The Rise of Telebehavioral Health

Behavioral Health Access, Alzheimer’s: The Looming Epidemic

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Agenda

1. Health and Wellness 2016 – New Players, New Models of Care

2. Telebehavioral Health on the Rise: Current State, 2020 Trending

3. Panel Discussion: Challenges, Solutions Roadmap, Predictions

4. Participant Q&A – please only ask Q’s we know the answers to!
The Creative Destruction of Healthcare

Improved Rounds
- Transmission of medical imaging and data for diagnosis, disease management
- Prevention, diagnosis and treatment of diseases using remote monitoring tools
- Apps for emergency health advice
- Electronic consultation, second opinions
- Distance medical education
- Health data analysis for disease surveillance
- Real-time intervention—e.g. telepsychiatry, telepsychology

Immunotherapy

Personal Genomics

Telehealth

Sensors, Wearables, Apps

The Quantified Self
Why Telehealth, Why Now?

دامنه

Access - consumers increasingly want on-demand care; high-risk, remote patients need frequent assessments, advice

Convergence - between technology & Healthcare. Encryption, video & cloud computing advances enable new possibilities for HIPAA compliant distance counseling

Scarcity of Doctors, Mental Health Professionals - 90,000 Physician shortage by 2025. Only 1800 geropsychiatrists in U.S., trending down.

Adoption by Insurers embracing telehealth. Anthem, U.S's 2nd largest insurer, offering telehealth visits with no copay to Medicare Advantage members in 12 states (NY, CA)

Demographics - by 2020, Millenials---the 1st generation to have grown up in the “digital age”--will comprise 46% of all North American Workers. And the aging Boomers want personalization, convenience, aging in place

Solving the Unsolvable – massive computing power, scientific breakthroughs are driving “prevention” as a cure
**Behavioral Healthcare Disruption Tour**

**mindoula**
Contracts with community hospitals for 30-days of in-person and virtual case management post-discharge from the hospital psychiatry unit. Blends provider network with patient daily “check-in” app. Virtual collaborative care overlay to participating primary care practices.

**talksession**
Web-based platform drives secure video sessions between mental healthcare providers, matching patient with provider. Predictive analytics for remote patient monitoring, care.

**ABPATHFINDER**
Therapy management tool to aid therapists in defining, administering individualized therapy programs for patients with autism.

**MindCare Solutions**
Telebehavioral health service with $13M funding & national provider network.

**Ginger.io**
Uses your smartphone data to safely and securely monitor your emotional health, connecting you with providers who can step in at critical times. Uses predictive models from MIT scientists, and engineers to unlock individual behavior patterns in massive health data generated.
Hundreds of Small Innovations, Chipping Away

1. Live Doctor Visit Now

2. T2MoodTracker* – tracks anxiety, depression

3. Breathe2Relax* – diaphragm breathing techniques

4. Lantern – combines CBT with daily expert advice

5. PTSD Coach* – veterans, military personnel, and civilians experiencing symptoms of post-traumatic stress disorder.

6. Operation Reach Out* – suicide prevention hotlines

7. Talkspace – Text messaging; over 200 Therapists, $25/wk

8. Big White Wall – Support groups led by trained therapists

9. Rxmindme* – medication reminder

10. Code Blue – medical sensor network platform
Reorg into Alphabet allows Internet giant to take more chances with new technology

Life Sciences (Verily) and Calico units developing game-changing type healthcare solutions

8 Google Venutures Investments: Machine learning / artificial intelligence, understanding the brain, reinventing antibiotics, battling cancer with immunotherapy and pharmacogenomics, genetic repair with tools like CRISPR, the microbiome, organ generation and stem cell technology.

Dr. Cynthia Kenyon, hired in 2014 to lead Google’s Calico unit, says, “You live a healthy life, and then you turn out the lights”.

