

Patient Engagement

*The Future State of Technology
Driving Patient Engagement*



**Al Kinel – President,
Brett Kinsler, DC - Partner, Clinical Services & Informatics
Strategic Interests, LLC**

Rochester Digital Health eco-System

Fact: Global Digital Health & Health IT sectors are exploding and Patient Engagement is a key part



Our community has assets to be a digital health leader, *but* we lack critical mass, branding, alignment, & focused economic development to accelerate innovation and growth of new projects and ventures

Inspiration:

- Adoption of digital health by providers, payers, collaboratives, etc.
- Increase activity to start, attract and grow digital health companies
- Declare the strength of our digital health eco-system – and “sell it”

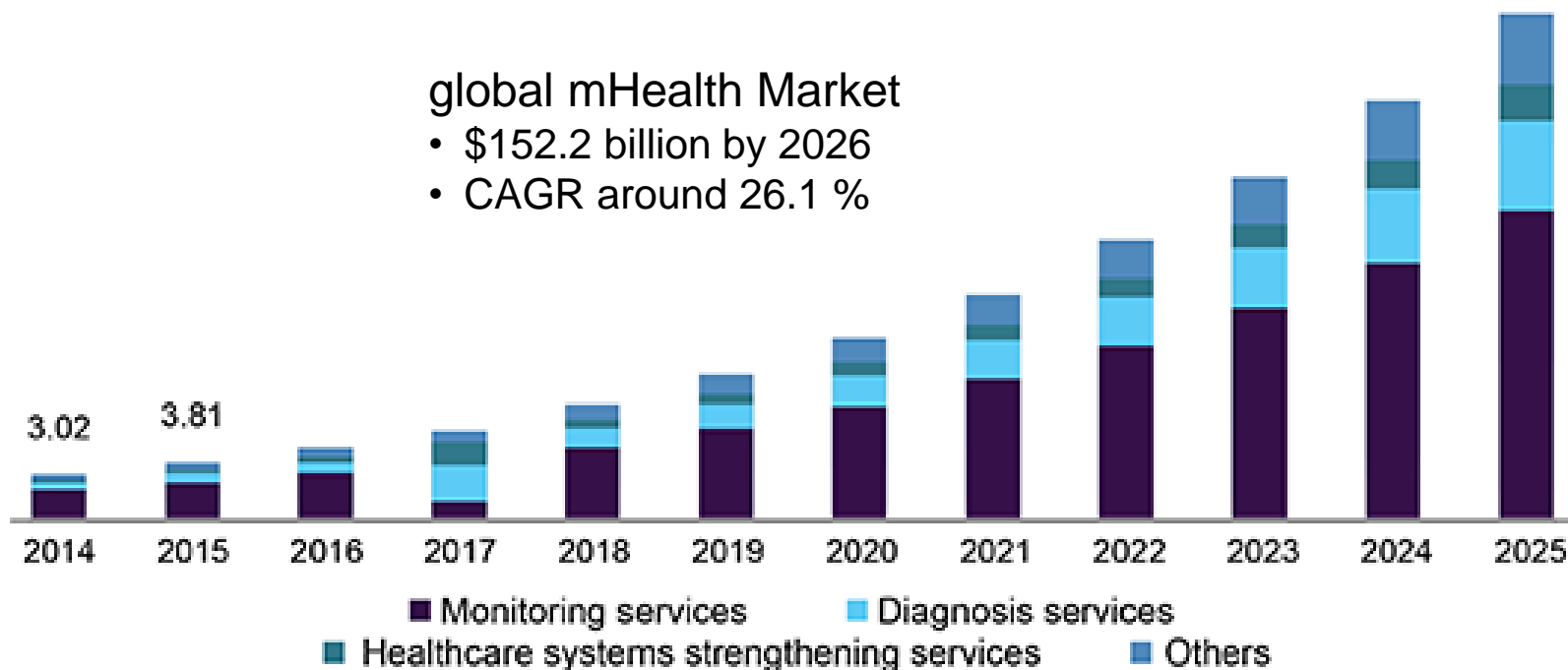
Look for these symbols in our presentation

Agenda

1. The Patient Engagement Explosion
2. What the Future Holds – Patient Engagement Technology
3. Barriers & Pitfalls to Attaining the Benefits of Patient Engagement Technologies
4. How to Succeed with Patient Engagement Solutions

Patient Engagement Technology Explosion

U.S. mHealth market size, by services, 2014 - 2025, (USD Billion)



Source: www.grandviewresearch.com

Patient Engagement Technology Explosion

ADOPTION OF DIGITAL HEALTH TOOLS 2015-2019



Center for
Digital Health



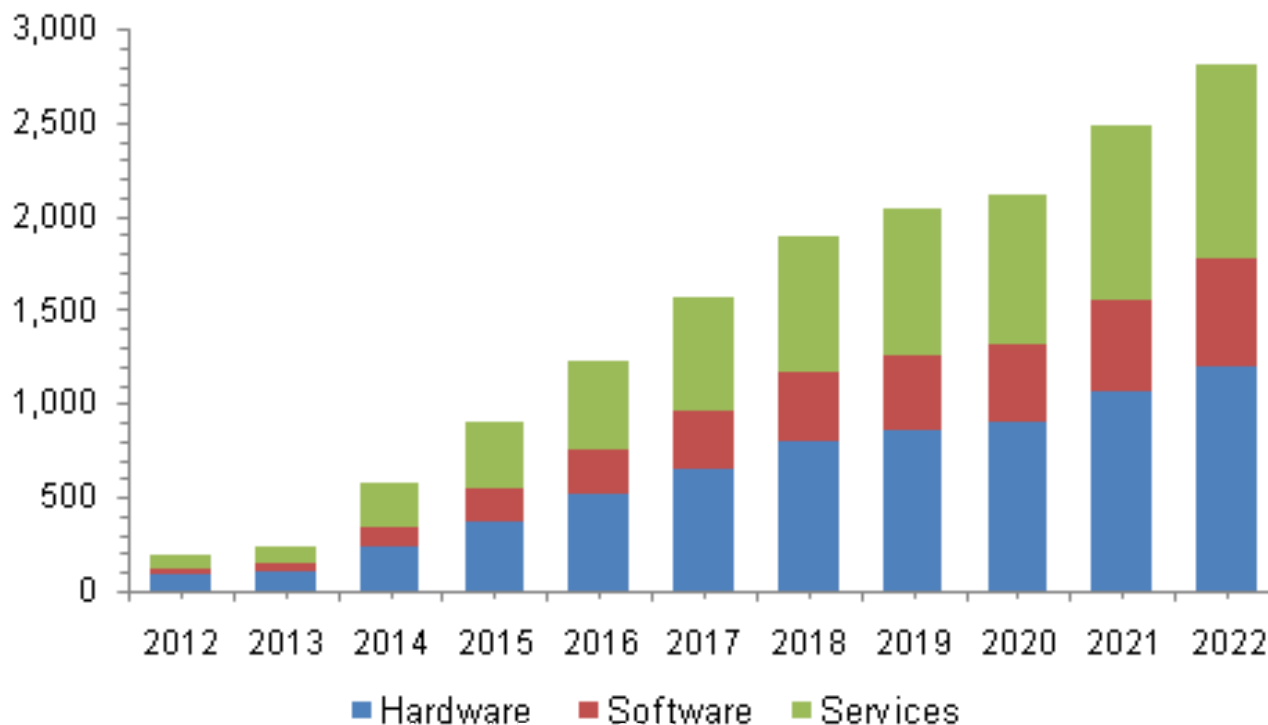
Source: Rock Health 2019 Digital Health Consumer Adoption Survey data (n = 4,000)

Telehealth Adoption Rates

Use of Telehealth is Finally Growing – and Expected to Explode

US Telehealth Market Size

Sales (\$mil)



Patient Engagement Explosion – Perfect Storm



1. Consumerism & Demand



2. Disruptors – Major Moves Disintermediating Incumbents



3. Phenomenal Innovation Breakthroughs



4. Ubiquitous Smartphones, Portals, Other Self-Service Tools



5. Regulatory & Reimbursement Changes - VBP



6. Organization Initiatives that Leverage Patient Engagement

Consumerism - Expectations

McKinsey & Company *Consumer Health Survey 2015*

the Modern Consumer

1950s PRODUCTS AND STYLE

A NEW WAVE of consumerism swept across much of the population of the United States during the 1950s. Driven by a thriving postwar economy, designers utilized bold styling to transform everyday objects into visually expressive items, and manufacturers unleashed an array of products to keep pace with demand. Stores carried everything from portable televisions and pocket-sized radios to space-age toys and plastic dinnerware sets. Many families adorned their homes with modern furniture, automatic appliances, and a variety of products deemed the latest and greatest things.

around the automobile. Throughout the decade, automakers debuted distinctive models every year. Two-toned cars finished in colors such as Sunray Coral and Seaford Green sported tailfins, wrap-around windshields, and flashy chrome trim, an unprecedented boom in auto tourism, more than 61,000 motels were constructed by the early 1960s along America's highways and byways. Around town, teenagers took to "roving," a social fad that involved simply driving from one location to another. Popular destinations included the multitude of drive-in movie theaters and carhop restaurants that appeared almost overnight.

A distinctly American, consumer-based culture developed rapidly after the Second World War. As the population of the United States soared during the 1950s, median family income doubled and the gross national product grew by more than \$200 billion. Advertising and credit expanded rationing and restraint, and a growing number of middle-class families engaged in a spending spree. While the expansion of the middle class and a corresponding rise in consumerism reached many communities, product package design and advertising images reflect the discrimination based on race, ethnicity, and gender that prevailed at this time.

