service models. These challenges can become business opportunities for broadband and smart home service providers if they find their sweet spots in the value chain and offer strong value propositions to their healthcare customers and partners.

Consumerism in healthcare opens further opportunities for these service providers. They can experiment with new direct-to-consumer services in the health and wellness space or leverage their experience selling to consumers and managing consumer relationships to build partnerships with healthcare players with little to no expertise in a consumer-centric market. Indeed, consumer-centric healthcare represents a radical change in the way the healthcare industry in the U.S. operates. For many health industry players, consumer choice, pricing transparency, and patient feedback have all been irrelevant to business operations—until now.

Finally, the Internet of Things looms large just over the horizon and connected health is one in a series of connected services that service providers are launching to ensure a strong foothold in the IoT market of the future. Their growing connected health businesses are in alignment with the home broadband access, entertainment, connected car, and home controls services that these service providers have already established or are in the process of developing.
Service providers’ connected health opportunities are summarized in the figure below.

This panel examined the roles of broadband and wireless service providers in supporting connected health rollouts, and areas that service providers can develop their own care solutions, such as the aging-in-place market. Executives provided their unique perspective about the best approaches to integrate technology with consumer healthcare.

**Speakers:**
- Don Boerema, Chief Corporate Development Officer, **ADT**
- Pete Gerstberger, Vice President and General Manager, **Zonoff**
- Nancy Green, Global Practice Lead - Healthcare Strategy & Thought Leadership, **Verizon**
- Syed Zaeem Hosain, Chief Technical Officer and Founder, **Aeris Communications**
- Benjamin Sarda, Director of Product Marketing, **Orange Healthcare**

**Moderator:** Harry Wang, Director, Health & Mobile Product Research, **Parks Associates**

**Notes:**
- The chief concern among caregivers is their loved one falling and not being able to get up or call for help. Consumers need to be able to trust services that can alert them when an accident occurs or, in the future, alert them about the risk of fall.
ADT has more sensors in the home than any other company (security system, garage, appliances, doors, lighting, medical solutions, fall detection, health, energy management, entertainment).

Extending the current healthcare ecosystem (extending, not replacing), being open to partnerships, delivering great customer experience, and full integration in order to provide real-time data to patients, caregivers, and doctors are the keys to growing the connected health market.

International markets also boast good growth opportunities for service providers, and in many countries, the mobile infrastructure is the preferred option to deliver care to consumers.

Keynote: Connecting What Matters in Health and Care

It’s no secret that healthcare is changing rapidly. Payment models are shifting, and organizations are under pressure to reduce costs and improve health outcomes. Thriving under these pressures requires complete, accurate data to be shared across the entire continuum of health and care. Creating a culture that supports improving health of a population requires a variety of strategic approaches and the involvement of multiple stakeholders such as consumers, employers, and health systems.

Attendees heard from Mike Heckman, Cerner’s Vice President of Population Health Services, as he offered a unique perspective on the healthcare landscape. He also shared a few ways in which Cerner is working to connect the key stakeholders in healthcare to create systemic improvements in health and care across communities around the world.
Speaker:

- Mike Heckman, Vice President, Population Health Services, Cerner Corporation

Empowering Patients and Care Providers: Smart Sensors and Technologies for Connected Care

Since 2010, new product designs and the rise of smartphones/tablets have invigorated the consumer health market. These innovations offer new means for care providers to engage their patients. New designs of home-use medical devices take advantage of the robust features of smartphones and tablets by using these mobile devices as hubs for health sensor-generated data. Consumers can view their data in a dashboard and share that data with family members or physicians. Care providers are not only starting to use smartphones and tablets in their work routine, they also hand out tablets loaded with care apps to patients for a variety of tasks. These include managing recently discharged patients, reminding patients of missed medications, or letting family caregivers check on loved ones for peace of mind.

These innovations empower both consumers and care providers, but also bring complexity to a healthcare system known for its slowness to adapt to new technology and care models. As care becomes more integrated and collaborative, the requirements on information sharing and authentication as well as the need to turn a wide array of health and wellness data into meaningful insights to both patients and their care providers are escalating. On the infrastructure side, choices of health sensors, the way sensor data is aggregated and communicated, and functions of smart algorithms are both a technology and a business decision for their adopters.

