

State Innovation Model Design (SIM) INNOVATION FORUM

September 29, 2015



**Kentucky 8th Annual
eHealth Summit 2015**

E-Healthcare Symposium

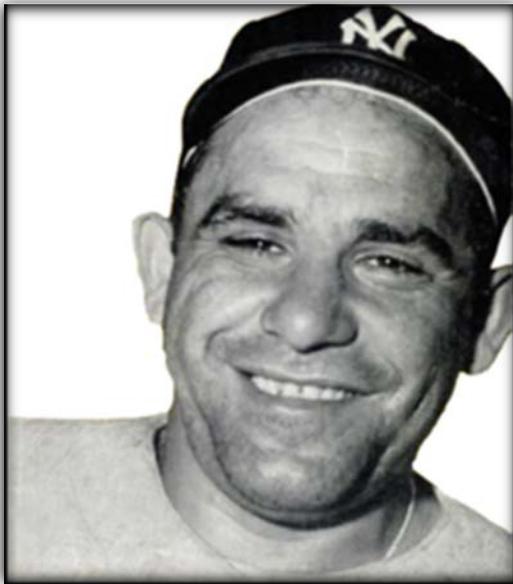
Sheraton Bal Harbour Beach Resort

**Second Annual Symposium on E-Healthcare Strategies
for Physicians, Hospitals & Integrated Delivery Systems**

Presenter: John R. Langefeld, MD

Topic: “Has Star Trek Arrived? Does the Palm-Top Work?”