At home, television exerted a profound influence on the development of a modern, consumer-based popular culture. TV lamps glowed atop television sets while families ate pre-packaged TV dinners on Melrose Place, networks divided viewers into target audiences and advertisers spent large sums to promote their products. Official toys and games were marketed alongside children's programs and television serials. Performers such as Fats Domino and Elvis Presley reached millions of TV viewers, searching rock 'n' roll into the mainstream and a craze for 45-RPM records. From tabletop jukebox selectors and portable record players to battery-powered robots and space-themed lunchboxes, the exhibition presents examples of products driven by the rise of consumerism during the 1950s.

The number of cars on American roads doubled from 1945 to 1955, indicating a rising culture of consumerism centered

Facebook Twitter Instagram @SFMuseum #1950sConsumer To receive exhibition announcements, subscribe at www.sfmoma.com/newsletters



MYTH #1 HEALTHCARE IS DIFFERENT FROM OTHER INDUSTRIES.

Consumers don't bring the same expectations about customer experience to healthcare that they bring to retail or tech companies.

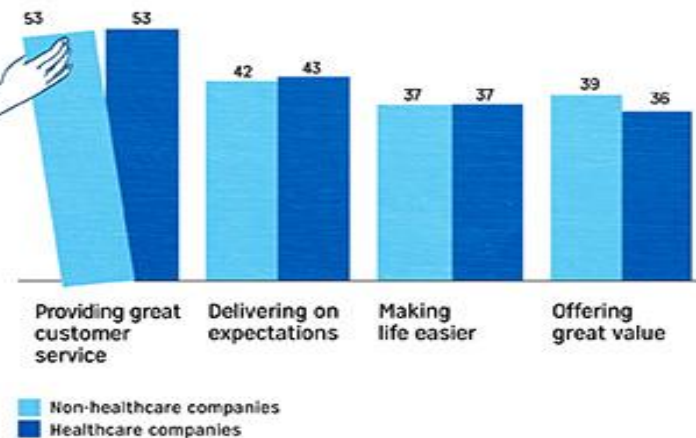


REALITY

Our findings indicate consumers have similar expectations for healthcare and non-healthcare companies.

Participants were offered ten traits and asked to select three they thought mattered most.

Here are traits consumers value in companies:

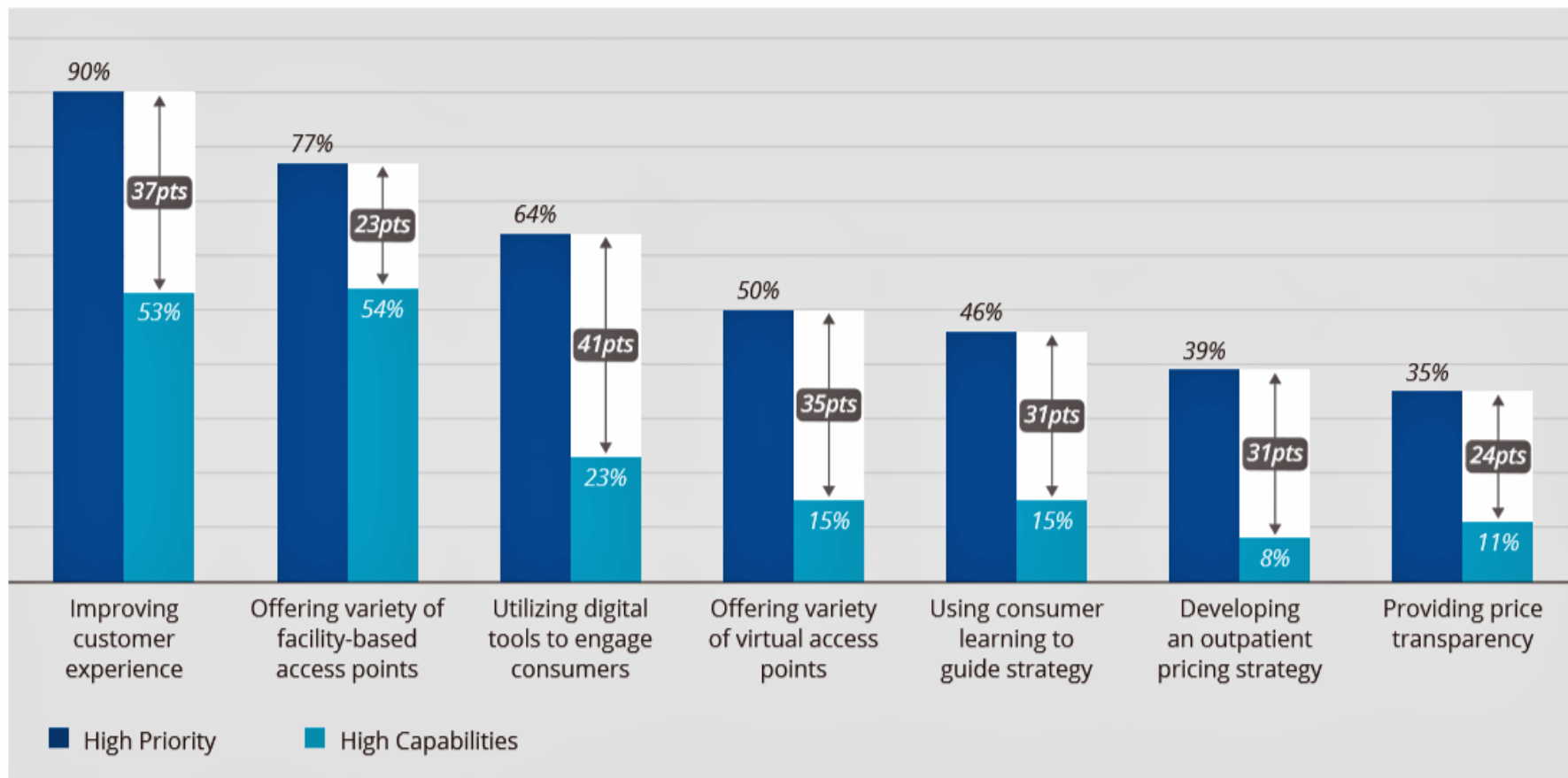


- Consumers demanding as much in healthcare as other industries
- We know the impact of consumer demands

Consumerism – Expectations

What is Important AND Missing?

The Priority-Capability Gap

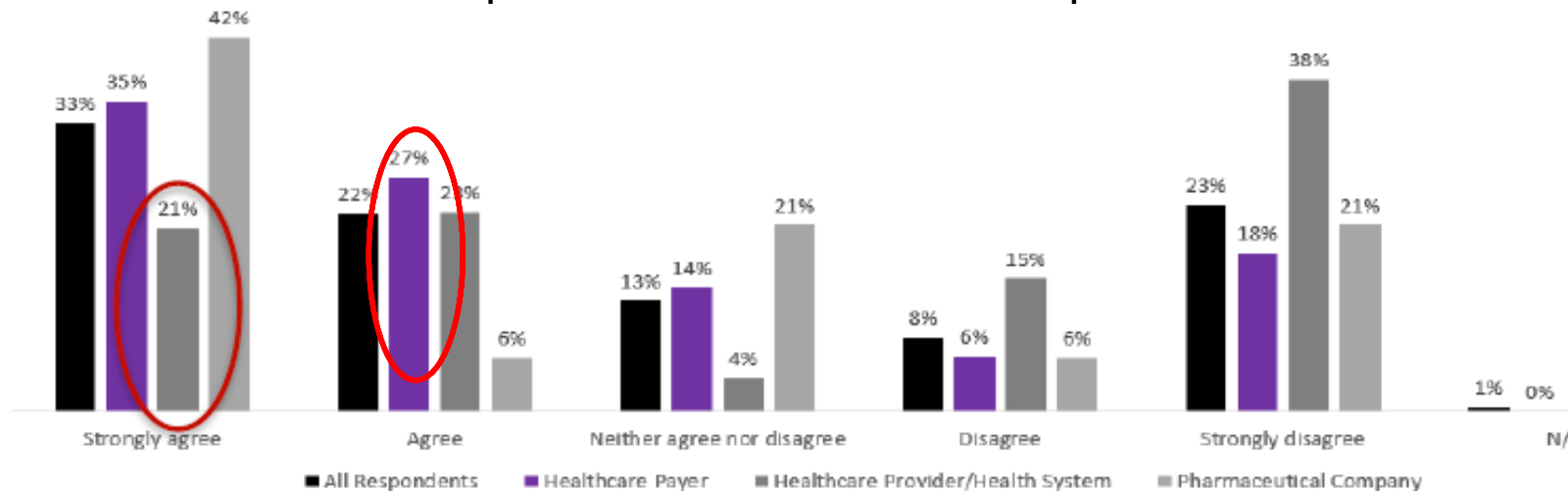


Source: 2018 Kaufman Hall Healthcare Consumerism Survey

Consumer Demands & Action

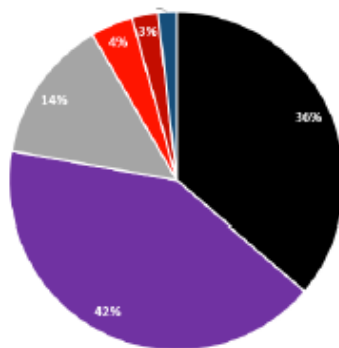
Engagement Drives Patient Choice

Providers believe 44% of patients would leave due to poor communication



But the risk is much greater

I would switch doctors due to poor communication or engagement



78% agree

■ Strongly agree ■ Agree ■ Neither agree nor disagree ■ Disagree ■ Strongly disagree ■ N/A

Demand for Patient Engagement

Digital Demand

HIMSS19

There is massive digital demand for health and wellness experiences

72%

of people researched health online

77%

of health inquiries start with search

58%

refilled their prescriptions online

32%

measure fitness goals via app

31%

pay their medical bills online

24%

monitor their health issues with devices

18%

research care costs with insurer tools

17%

get alerts for treatment or medication

#HIMSS19

Sources: Pew & Deloitte University Press

Consumerism Driving Telehealth Adoption

Top three benefits of virtual care relate to patient experience

Survey question: What are some of the benefits of virtual care technologies?