This panel examined the requirements of an interconnected and interoperable connected care environment and discussed the roles of intelligent sensors, smart algorithms, and integrated care tools in enhancing patient care experiences from hospital to home.
Speakers:
- Joe Liu, CEO, MivaTek
- Adam Sabloff, CEO, Virtual Health
- Bill Scheffler, Director of NA Sales and Business Development, Sigma Designs/Z-Wave
- Mark Walters, V.P. Strategic Development, ZigBee Alliance
- Patrick Wheelock, Vice President of Business Development, PokitDok, Inc.

Moderator: Harry Wang, Director, Health & Mobile Product Research, Parks Associates

Notes:
- Digitized caregiving tools mean a lot to families with aging parents or loved ones with chronic illnesses.
- All want a solution to easily disseminate the various loads of data into enhancing healthcare solutions.
- An integrated health ecosystem requires interoperability, the right tool sets, reporting, and analytics. But human behavior is a problem for reliable use of the tools; passive monitoring is the future.
Finding a common standard to work with is critical to integrate devices and services. Z-Wave and ZigBee provided insight to the same struggle of smart home/home automation, connected CE, etc. APIs can be effective for making the handshake between two devices in the cloud, rather than requiring that they make the handshake directly between the devices.

Fireside Chat: Integrating Health Analytics into Business Strategies

As care provider and consumer adoption of connected health devices increases, so does the data generated from these devices. With proper analysis and context, this valuable data promises to improve diagnosis accuracy and care decision making, provide new insights into treatment efficacy, arm consumers with new insights into their own conditions and behaviors, and help providers and payers identify how best to reduce costs.

From a consumer perspective, health data is personal and some are concerned about the security and privacy of that data. 35% of consumers in U.S. broadband households report that they are “very concerned” that their personal health information will not remain confidential. Yet, health consumers see the promise of real, tangible benefits of sharing their data. For instance, 42% of digital pedometer owners would be willing to share the data from the device for a discount on health insurance premiums. 28% of glucometer owners would be willing to share the data for discounts on related products and services. Few health industry players have tapped into this potential data resource.
Still, the fragmentation of data sources and the current inability of health organizations to utilize much of this data limit its value. This fireside chat will explore strategies for making effective use of health data and analytics platforms so that health data can be used in a safe but meaningful way.

This session provided insight into platforms and strategies for integrating health analytics into care treatment plans, research and product designs, and institutional operating and marketing plans. It addressed how data analytics can test and validate outcomes and improve clinical decision-making.

**Speakers:**
- Dean Sawyer, Co-Founder and CEO, *Sentrian*
- Drew Schiller, CTO and Co-Founder, *Validic*

**Moderator:** Jennifer Kent, Director, Research Quality & Product Development, *Parks Associates*

**Notes:**
- The data that holds the greatest value for health purposes is real-time data on consumer activities outside of traditional healthcare. What is actually happening to the patient right now or on a daily basis? What other factors affect his or her condition? Remote health data is, and will be, incredibly valuable.
• An analytics solution is best designed when the problem the organization is trying to solve is identified up front, before data collection begins.

• Data is most effectively used under the following conditions:
  o The data solutions know and understand the patient’s diagnosis
  o Physicians are not overwhelmed by the data, but are notified only when they need to make a decision
  o The data provided to the physician is actually helpful in figuring out what next steps to take
  o Consumers are contacted at the right time and encouraged to take the right action for their current health status
  o Information is communicated to consumers in an actionable way

• Solutions like Validic and health dashboards like Apple’s Health app are aggregating user-reported health data streams. However, industry executives expect the meaningful integration of medical and user-generated data to be 3-5 years away from reality.