Source: Mhealth News and Journal of Medical Toxicology
Universal Coverage Without Universal Access

30% Percentage of Canadian short-and long-term disability claims due to mental health problems

1M of 6.7M Canadians with mental health problems are children and teenagers between ages 9 – 19

$50B a year cost--2.8% of Canada’s GDP--for people with mental health challenges (excluding costs to criminal justice and child welfare systems)

49% of Canadians who have suffered from depression or anxiety have never gone to see a doctor about this health challenge
**Behavioral Health Market Overview**

### Leading Disease Cost Contributors in N.A.

- **Mental & Behavioral Disorders**
  - Cardiovascular and Circulatory Diseases: 16.8%
  - Neoplasms: 15.1%
  - Musculoskeletal: 11.8%
  - Diabetes, Urogenital, Blood and Endocrine Diseases: 8%
  - Chronic Respiratory Diseases: 6.5%
  - Other Non-communicable Diseases: 5.1%
- **Neurological Disorders**
  - Mental & Behavioral Disorders: 13.6%
  - Neurological Disorders: 5.1%

- **Industry revenues represent over $300B**
- **Mental Health and Substance Abuse Market to grow 2.8% through 2018**
- **Industry remains highly fragmented**
- **Demand for mental health services has reached an all-time high, while supply of dedicated hospital beds has steadily declined (14% from 2001 – 2011)**
- **ACA promotes expanded utilization, by including MH/SUD benefits as “Essential Health Benefits”**.
- **MH/SUD co-occurrence untreated in 50% of impacted population**
Unmet Mental Health Needs Create Opportunity

- Adults diagnosed with SUD and AMI remain largely underserved
- The ACA and payor reimbursement policy changes will drive expanded use
- Integrated Care models enable greater utilization of telebehavioral health

**Over 1/3 of SMI Patients and over 1/2 of MMI Patients DO NOT RECEIVE ANY TREATMENT**

### Treatment in U.S Diagnosed Mentally Ill Population

- **Any Mental Illness (AMI)**: 41%
- **Serious Mental Illness (SMI)**: 62.9%
- **Moderate Mental Illness (MMI)**: 45.9%
- **Low (Mild) Mental Illness**: 29%
- **No Mental Illness**: 8.5%
Your Body is Talking to You

Are You Ready For Sensors In Healthcare?

Wearable | Ingestible | On Device

Sensors in Healthcare are poised to enable interventions and predictive capabilities delivering billions in savings and a truer sense of personal care.

Trends & Quotes

Global Mobile Sensing Health & Fitness Shipments

Units (Millions)

<table>
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<th>Year</th>
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<td>2012</td>
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<td>2017</td>
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Source: ON World | as seen on mobihealthnews.com

“Are you ready for sensors in healthcare?”

First Warning

A breast health system to detect tumors earlier and cut the rate of false positives and negatives by measuring cell temperature changes over time.

Scanadu “Scout”

A handheld sensor that when placed against the forehead for 10 seconds allows you to analyze, track and trend your vitals, including heart rate, temperature, BP data, respiratory rate and to a smartphone with a 99% accuracy rate.

“EPOC” by Emotiv

The EPOC uses sensors to tune into electrical signals produced by the brain to detect user thoughts, feelings, and expressions.

iHealth Labs BP Monitor

A wireless blood-pressure wrist monitor, weight scale, and pulse oximeter that transfers data to the iHealth MyVitals App.

EASYWAKEme by Dreamtrap

A sleep monitor with vibrating alarm that “reads” body characteristics, tracks sleep duration and efficiency to accurately determine optimal wake-up time.

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140 million Americans live with chronic disease

“‘The whole sensor field is going to explode. It’s a little all over the place right now, but with the arc of time it will become clearer.’”

-- Tim Cook, CEO, Apple, 2013

“‘The next logical step in this evolution is for sensors to help manage chronic disease, which affect more than 140 million individuals in the United States, and account for more than 75% of our healthcare expenditures.’”