Improved patient access to care



Improved patient satisfaction



Staying connected with patients and their caregivers

Other benefits:

42% Improved care coordination, outcomes, and quality of care

32% Potential to improve workflow

42% Potential to improve cost effectiveness of care

28% Staying connected with my peers and other clinicians

41% Increased flexibility to clinician's schedule

11% I don't see any benefits

→ **9/10** PHYSICIANS SEE BENEFITS OF VIRTUAL CARE TECHNOLOGIES

Statements by Patients

Use of technology important to managing my healthcare **72%**

Want to use smartphones to with healthcare providers **54%**

Want better access to mHealth and telehealth tools **78%**

More likely to select provider with online or mobile visits **79%**

Ready to adopt mHealth and technology in treatment **66%**

Millennials who prefer telehealth to in-person visit **60%**

Millennials who want providers to use app for appointments, share data, manage care **71%**

Telehealth Virtual Care Models

“Telehealth has the potential to reform and transform the industry by **reducing costs and increasing quality and patient satisfaction.**”

— Health Affairs, February 2014

Direct to Consumer

- Replace some urgent care / PCP visits
- Chronic disease management checkups
- Initial consult with specialist – 2nd opinion
- Monitor patients at home (with-w/o Home Health services)
- Clinical trials: recruitment & retention

Institution-Centric

- Hospital link to LTPAC to reduce readmissions
- Rural hospital/clinic link to tertiary care to care for trauma and complex cases

Provider to Provider

- Second opinion
- Integrate behavioral health / primary care
- Store & Forward
- Education (MDs, nurses, mid-levels)

Who Is Disrupting Healthcare?

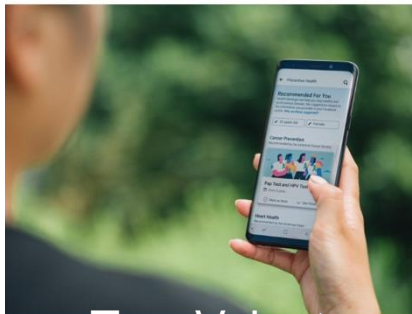
facebook

amazon



October 28, 2019

Connecting People With Health Resources



Facebook is developing products and partnerships that can help people connect with resources to support their health. Today we're sharing our initial thoughts on this work, including a new Fire TV Health tool in the US.

HOW AMAZON'S 'HAVEN' VENTURE COULD IMPACT ALL ASPECTS OF THE HEALTHCARE INDUSTRY

The healthcare industry has never experienced anything like Amazon's combination of powerhouse logistics, voice AI expertise and robust data analytics. And the impact could be

FierceHealthcare

HOSPITALS & HEALTH SYSTEMS TECH PAYER FINANCE PRACTICES RE

Payer

Haven teams up with Aetna, Cigna to offer plans to JPMorgan workers

by Paige Mueneyer | Nov 5, 2019 12:31pm



Haven is teaming up with Cigna and Aetna to offer health plans to JPMorgan workers in two states. [@StockAdventures](#)

Haven is partnering with two national health insurers to launch the first salvo in its attempt to disrupt the healthcare system.

The joint venture between Amazon, JPMorgan Chase and Berkshire Hathaway will offer health plans to 30,000 JPMorgan workers in Ohio and Arizona for 2020 that are backed by Cigna and CVS Health's Aetna, Bloomberg reported. Amazon will also offer coverage to workers in Connecticut, North Carolina, Utah and Wisconsin that it

Best Buy's Healthcare Strategy: 5 Million Seniors in 5 Years

New CEO Corie Barry unveils the company's new business direction.



Anne Burdakin (TMF10sgrrl)

Oct 1, 2019 at 1:53PM

It wasn't long ago that **Best Buy** ([NYSE:BBY](#)) seemed headed for a slow, certain death, thanks to **Amazon**. Customers were increasingly visiting Best Buy only to look at electronics, then leaving to buy them online. Best Buy's greatest assets -- location and number of stores -- were quickly becoming liabilities. The future looked grim.

But Best Buy wouldn't go without a fight. Former CEO Hubert Joly successfully turned the company around by prioritizing excellent customer service, both at the stores and in customers' homes. As technology expanded, the house-call model proved key, as consumers needed help with everything: TV remotes, home-security setup, smartphones, laptops, TVs, garage-door openers. Best Buy's Geek Squad and tech advisor ranks swelled to 20,600 employees.

Customer loyalty grew, too. Joly improved Best Buy's

Who Else is Disrupting Healthcare?

October 21, 2019 01:09 PM

Cleveland Clinic, American Well partner to launch digital health company

Lydia Coutré

TWEET SHARE MORE



Cleveland Clinic and Boston-based telehealth company American Well are forming a joint venture digital health



Walmart SHOP

Our Goal of Becoming America's Neighborhood Health Destination: Introducing the Walmart Health Center

f t in e



HEALTH TECH STAT+

Google, Mayo Clinic strike sweeping partnership on patient data

By CASEY ROSS @caseymross
SEPTEMBER 10, 2019



MedCityNews

TELEMEDICINE

Sony launches new B-to-B mobile health platform including a wearable

While the Apple Watch and other wearables have made significant inroads in the consumer arena, Sony felt the market could use a more robust B2B approach.

By JOSH BAXT

Post a comment / Oct 16, 2019 at 7:58 AM

t f in e



Others



Why Patient Engagement Explosion?

Disruptors

Uber encroached taxis by ability to meet unmet needs:

convenience – reliability – transparency – cost – personalization

Coming to Healthcare – Use Them – or lose



An integration that lowers the barrier to care

Streamline non-emergency medical transportation (NEMT) using Uber Health, directly from Cerner's electronic health record (EHR).

Uber Health chief: With 1,000+ partners, the question is no longer, 'What the heck is Uber doing in healthcare?'

Morgan Haefner - Monday, June 24th, 2019 [Print](#) | [Email](#)

[in](#) SHARE [Tweet](#) [Share 39](#)

Four million medical appointments are missed or delayed every year because patients can't get to their appointments due to transportation, data shows. That's \$150 billion in cost to the healthcare system each year that rideshare companies like Uber and Lyft are looking to address.

Dan Trigub, head of Uber Health, told *Becker's* at the AHIP Institute & Expo that when he attended the conference three years ago as a leader of healthcare partnerships at Lyft, attendees questioned why a rideshare company was at a health insurance industry meeting.

"Three years ago, the conversation was, 'What the heck is Uber doing in healthcare? You're just taking a millennial to a bar on a Friday night,'" Mr. Trigub, who has been head of Uber Health for six months, said during a June 19 interview in Nashville. "But that couldn't be further from the truth in terms of how we can help underserved populations."



[Today's Daily Briefing](#) | [View the Archives](#) | [Print Today's Stories](#)

The \$24B question: Is Lyft about to transform health care?

10:50 AM - April 2, 2019

By Jackie Kimmell, Senior Analyst

When Lyft filed for its initial public offering (IPO) last month, one fact became increasingly clear: The company is hemorrhaging money. The company reported a net loss of \$2.3 billion over the past three years, and it's not sure it can be profitable in the future. "We have a history of net losses and we may not be able to achieve or maintain profitability in the future," the company wrote in the filing document.

[Four lessons on reducing no-show rates with hospital-provided transportation →](#)

Yet, on Friday, Lyft vastly outperformed expectations when it began public trading. Lyft shares opened up 20% at \$87.24—giving it a market value over \$26 billion (and making it one of the most valuable American companies to go public in the past decade).