• The future of data collection and analytics:
  o Will see more continuous health monitoring and more consumer-accessible products
  o Genomics will be used to really personalize treatment plans

Making Sense of Partnerships in the Connected Health Market

Technology has improved people’s lives; it also has transformed many industries by pushing for changes and has ushered in new players that disrupt incumbents’ businesses. Healthcare is one of the most complex industries, and is a market that, in the past, has been more resistant to technology adoption than many others. That perception is changing rapidly—technology-enabled innovations in products, services, and business models have laid a solid foundation for the upcoming transformation of the global healthcare industry. Not only have core health IT technologies, such as EMRs, been rapidly adopted, major decision makers—including governments, physicians, insurers, and consumers—have also recognized the value of technology and have shown a strong willingness to explore new means to deliver or receive care in a better, more cost-effective way. These initiatives point to a future when high quality healthcare services are more conveniently delivered to consumers without the geographical, infrastructural, and economical restrictions today.

The rising connected health market has inspired a significant number of innovations in devices, applications, and services. Open APIs are enabling partners from different industries to collaborate for new consumer health and wellness experiences. Healthcare stakeholders welcome this wave of innovation but are also overwhelmed by the breadth and depth of changes and potential disruptions.
They must sift through numerous requests to identify the best partners to work with towards well-aligned business goals, while also addressing interoperability issues.

Partnership opportunities are especially rich in areas where care providers now have to actively engage patients in order to meet their business goals. This is also an area where traditional care providers have limited experience or are unfamiliar with the latest technologies and tools that can help them improve operational efficiency. These areas include patient education and communications, chronic care coordination and management, transitional care and caregiver support, and virtual care/telehealth services, among others.

This panel examined the attributes of a successful partnership, with healthcare stakeholders and technology solution providers sharing their partnership experiences and the critical elements for success.

 Speakers:

- Keith Epstein, Senior Strategic Advisor, AARP
- Maneesh Goyal, SVP, Corporate Development, Welltok
- Kevin Meagher, SVP Business Development, ROC-Connect
- Jim Roxburgh, RN, MPA, Director, Dignity Health Telemedicine Network
- Dennis Upah, Executive Vice President, Enterprise Markets, Remedy Health Media

 Moderator: Harry Wang, Director, Health & Mobile Product Research, Parks Associates

 Notes:

- Companies can’t be everything to everyone, trying to compete, provide value, and create social impact—partnering is the more effective way to get there.
- Collaboration and partnership are driven by:
  - Deepening health reform
  - Whole-person approach
  - Complex technology and the challenge of interoperability
  - A surge of innovations
- Players need to create convergence, collaboration, and experience.
- The future belongs to platforms that enable people to empower their lives.
- The healthcare industry needs to change its mindset from treating “patients” to treating consumers: people have the power to make a choice for their healthcare services.
Successful partnerships dedicate staff to the partnership, have aligned interests, and commit to the joint project or solution.

Partnerships don’t typically fail on strategy; they fail on execution. Good partnerships build in flexibility.

Open Talk: Applying the Conference Experience to our Business

Parks Associates’ analysts Harry Wang and Jennifer Kent facilitated an open and interactive dialog on the conference topics and beyond. Through an open Q&A exchange, speakers and attendees shared their greatest insights on connected health, including unique business models, bold predictions, and practical recommendations. This concluding session gave participants a final opportunity to share their thoughts and immerse themselves in a peer-learning experience.

Moderators:

- Harry Wang, Director, Health & Mobile Product Research, Parks Associates
- Jennifer Kent, Director, Research Quality & Product Development, Parks Associates

Notes:

- So many people are truly passionate about improving healthcare and yet so little time is spent on patient engagement.
- Across all ecosystems, there is openness to changing how the industry provides healthcare. Physicians’ attitudes are shifting from “I provide care” to “I want to provide quality care,” and the connected home can be used to provide higher quality care through device and system integration.
- Health technology isn’t a gimmick anymore. Innovation is occurring, and now the industry needs to execute to provide seamless and good experiences to consumers that show the value of new technologies and services.
- Chris Nicholson of mPulseHealth highlighted several key takeaways from the event:
  1. Personalization is possible and we need to be more marketing minded.
  2. Engagement needs better definition.
  3. Companies need to integrate to get the value from healthcare data.
  4. You must partner to succeed in this rapidly changing environment.
  5. Listen to your clients and consumers.
  6. The data point that it will take five years for health data to be used effectively is disappointing.
  7. Remember that people are not their disease.
8. More is not better and the smaller event format was most effective.
9. Fat middle… You had to be there.
10. Parks Associates is on point and focus of summit was well received.