**“It's tough to make predictions,
especially about the future.”**

Yogi Berra

**“The Best way to predict the
future...
...is to create it!”**



From Data-Drivers to Google Glass: Recent Innovations in Health Technology

Kentucky SIM HIT Innovation Forum
September 29, 2015

Piper Su
Vice President, Health Policy

Paging Dr. Robot

Not Such a Farfetched Idea

the Atlantic

**“The Robot Will See
You Now”**

February 20, 2013

The Washington Post

**“How Robots Will
Replace Doctors”**

Oct 1, 2011

WIRED

**“Better Than Human:
Why Robots Will – and
Must – Take Your Job”**

December 24, 2012

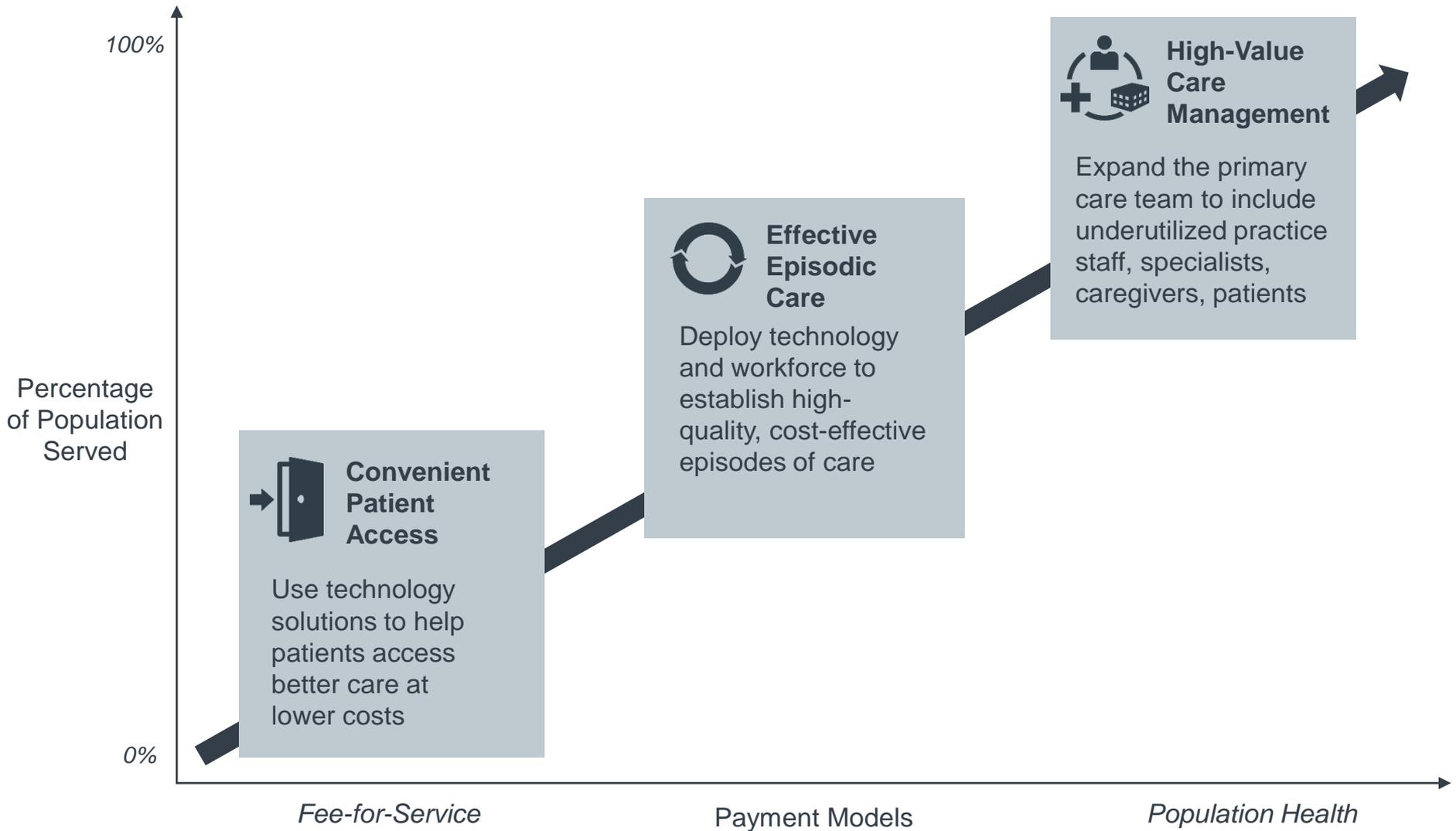
**Bloomberg
Businessweek**

**“Doctor Robot Will
See You Shortly”**

September 16, 2013

Source: Cohn J, “The Robot Will See You Now,” *The Atlantic*, February 20, 2013; Klein E, “How Robots Will Replace Doctors,” *The Washington Post*, October 1, 2011; Kelly K, “Better than Human: Why Robots Will – and Must– take your job,” *Wired Magazine*, December 24, 2012; McArdle M, “Doctor Robot will See you Shortly,” *Bloomberg Businessweek*, September 16, 2013; Advisory Board interviews and analysis.

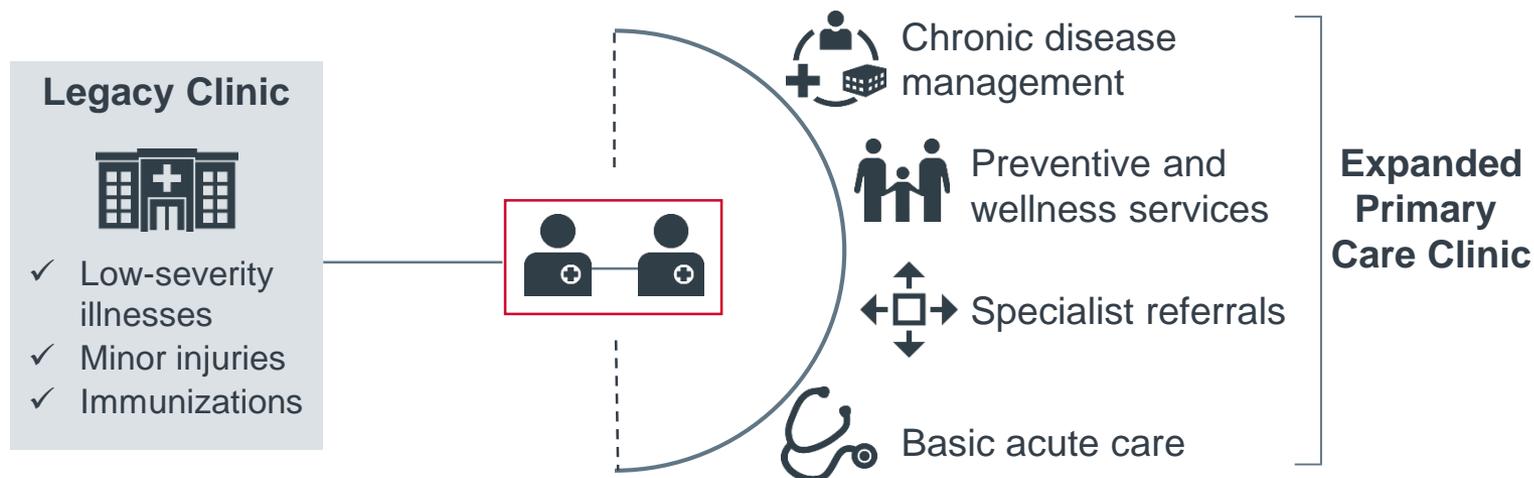
Three Areas of Focus in Care Delivery Innovation