So why were investors (at least initially) so bullish on the company? Because of the future it promises—a big part of which is driverless cars. The company says they want autonomous vehicles to provide most of its trips within the next five years. However, this goal is quite optimistic, as the technology and regulatory environment



Phenomenal Innovation Breakthroughs

1. Sensors and PGHD



2. Artificial Intelligence / Machine Learning



3. Communication, Admin, Phones & Apps

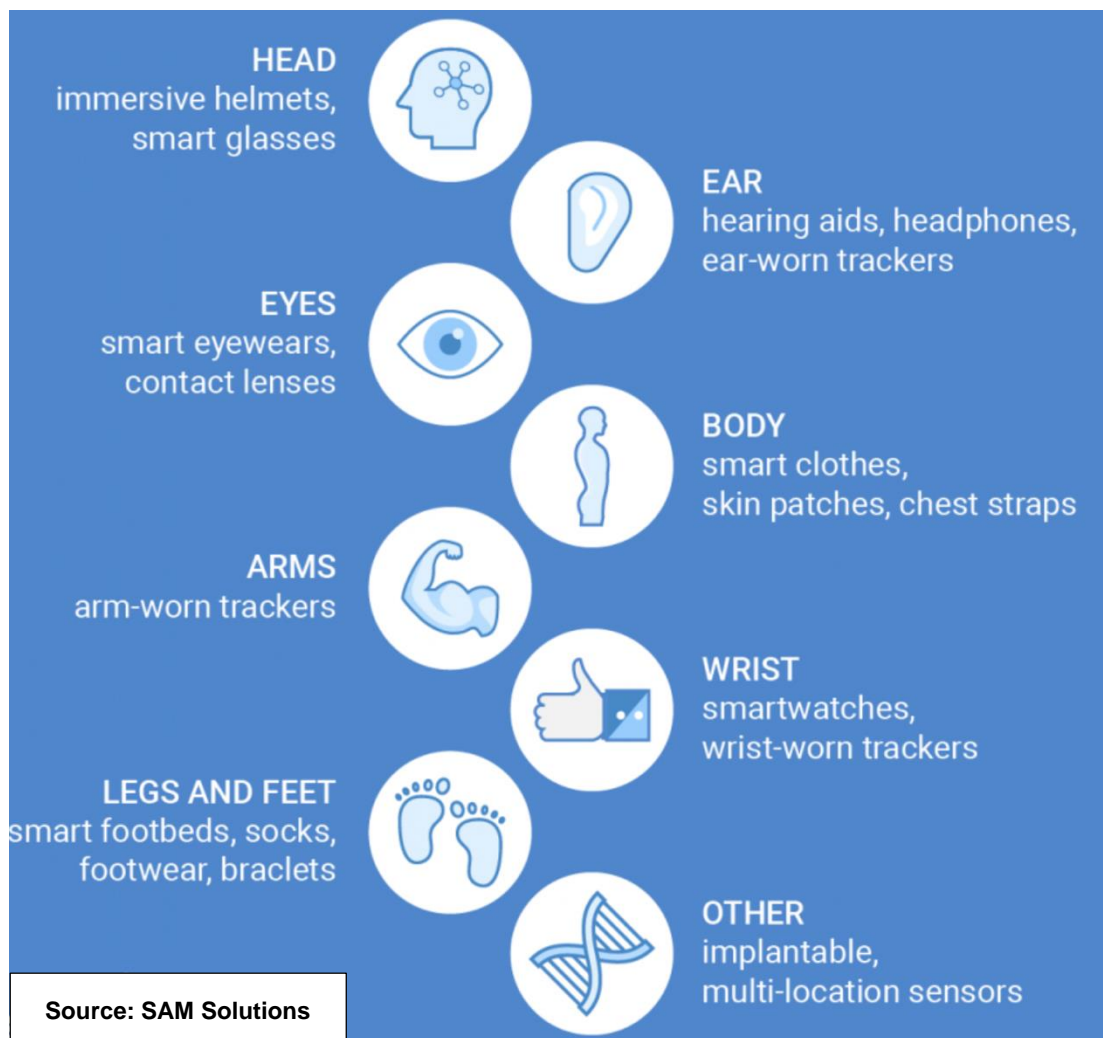


4. Personalized / Precision Medicine



Breakthrough Sensors and Wearables

Types of Sensors Used in Devices for Healthcare



Source: SAM Solutions

Remote Patient Monitoring (RPM)

Patient Generated Health Data (PGHD) & Patient Reported Outcomes (PRO)

PGHD: Data created/recorded from patients outside clinical setting to address health concern

PRO: Patients report health, quality of life, or functional status related to treatment

RPM: Monitoring patients in-home (or elsewhere) by collecting biometric and behavioral data and alerting caregivers when intervention is needed

- Most provider RPM programs have been able to keep patients out of hospital, reducing:
 - Readmissions
 - ER visits
- Even those new to RPM have had success and are shifting from pilots to broad deployment
- Some deploy by payer, by disease, by risk-profile, or for other factors

Proliferation of wearable devices, online questionnaires, mobile apps, and analytics has increased types, frequency, amount and uses of PGHD

Applications of Devices & Wearables

Clinical Conditions & Vitals

Monitor patients between encounters experiencing:

- Diabetes
- Cardio-Pulmonary disease
 - CHF
 - Myocardial Infarction
 - COPD/Asthma
 - Hypertension
- Oncology
- Kidney disease
- Neurological disorders
- Transplant patients
- Others
- Multiple Co-morbidities

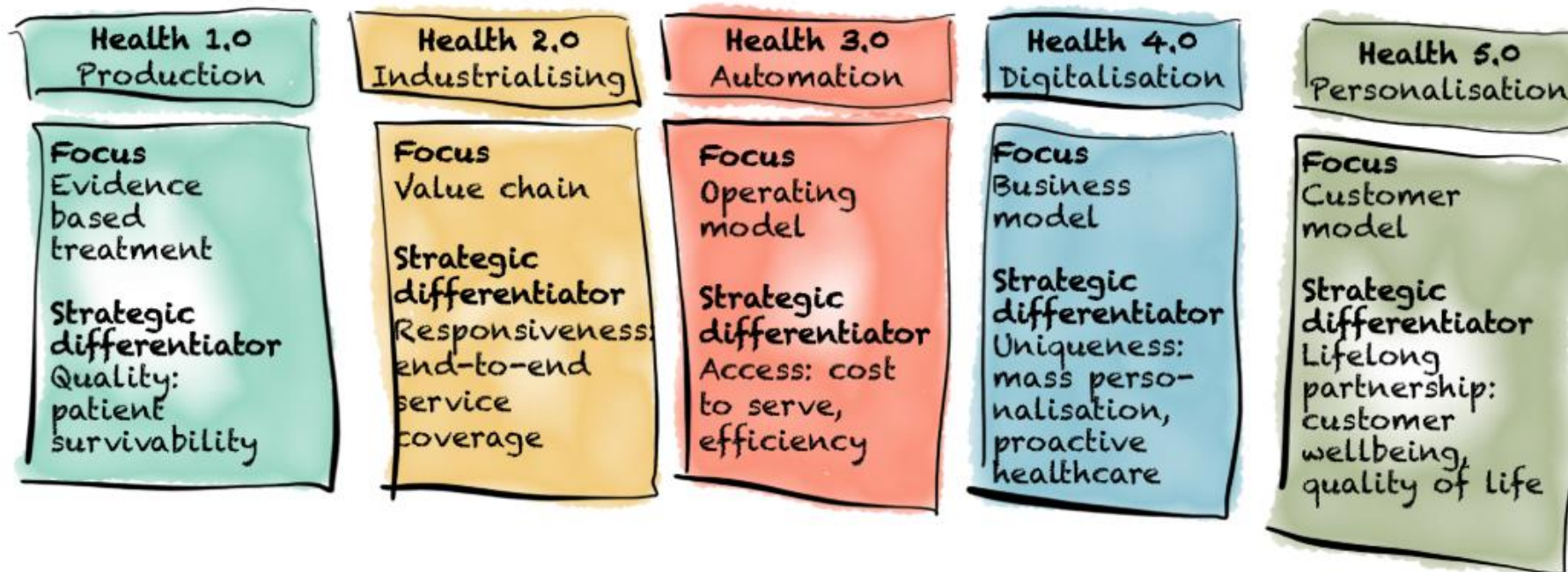
Vitals Monitored:

- Heart Rate / Pulse
- Blood Pressure
- Glucose Levels
- Sleep
- Respiration
- Blood Oxygen (pulse-ox)
- Activity
- Blood Flow
- Perspiration
- Temp (Body & Skin)



Evolution of Health Care Toward Personalization

Five Stages of Health Sector Evolution



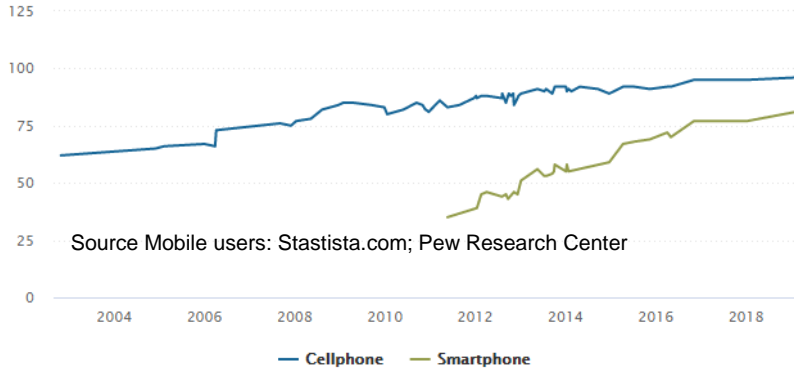
Five stages of evolution of the health sector

Adoption of Self-Service Tools in Healthcare

Need to link portals - notes - apps - messaging

The number of mobile phone users in the world is expected to pass the five billion mark by 2019

% of U.S. adults who own the following devices



PATIENT ENGAGEMENT HIT
Intelligent HEALTHCARE MEDIA

PATIENT DATA ACCESS NEWS

Patient Portal Adoption Tops 90%, But Strong Patient Use Is Needed

Patient portal adoption reaches 90

PATIENT ENGAGEMENT HIT
Intelligent HEALTHCARE MEDIA

PATIENT DATA ACCESS NEWS

Patient Portal Adoption for Older Adult Patients Reaches 50%

Half of patients said they don't see a



Hefner et al. BMC Family Practice (2019) 20:57
https://doi.org/10.1186/s12875-019-0948-1

BMC Family Practice

RESEARCH ARTICLE Open Access

Patient portal messaging for care coordination: a qualitative study of perspectives of experienced users with chronic conditions

Jennifer L. Hefner^{1,2,3*}, Sarah R. MacEwan², Alison Blitz⁴ and Cynthia J. Siedk^{1,2}

Abstract

Background: Patient portal secure messaging (asynchronous electronic communication between physicians and their established patients) allows patients to manage their care through asynchronous, direct communication with their providers. This type of engagement with health information technology could have important benefits for patients with chronic conditions, and a more thorough understanding of the use and barriers of secure messaging among this population is needed. The objective of this study was to explore how experienced portal users engage with secure messaging to manage their chronic conditions.

Methods: Three focus groups were conducted with 17 total patients who self-reported a cardiopulmonary condition. Participants were asked questions about their experience with patient portal secure messaging. Focus group transcripts were coded through inductive and deductive methods to reveal common themes.

Results: Patients' motivation for using messaging included the speed and ease of such communication and direct access to a physician. Messaging was used by patients as an extension of the office visit and supported coordination of care among providers as well as patient collaboration with family members or caretakers. Patients



318,000 health apps are now available on top app stores worldwide with more than 200 health apps being added each

OpenNotes

In New York State, Rochester is First to Implement OpenNotes Citywide

Spotlight
Rochester, NY First to Implement OpenNotes City-Wide

February 1, 2019

In a step toward greater transparency in health care, two Rochester, New York, health systems are collaborating to implement OpenNotes throughout their community. Working together the University of Rochester (UR) Medicine and the Rochester Regional Health system...



Adoption of Self-Service Tools in Healthcare

Need to link portals - notes - apps - messaging

Epic has focused patient engagement on MyChart and has 69 apps in the App Orchard related to Patient Experience

Patient Experience

Give patients the tools to be healthier with MyChart, Epic's patient portal



Patients have personal and family health information at their fingertips with MyChart. They can message their doctors, attend e-visits, complete questionnaires, schedule appointments, and be more involved in managing their health.



Patients in the hospital can use MyChart Beside to stay in touch with their care team, review their schedule, access personalized patient education materials, and request help.



Prospective patients can become new patients through easy online scheduling with MyChart.

The screenshot displays the Epic App Orchard interface. At the top, it says 'Epic App Orchard' and 'Explore Apps'. Below this, there are search filters for 'Patient Experience' and 'Clear Filters'. The main area is a grid of 69 app tiles, each with a logo and name. The apps are organized into rows and columns. Some of the visible app names include: DocBuddy, Symptom Checker, TELADOC, TytoCare, Paymentus, Phreesia, Mytonomy, Patient Education, MedActionPan, IBM Watson Health, healthgrades, GoReg, Health Here, VTDC, DocCare, Health PASS, MD, Manage My Sur, RevSpring, fdb, Appointment Re, AppScrip on PHER, SimpliMed, Cartogram Way, Mytonomy, Waiting Room AI, InstaMed, CareSense, Patient Choice, keona, Health Desk, TC Trustee, Zoom, MedNav, Symptom Checker, Telehealth, Vayo, ProviTech, HealthPay24, Healthy Roster, InQuicker, healthwise, QueueDr, flywire, Solutionreach, CardTuner, Zoocob, jamf, Experian, PaymentSafe, Your Health, Local Scheduling, AxiaMed, Provider Access, luma, PATIENTCO, TAYLOR HEALTHCARE, BillingTree, Tempus, SeamlessMD, Paywire, DoctorConnect, HealthPay24, SALUCRO, healthwise, Apple Health, ProviderMatch, Oscar Scheduling, and Doctella.

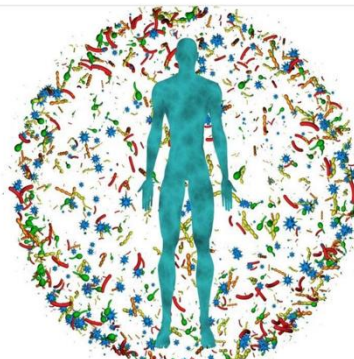
Personalized Patient Engagement

Data, Apps, Precision Medicine Coming Together



DAY TWO

Israeli microbiome startup Day 2 raises \$31 Million Series B round with participation from Longliv, Cathay Innovation and Samsung NEXT #microbiome #digitalhealth #startups @Longliv @Cathay @Samsung https://lnkd.in/gBBt_cn



Patients Willing to Participate in Data Sharing, Precision Medicine

Nearly one-quarter of patients would opt into data sharing for all of their information with any interested precision medicine research party.



Source: Thinkstock



By Sara Heath



August 27, 2019 - Patients approve of data sharing and are willing to contribute their medical information to research projects, but according to a group of researchers from the University of California San Diego, there may be some strings attached.



- Online, open, patient-facing community
- Focused on bringing ecosystem together
- Started in ALS in 2004
- Expanded to many conditions in 2011
- Deep patient data and experience
- 30-40 chronic diseases

Regulatory & Reimbursement Shifts

The following are enabling or motivating the shifts to increase adoption of patient engagement initiatives, technologies and approaches



- Promoting Interoperability – Anti-information Blocking
- Reimbursement
 - Remote Patient Monitoring (RPM)
 - Chronic Care Management (CCM)
 - Telehealth – CONNECT for Health Act



TEFCA

The Office of the National Coordinator for Health Information Technology



- Trusted Exchange Framework – Common Agreement (TEFCA)
- Fee for Service (FFS) to Value Based Payment (VBP)
 - Bundled Payments
 - ACOs / DSRIP / MCOs / PACE
 - Impact of Quality Scores and Readmissions on Payment

Shift in Care From the Hospital to?

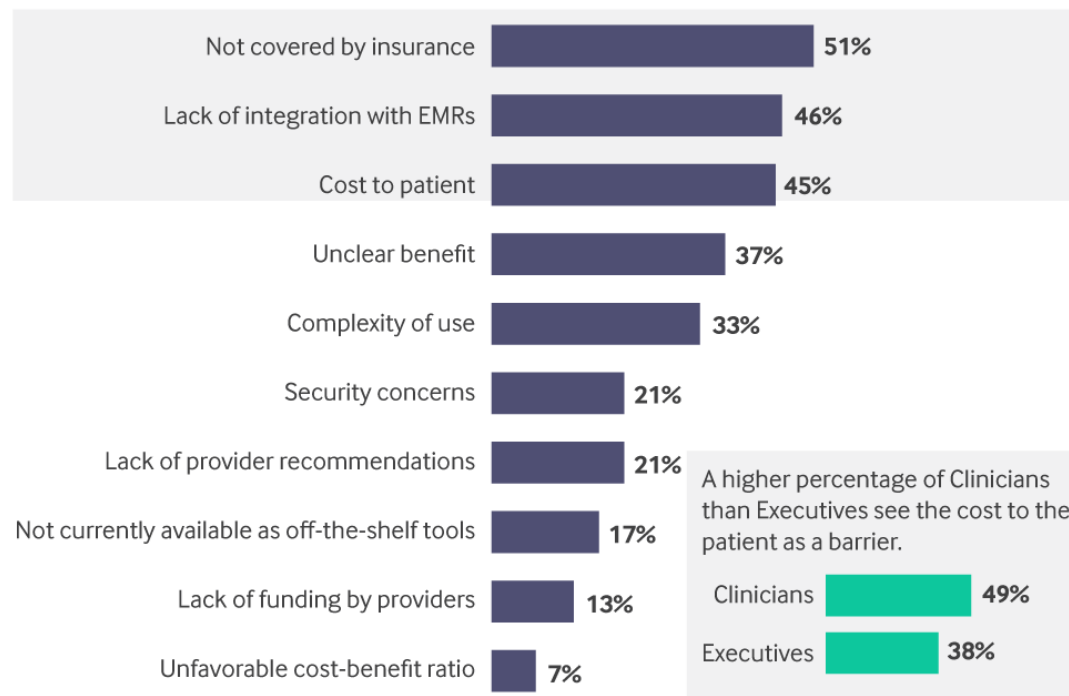
Healthcare is shifting from hospitals to many venues



What are the Barriers & Pitfalls?

Top Barriers Preventing Widespread Adoption of Patient Engagement Technology Tools

What are the top three barriers preventing widespread adoption of technology tools for patient engagement?



Base = 595 (Multiple responses)

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

SI Perspective

Silo not linked to other patient engagement solutions	Lack clarity of stakeholders & impact(s)
Lack patient focus: cohort, population, service line, behavior	Tech-centric vs. strategic
Lack use cases, scenarios & interventions	Poor execution: Pilot/Rollout/Vendors/Outreach
Not linked to patient needs, goals, behaviors	Poor workflow of providers, patients & caregivers

Challenges in Attaining Value from Solutions

Devices

- Difficult to remain current
- Different connection approaches
- Device management / BYOD?
- Multiple vitals – and devices

Data - Needle in haystack syndrome

- Volume of data overwhelming
- Not validated
- Not normalized
- Relevant patients / events / actions

Workflow

- Order, dispatch, train, use data
- Integration: EMR, Telehealth, other
- Communicating with patients
- Coordinating data to interventions

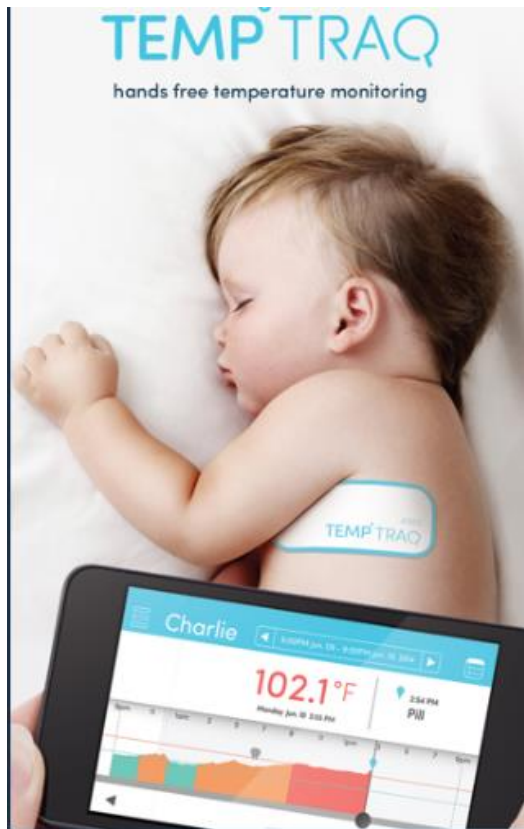
Regulatory / Policy

- Reimbursement
- Risk of network vulnerability
- Patient consent
- Data as part of medical record