The New Primary Care Outlet for 130 Million People?

Walmart Testing Enhanced Primary Care Model to Replace Legacy Clinics

Evolution of Model



Case in Brief: Walmart Care Clinic Pilot

- Walmart piloting new primary care clinic staffed by two contracted NPs in Copperas Cove, TX
- Service offerings expand beyond traditional Walmart retail clinic to include chronic disease management, preventive and wellness services, and specialist referrals



Low Price Guarantee in Primary Care

\$4.00

Cost of a clinic visit for employees on Walmart's health plan

\$40.00

Cost of a clinic visit for customers and non-covered associates

Shifting Care, Services to Lower Cost Settings

Theranos Enables Cost-Efficient Blood Testing in Retail Clinics

Overview of Walgreens' Care Delivery Strategy



Medication Management

Offering medication consults for complex drug regimens



Quality Improvement

Having pharmacists check patient vitals



Healthcare Clinic

Serving low-acuity care needs clinics



Care Coordination

Supporting care coordination teams

- Palo Alto-based technology company
- Developed a miniature medical device that quickly detects hundreds of diseases with a minute amount of blood
- Partnered with Walgreens in 2013; have opened Theranos Wellness Centers in Walgreens stores in Palo Alto and Phoenix



Case in Brief: Walgreens

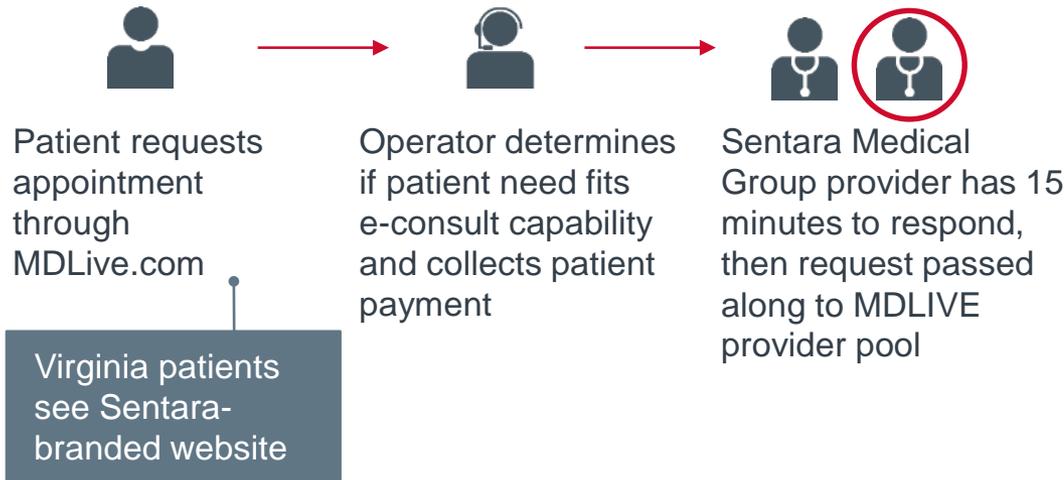
- Largest drugstore chain in the country based in Deerfield, Illinois
- Operates 370 in-store Healthcare Clinics staffed by NPs, PAs
- Establishing health system partnerships in order to improve care coordination, medication adherence, and quality metrics for patients

Source: Source: Anderson J, "Providers Want Partner, Not Dictator, in Potential Insurer ACO Relationships," ACO Business News, March 2013; Dolan P, "Walgreens clinics expand services to diagnosing chronic diseases," American Medical News, April 22, 2013; Walgreens Press Room, "Walgreens Forms Accountable Care Organizations (ACO) to Deliver Seamless, Coordinated Care to Improve Patient Health, Lower Costs and Close Critical Gaps in Care for Medicare Patients," January 10, 2013; Advisory Board interviews and analysis.