Examples of Patient Engagement Technology

Example: Engagement at home, office, hospital

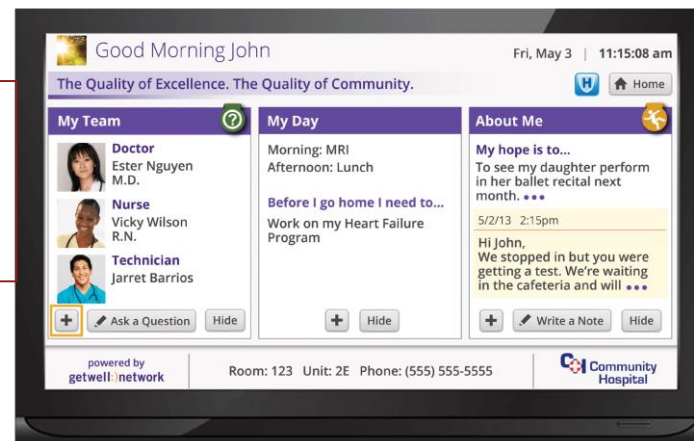


Wearable thermometer connected to smartphone doesn't disturb sick baby

Kiosk connected to patient portal and EMR in waiting room



Hospital bedside screen for use by patient: education, surveys, information, scheduling



Integrating Sensors and Analytics

HEAD
immersive helmets, smart glasses

EARS
hearing aids, headphones, ear-worn trackers

EYES
smart eyewear, contact lenses

ARMS
arm-worn trackers

WRIST
smartwatches, wrist-worn trackers

LEGS AND FEET
smart footbeds, socks, footwear, brackets

OTHER
implantable, multi-location sensors

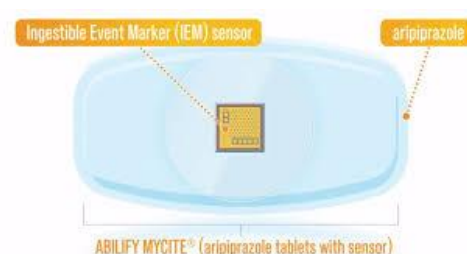
Source: SAM Solutions



Actionable dashboards and alerts from integrated patient generated health data



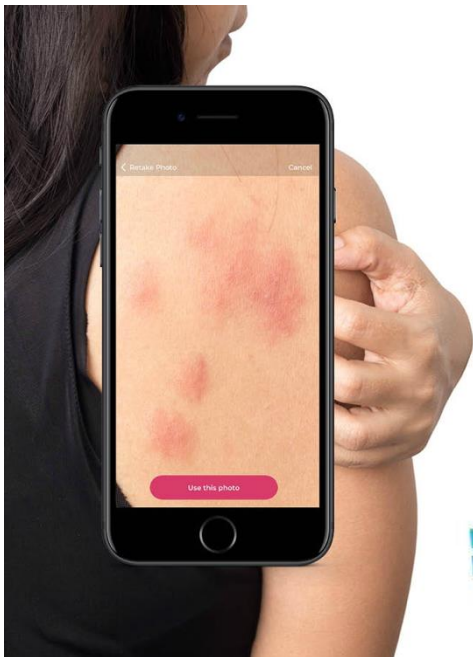
Home device dispenses medication and tracks adherence



Medication with ingestible event marker to track if taken

Innovative Patient Engagement

Combining Sensors, Images & AI



AI powered diagnostics from dermatology images

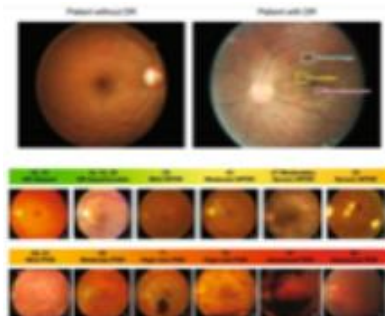


HEART HEALTH INTELLIGENCE

In-home monitoring for heart failure patients



Camera is swallowed and captures images for diagnosis



Screening for Diabetic Retinopathy

Cost and Quality Transparency Tools

Patient tools to gather real cost and quality data for health care planning

Fair price estimates for procedures

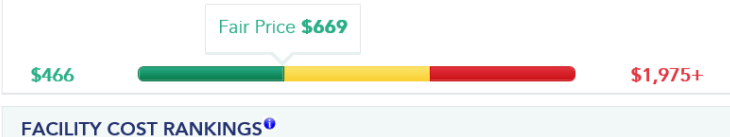


Rochester, NY: Knee Repair Surgery Cost Comparison

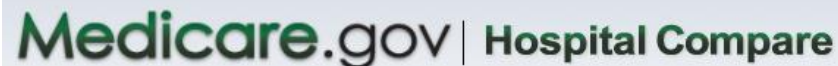
Knee Repair Surgery Cost Report - Rochester, NY



Spine MRI (no contrast)



Quality comparisons of hospital metrics



Insurance Reimbursement Transparency



Connecting Complex Patients at Home

Solutions Integrated with Care Management

Bio-Metrics

- **Capability:** Continuous Remote Clinical Monitoring
- **Benefit:** Increased Patient Adherence



Medication Adherence

- **Capability:** Encourage & Remotely Monitor Patient Meds
- **Benefit:** Increased Safety and Intervention



Safe Home Monitoring

- **Capability:** AI Learns Behavior, Monitors & Alerts
- **Benefit:** Increased Well Being and Independence



Telehealth

- **Capability:** Home triage, e-visits, advice, peripherals
- **Benefit:** Increased Access and Adherence



Individually each helps improve care. Together, impact can be significant

Technology Enabled Engagement

How can organizations be successful?

What Needs to Happen Next to Make Patient Engagement a More Meaningful Strategy for Improving Healthcare? (n=68)

Vendor

- Make Technology More Usable/Effective
- More Disruptive Technology/Approaches

Patient-Centric

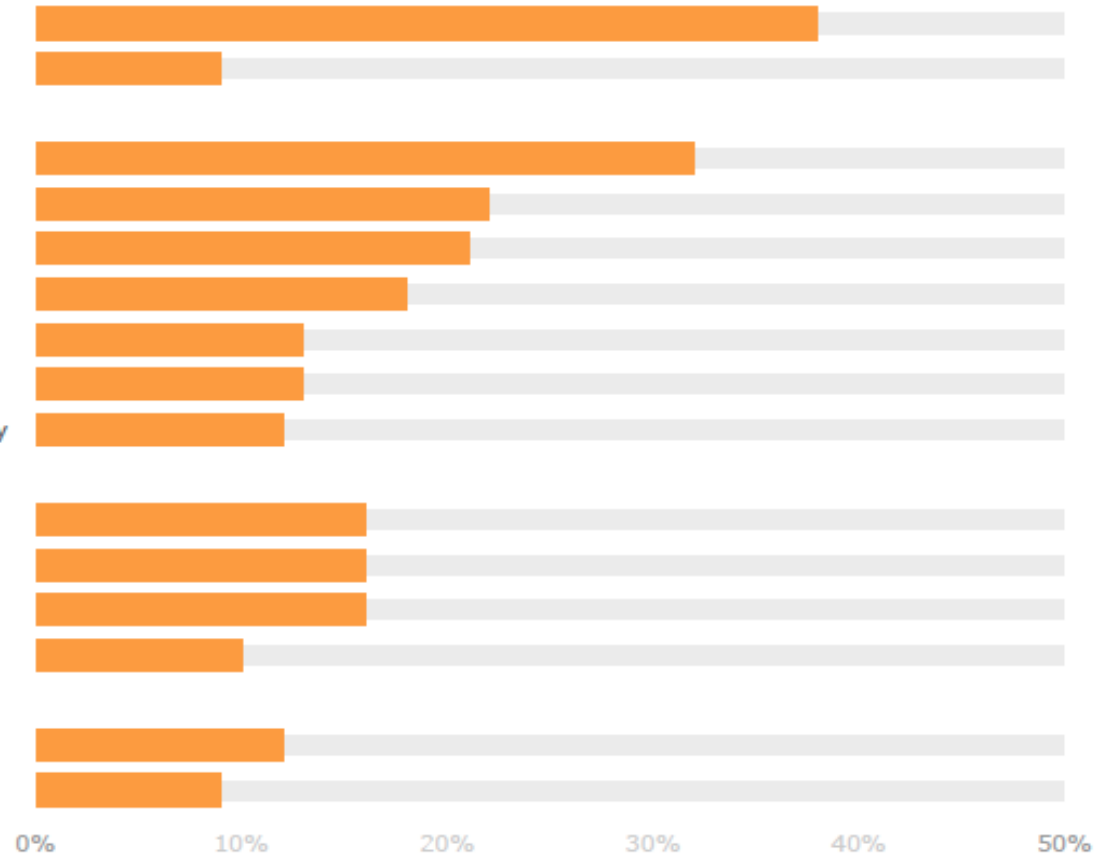
- Put Patient in the Driver's Seat (Listen)
- Adapt to Individual/Group Patient Needs
- Flexible Options for Patient Interaction
- Treat Patients like Consumers
- Build Broad Patient Relationships
- Make PE Worthwhile for Patients
- Greater Patient Responsibility/Accountability