Evolving to Real-Time Virtual Visits

MDLIVE Visit Platform Enhances Access, Convenience for Patients

MDLIVE Enabling New Business



A Small Cost for Virtual Care

\$45	Cost per visit for unsubscribed patients
\$15	Cost per visit for Sentara employees
\$199	Cost of an annual subscription to MDLIVE

+

Case in Brief: Sentara Healthcare/MDLIVE

- Multi-hospital system headquartered in Norfolk, Virginia; owns equity stake in MDLIVE—a telehealth provider of online, on-demand health care delivery services and software
- Provides access to virtual care for any patient; Virginia-based web visitors triaged to co-branded virtual product to labeled “Sentara—Empowered by MDLIVE”
- Phone, web, and email visit services include general health, pediatric health, mental health

Better Care Decisions Facilitated by Transparency

PokitDok Offers Consumer Platform for Comparison Shopping

Taking “Consumer-Driven” to the Next Level



Innovation in Brief: PokitDok

- Website, mobile app marketed to individuals with high-deductible health plans
- Offers database of over three million providers



Service:

Carpal Tunnel Surgery

Location:

TravelSurgeryUSA, Charleston, SC

Budget:

\$ 4,000



Negotiate

Payment Type:



Cash



HSA



Insurance

Request Quote



“What Castlight Health is to people with employer-provided health insurance, PokitDok is to people with high-deductible plans. The new ‘set your price’ service for basic healthcare services may be what ‘consumer-driven healthcare’ needs to become a realistic option.”

MedCity News

Empowering Consumers Through Plan Choice

StrideHealth Recommends Plans Based on Medical Conditions, Networks

StrideHealth Option to Filter Plans By Ongoing Illness

The screenshot displays the StrideHealth interface for selecting a health plan. A user has indicated they have an ongoing illness and see a doctor 18 times per year. A dropdown menu is open, listing various medical conditions. The background shows a table of insurance plans with columns for Annual Forecast, Typical Drug Cost, Doctors Nearby, and Monthly Payment.

Plan	Annual Forecast	Typical Drug Cost	Doctors Nearby	Monthly Payment	
Kaiser Silver 1250/40	\$5,200	\$50 (after you spend \$250)	448	\$374	
Anthem Essential Direct CBMM	\$5,400	\$50 (after you spend \$250)	8,849	\$371	
Uninsured	\$5,600	100%	?	Federal Fine!	
Kaiser Silver 2000/45	\$5,511	\$45	\$50 (after you spend \$250)	448	\$375

SCREENSHOT: STRIDEHEALTH



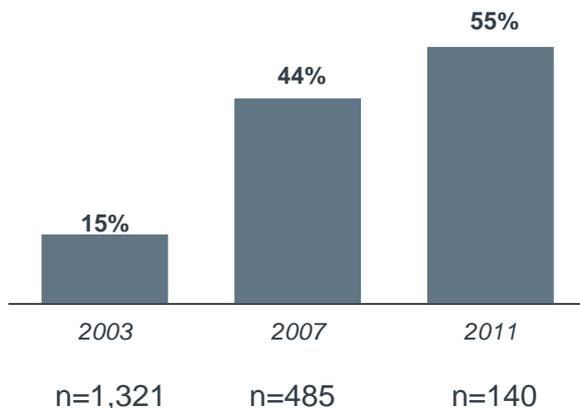
Case in Brief: StrideHealth

- Startup exchange platform based in San Francisco, California that helps individuals compare plans on Covered California
- Uses recommendation engine to help individuals compare plans by estimated total cost, in-network physicians, medical conditions, and usual drugs

Using Technology to Centralize, Streamline Services

Teleradiology Offers Greater Efficiency, Scalability of Radiology Services

Percentage of Practices Using External Off-Hours Teleradiology



“

A Short Jump from Night to Day Reads

“Nobody ever questions the value of imaging in the modern practice of medicine today, but many question the value of onsite radiologists.”

*Cynthia Sherry, MD
Texas Health Presbyterian Dallas*

Service Guarantees by Select Remote Radiology Companies



Onsite technologist and nurse training programs



75% of radiologists fellowship trained in subspecialty



Turnaround time for all studies averages 25 minutes

Source: Harolds J, et al, “Challenges to Radiologists: Responding to the Socioeconomic and Political Issues Keeping Radiologists Up at Night: The Third Annual Open Microphone Sessions at the 2011 AMCLC” *Journal of the American College of Radiology* 2012, 9: 20-26; Lewis R, et al, “Radiology Practices’ Use of External Off-Hours Use of Teleradiology Services in 2007 and Changes Since 2003,” *American Journal of Roentgenology*, 2009, 193: 1333-1339; ONRAD, available at: <http://www.onradinc.com>; PDI Pediatric Teleradiology, available at: <http://www.pditeleradiology.com>; Virtual Radiologic, available at: <http://www.vrad.com>; Advisory Board interviews and analysis.

Providing More Time for Patient Care

Augmedix Reclaiming Time for Direct Patient Care through Google Glass

Reduces Peripheral Tasks

Functions

- EHR¹ documentation
- Point-of-view video recording
- Visual feedback in Glass display



Advantages

- Hands-free connectivity
- Unobtrusive to care delivery
- Interactive at point of care

Gaining Physician and Patient Acceptance

99%

Percentage of patients “very comfortable” with physician using Augmedix, Google Glass during appointment



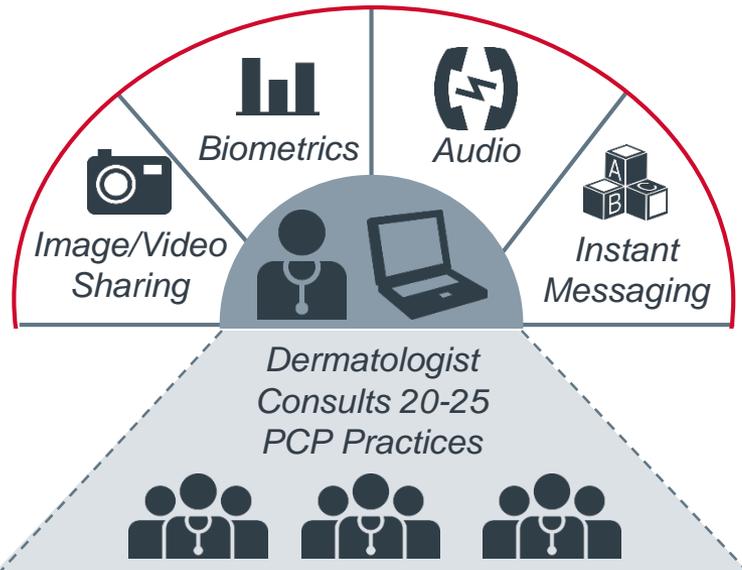
Case in Brief: Augmedix

- Health care start-up company based in San Francisco, California
- Developed a platform powered by Google Glass to streamline physician data entry and electronic health record (EHR) interaction at the point of care
- Currently piloting platform at several sites; physicians experience productivity gains through Augmedix, without negatively impacting patient satisfaction, quality of care

1) Electronic Health Record

Protecting Practice Capacity for Complex Cases

Partners HealthCare Triaging Low Acuity Demand via Virtual Visits



Case in Brief: Partners HealthCare Center for Connected Health

- Division of Partners HealthCare, an integrated health system in Boston, focusing on technology-enabled care delivery
- Developed “virtual visits” to triage low-acuity dermatology cases for primary care
- Diverts easily resolved volume, reduces avoidable demand for in-person dermatology