Operational

- Integrate Tools, Processes, and PE Goals
- Enact Provider Cultural Change
- Ability to Measure PE Costs/Benefits
- Develop Enterprise Strategy/Consensus

Other

- Adjust Reimbursement Models
- Adapt Regulations

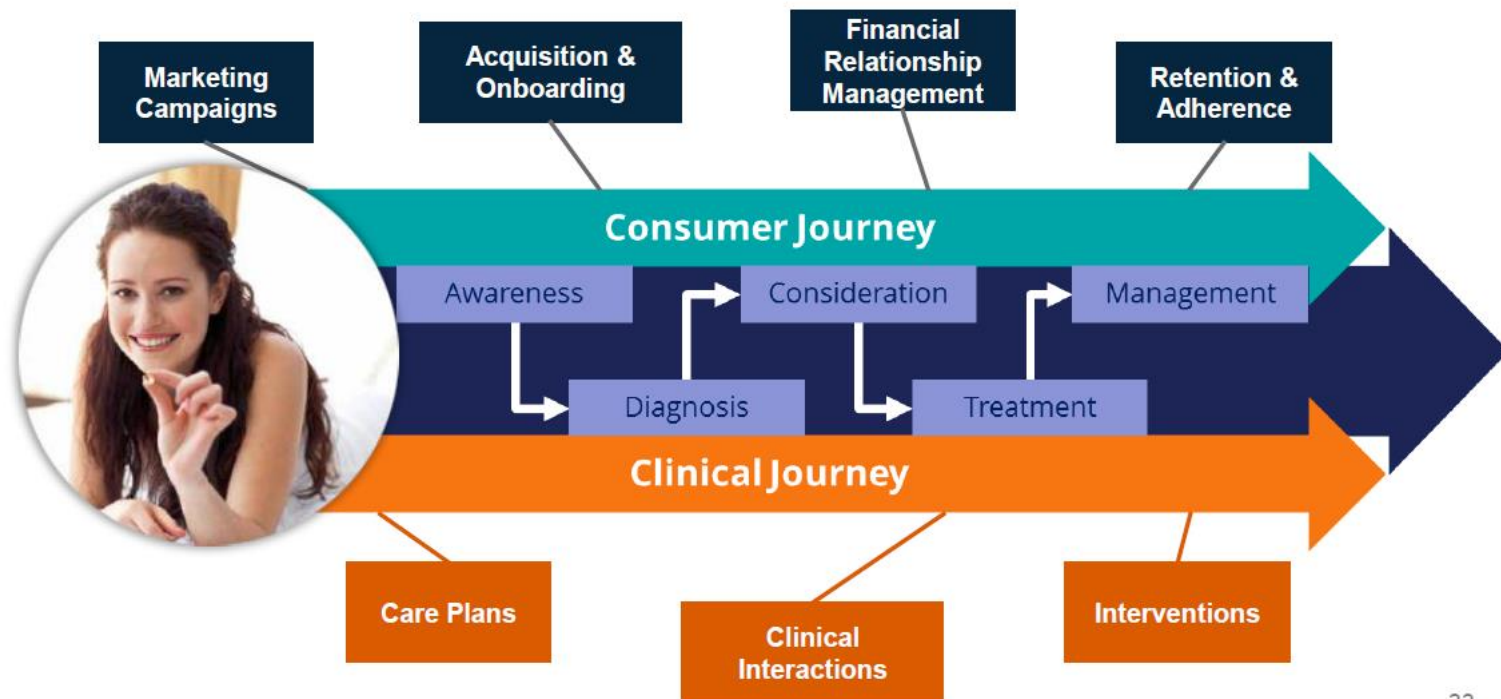


How can organizations be successful?

Moving from silos to conversations...

HIMSS19

And enabling multi-faceted Patient journeys

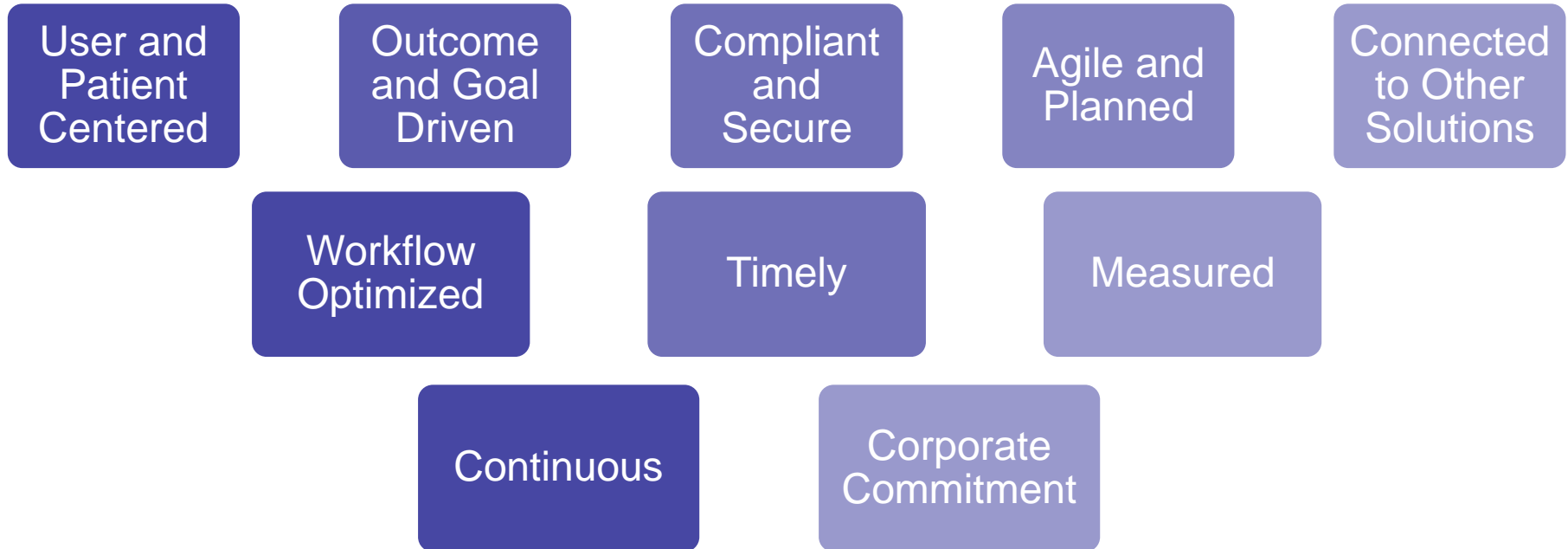


#HIMSS19

How can organizations be successful?

Offer what they want and need

Principles to Guide Patient Engagement



Make it of value to the user, easy to use, flexible and continually enhanced

Why Rochester Can Thrive in Digital Health

- 1 Companies, individuals & volunteers to make a difference
- 2 Momentum in tech startups, recruitment & expansion – even Digital Health
- 3 Proven ability to collaborate in healthcare
- 4 Payer concentration – and leadership to address issues
- 5 Eager venture community – with experience in healthcare
- 6 Alignment with NY State & Funding: ESD, DOH, OMH, Dormitory Authority
- 7 Manageable Health HIT footprint & Effective RHIO
- 8 Innovation in our DNA
- 9 Top academic institutions & technical workforce - # 1 in STEM
- 10 High-quality healthcare with exceptional programs – that strive to get even better



Backup

Example: Remote Patient Monitoring

Home-based Cardiac Rehab

Project Description: A home-based rehab program following a cardiac event that tracks and monitors activity utilizing a wearable, a mobile app and a real-time clinical dashboard following a cardiac event.



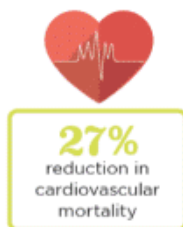
Watch

Phone

Secure cloud

Clinical portal

- Shift care delivery to the home
- Enable self-care and improve outcomes
- Free up in-clinic access



Outcomes to date

- Scaled to all SCAL medical centers
- Over 2,362 patients enrolled
- Over 1,880 patients graduated
- Completion rates improved to 80%+ for home based cardiac rehab (vs. ~50% for in-clinic rehab)
- 27 post-program hospitalizations, only 17 cardiac related*

Going Forward

- Expand home based cardiac rehab to 5000+ patients in 2019
- Expand home based rehab platform, considering pulmonary rehab