Diverting Demand without Sacrificing Quality

50%

Percentage of questions that can be answered immediately through virtual consult

30%

Percentage of patients requiring an in-person follow-up after consult

90%

Rate of satisfaction with digital care model among participating patients

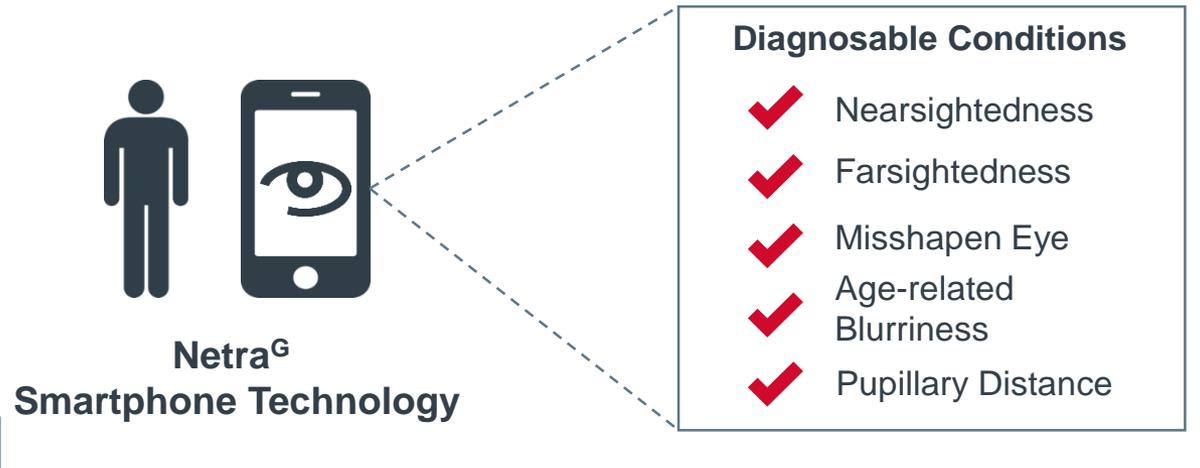
Technology Enabling Non-Traditional Solutions

EyeNetra's Smartphone Technology Enables Self Vision Exam

Case in Brief: EyeNetra

- Consumer technology and smartphone application company in Somerville, Massachusetts
- Developed Netra^G hardware and application; enables consumers to conduct autonomous vision exams for glasses, contact measurements¹
- Proven to be as accurate as top-tier auto-refractors in IRB-approved side-by-side trials, at a fraction of the cost

EyeNetra Eye Exams



Consumers can use outputs from Netra^G solutions to obtain glasses, contacts under guidance from eye care professional

Clear and Immediate Advantages



Accuracy



Affordability



Ease of Use



Mobility

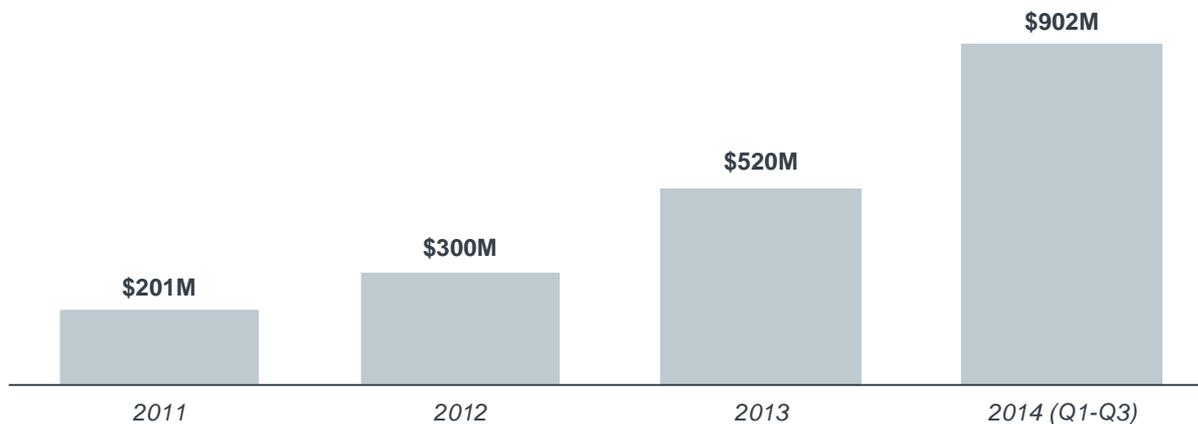
¹) EyeNetra states that device should be used under "guidance from an eyecare professional."

Analytics Enabling High-Value Care Management

Data Giving Rise to Ability to Predict and Prevent Medical Problems

Venture Funding for Companies Using Predictive Analytics¹

2011-Q3 2014



Notable Deals



1) Only includes deals with value greater than \$2M.

Data-Driven Care Management Resource Allocation

MissionPoint Using Data to Drive Outreach to Highest-Risk Patients

Analysis of Data



- Use daily data from Crimson and other sources to identify at-risk patients on a daily basis
- Use monthly data from Crimson and other sources as a secondary method for identifying at-risk patients



Assignment of Care Managers



- Once a patient is identified, they are triaged to one of three specialized care teams:
 - Transitional Team
 - Ambulatory Team
 - Integrated Care Team



Case in Brief: MissionPoint Health Partners

- Clinically integrated network in Middle Tennessee comprised of 1,600 physicians
- Using data analytics to enable high-risk patient identification, to assign patients to one of three specialized care teams, and to support care manager workflow



Results

7.08%

Reduction in readmission rate for Nashville MSSP population, Jul 2012-June 2014

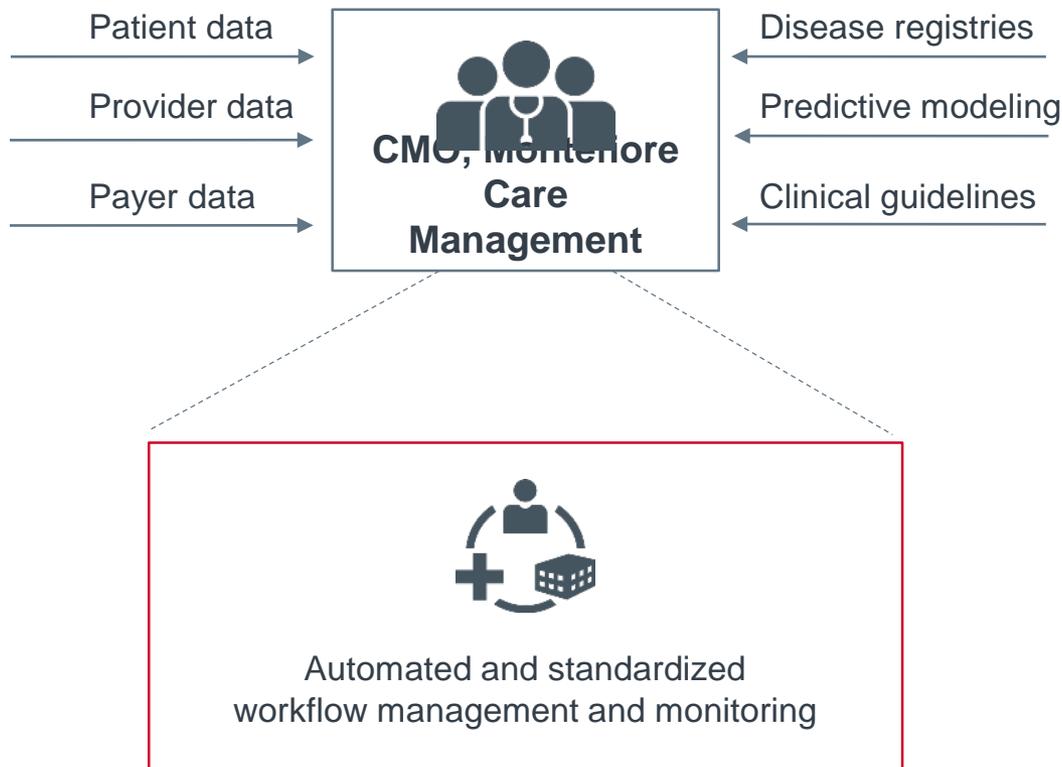
4.12%

Reduction in overall costs for Nashville Associate population, Jan 2012-Jul 2014

A Unified Approach to Care Management

Creating an Aligned Organization to House Care Management

Centralizing Care Management Efforts



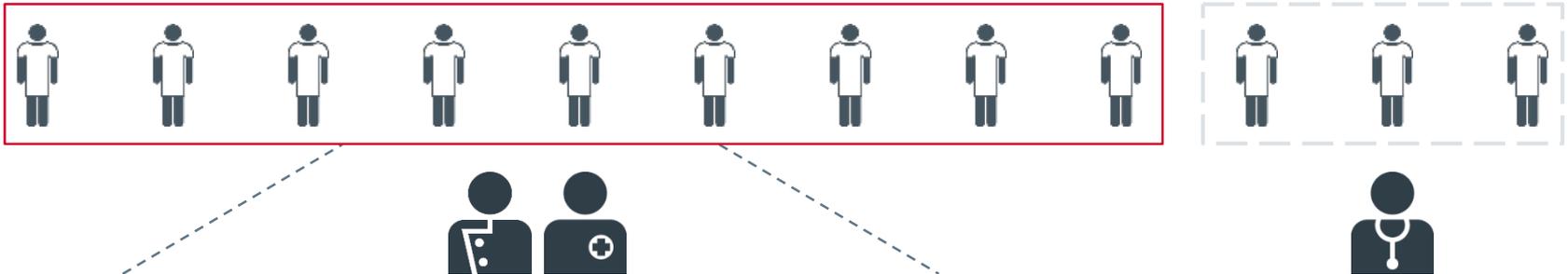
Case in Brief: CMO, Montefiore Care Management