Note: *As of June 2019

• HEALTH •
INNOVATION

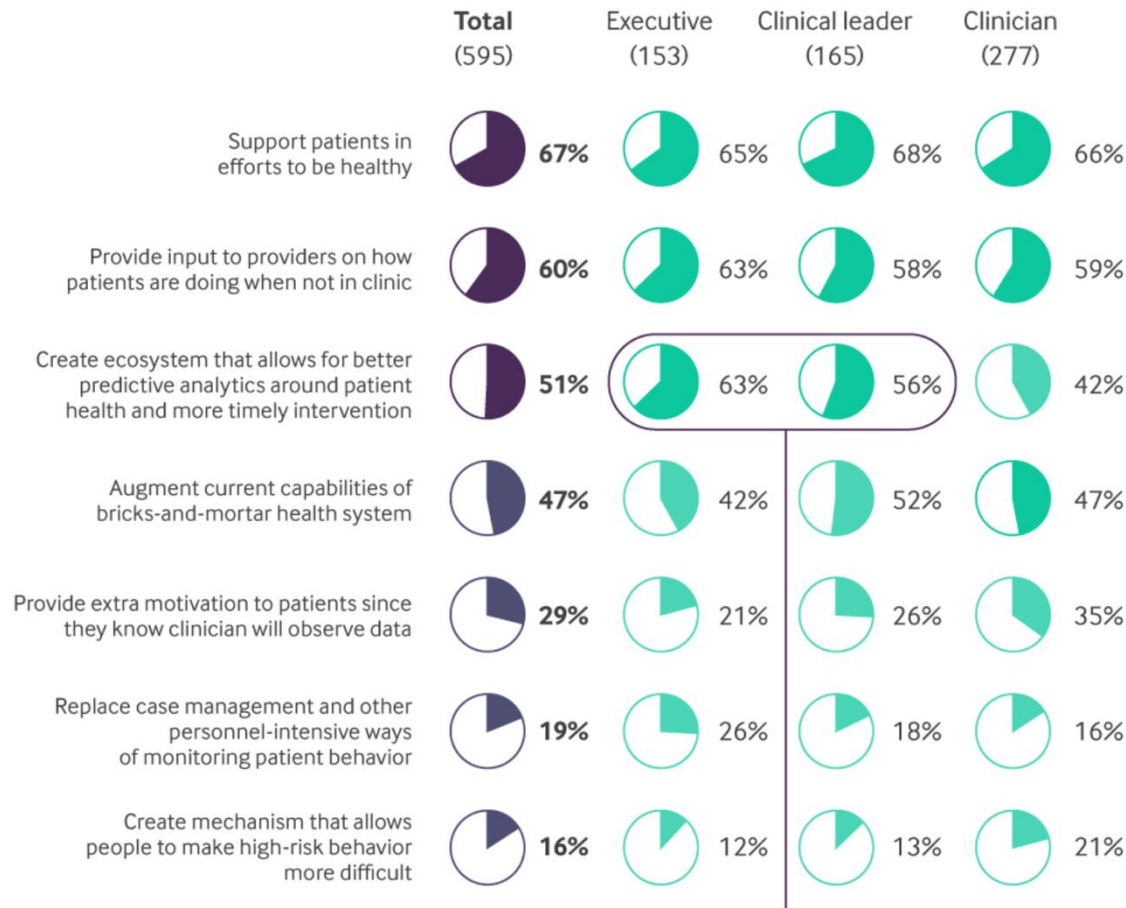
Source: Kaiser Permanente

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

Perceived Benefits of Patient Engagement by Providers

Top Benefits of Using Technology for Patient Engagement

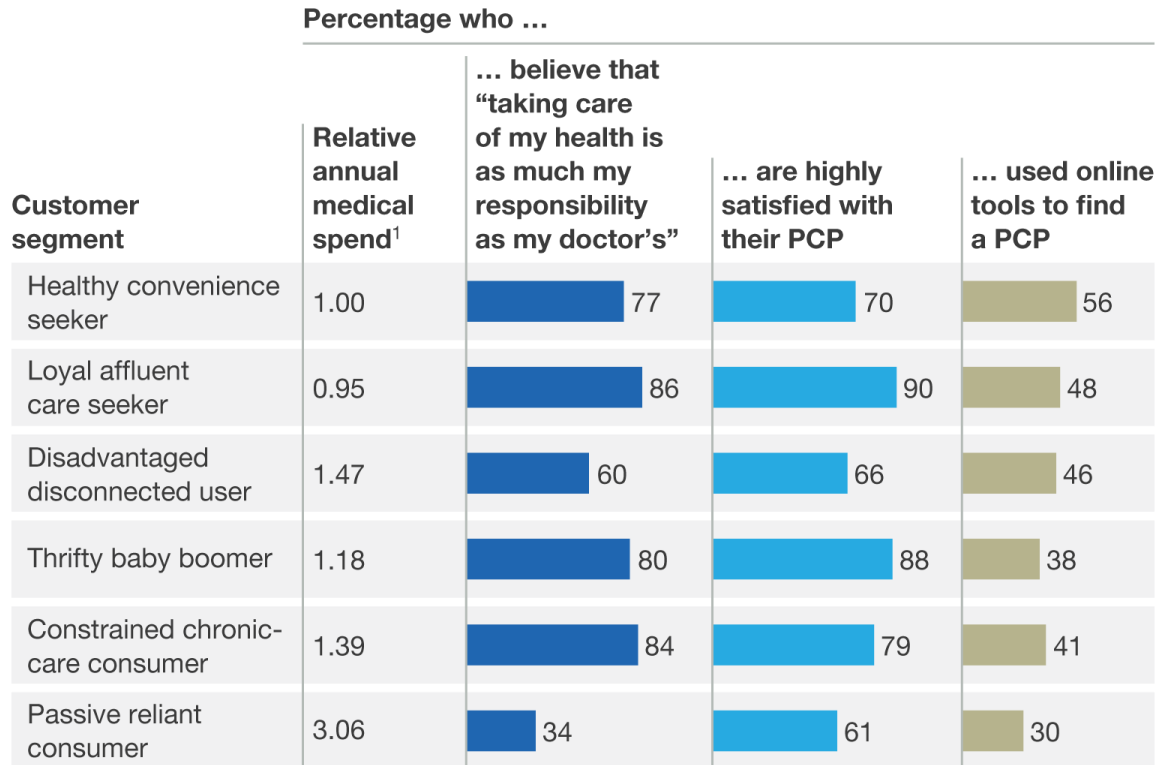
What do you consider to be the top three benefits of using technology for patient engagement?



How can organizations be successful?

Know your patient segments

Consumers vary in their attitudes and healthcare spending



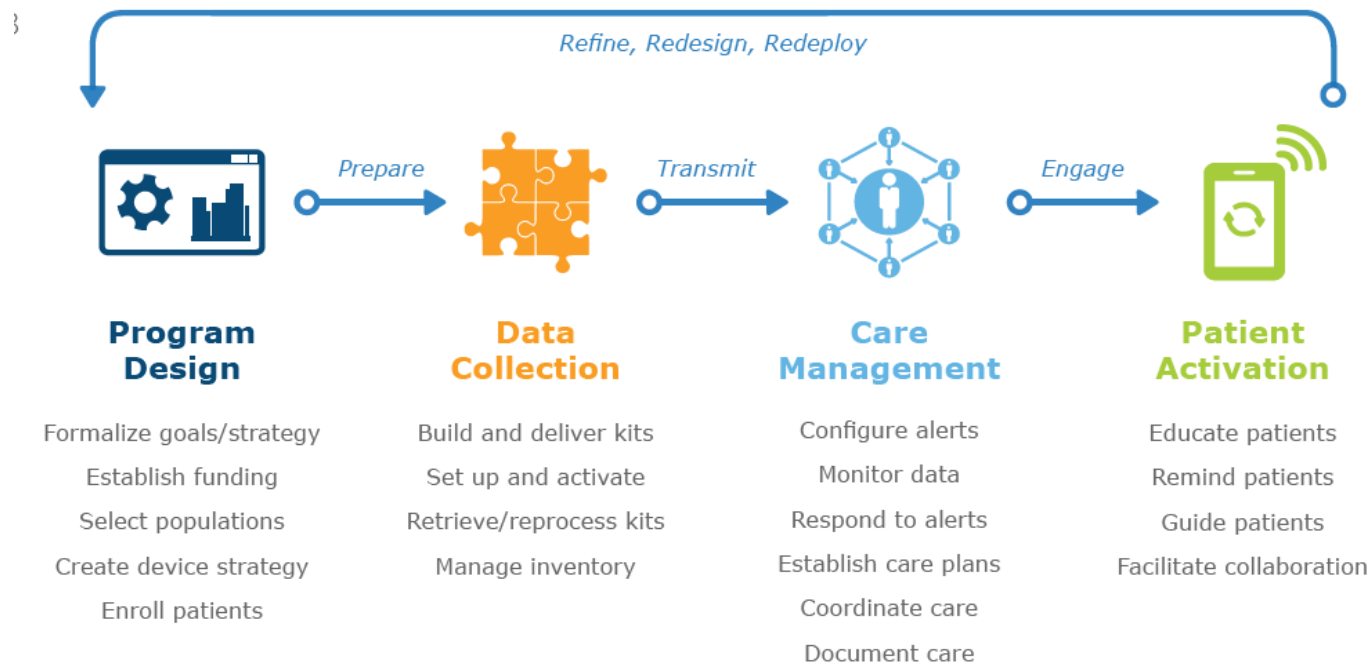
PCP, primary care provider.

¹Index is relative; annual medical spending by healthy convenience seekers is indexed at 1.00.

McKinsey&Company | Source: 2016 McKinsey Consumer Health Insights Survey

Patients want control and a personal experience, but that looks different to different segments

Example: Remote Patient Monitoring



RPM Highly Successful at Reducing Hospital Visits

The majority of study participants are very pleased with the success of their RPM programs. Most have achieved measurable outcomes, particularly when it comes to keeping patients out of the hospital (i.e., admits, re-admits, and ER visits). Even those earliest in their RPM journeys share anecdotal victories, and only a few hesitate to call their efforts a success—not because of failure, but rather because of blurred lines between vendor monitoring and their own outreach work. Heart disease and COPD are the leading use cases, but organizations are branching out to less acute chronic diseases, such as diabetes and hypertension.

Key Outcomes Achieved

(n=24)