- Health care management company that provides technological and intervention-based care management to Montefiore Medical Center in Bronx, New York
- Manages the care of 225,000 patients under risk or shared risk contracts

Elevating the Role of Non-Physician Providers

AkeLex Brings Care Guidelines to the Point of Care

Sample of Patients Presenting to Primary Care



Majority of patients diagnosed and treated by non-physician providers using AkeLex

Highly complex patients diagnosed and treated by PCP

AkeLex

The medical knowledge engine that works.

Adaptive Knowledge Engine

- Uses artificial intelligence and pattern-based learning to improve the accuracy of diagnosis and treatment of patients
- Provides real-time support to evaluations, triage, and management decisions
- Creates a differential diagnosis based on data; then dynamically poses follow-up questions to identify outliers and communicate a more complete clinical picture



75%

Primary care patients autonomously diagnosed and treated by non-physician providers using AkeLex

Supporting Lay Caregivers in Home-Based Care

VHA's Electronic Tools Engage Non-Clinical Caretakers

VHA¹ Family Caregiver Pilot Program



Apps Pre-Loaded onto Caregiver iPads

Allow caregiver access to health information

- Health Advocate
- Summary of care
- Notifications & reminders
- PTSD coach
- Health assessment
- Journal

Allow caregiver to provide care management



Case in Brief: Veterans Health Administration

- America's largest integrated health care system, serving 8.7 million veterans each year across 1,700 sites located throughout the country
- In 2013, launched Family Caregiver Pilot Program, through which lay caregivers were provided with iPads pre-loaded with apps to assist with health information access, care management

Engaging Patients in Their Own Care

WellFrame Automatically Customizes, Adjusts Post-Discharge Care Plan

WellFrame Post-Discharge Care Management Mobile Platform

Patient-facing care plan in the form of a daily to-do list

Automatically readjusts goals based on previous performance



Allows patients and care managers to communicate via asynchronous messaging

Syncs with external apps and devices



Technology in Brief: WellFrame

- Mobile platform designed to provide patients with automated, customized, and step-by-step care plan guidance post-discharge
- Piloted by Brigham and Women's Hospital, Columbia University, South Shore Hospital, and McLean Hospital



Allowing for Patient Engagement at Scale

5X

Increase in patient to care manager ratio enabled by WellFrame

Role for States to Play in Facilitating Innovation

Public sector efforts can bolster private sector initiatives

- 1 States can drive payment incentives for innovation in state-run programs by covering new methods of providing care and to reward value of care provided rather than volume
- 2 States can encourage innovation by adapting regulatory requirements to appropriately facilitate and grow innovative approaches (i.e., telemedicine and scope of practice)
- 3 States can provide innovators and providers timely access to data—including individual and aggregate clinical and financial data—to facilitate potential innovations
- 4 States can support employers, providers and entrepreneurs in scaling innovative technology solutions through education, access, and funding
- 5 States can enhance consumer and patient awareness/utilization of new tools through public health education, incentives, and privacy protection

Federal Policy Doubling Down on Technology

Efforts to build clear pathway for data-driven health care solutions

- Precision Medicine Initiative
 - Personalized medicine and genetics
 - Developing and deploying data
 - Pharmaceutical and biologics innovation
- Data Interoperability
 - ONC Roadmap
 - House and Senate hearings and legislation
 - 21st Century Cures
- Mobile and Consumer Applications
 - FDA framework
 - Supporting telemedicine and virtual care
- Deploying a Data-Driven Government
 - Creating a role for data scientists
 - Recruiting technologists to innovate at the federal level