-- Eric Topol, The Creative Destruction of Medicine
Most people tend to overestimate the rate of change that will occur on a 2 year basis, and underestimate the rate of change that will occur over 10 years.  Bill Gates
Genetic testing is core of new model: precision medicine, evidence-based, rooted in quantitative science, tailored to the individual.

- Gene mapping, links disease profiles/risks to gene sequences, transforming diagnosis.
- We can already identify genes linked to old age, speech, memory, criminality, depression, obesity and stable relationships.
- Cost of sequencing a human’s genome, has fallen from $100M in 2001 to $1000 by 2015, in a process taking under 2 hours.

Illumina leads $100M investment in Helix, to place genomic data in the cloud and make it available to partners.
The fastest-developing method is **facial recognition**, led by MIT spinoff Affectiva.

Amassed a **database in 3 yrs. Of 1 billion facial expressions**, to recognize and classify basic emotions such as happiness or anger, with over 90% accuracy.

Many medications list suicide risk as a possible side effect. **Using biosensors in psychiatry**, thought disorders could be picked up quicker and used to determine treatment.

Contributing factors to headaches, e.g., mood, build up days before they strike. A **multi-sensor approach combining brain scans, genetic tests and emotion sensing** could dramatically improve treatment.
Foresight is 2020 – What’s Next?

- **Batteries You Can Eat** - ingestible pills replace invasive procedures
- **Multiple bioconnectivity devices linked to us 24x7**
- **Personal Health Concierge** is fastest growing profession
- **Cholesterol, heart disease, high blood pressure cured**
- **Implantable medicines will save lives**, physicians will act like programmers and fix the code in our very own DNA to prevent us from developing genetic diseases
- **Alzheimer’s, dementia, muscle shutdown and other aging brain diseases are solved with holistic therapy, and/or gene-specific brain “regrowth” drugs**
- **Genomic based medicine; we register our DNA**
19% of the population (72.1M people) will be 65 years and older in 2030, almost double what it was in 2008.

11% of people 65 and older have Alzheimer’s Disease, grows to 32% by age 85.

450,000 new cases of AD are diagnosed annually in US.

$226 billion national spend on AD and other types of dementia in 2015, projected to rise as high as $1.1 trillion in 2050.

Source: “Aging,” September 2014
“There is good research now we're seeing that lifestyle changes may make a difference”

85 Million Baby Boomers Flooding the System

27% of Canadian Population

25% of U.S. Population

Dr. Dale Bredesen’s regimen involves 36 components, integrating a complex program of lifestyle changes (exercise, nutrition), supplements, sleep therapy, and hormone therapy.

Tailored to the individual, it includes diet changes such as eliminating simple carbohydrates and processed foods; regular exercise; stress reduction; good sleep habits; supplements like fish oil, curcumin and vitamin D; and, hormone therapy.

In September 2014 issue of “Aging,” Bredesen describes cases of 10 patients undergoing the therapy – 50% diagnosed with mild cognitive impairment (MCI), 50% with early-stage Alzheimer's.

Memory improvement for 9 of 10 in 3 to 6 months, two of whom regained memory to return to work they retired from.

Besides the spectacular improvements in memory the main side effects of this personalized protocol were a better BMI (body mass index) and improved health in general.

Source: “Journal of Aging,” September 2014
Healthcare Transformer Spotlight:

♦ To date, **243 out of 244 Alzheimer’s drug trials have failed**. Fighting the disease with a single target therapeutic approach has not been successful.

♦ Based on scientific data that suggests Alzheimer’s disease does not follow a single pathway, the RE:Mind program **assesses each participant’s body chemistry to identify multiple pathways**, including changes in metabolism, inflammation, and insulin signaling.

*If you are a woman, your chance of an Alzheimer’s diagnosis, now exceeds your chance of a breast cancer diagnosis.*
The Invisible Patient

Innovating Family Caregiving to Fill Massive Gaps in Care

♦ 100 million Americans will need health related assistance by 2020, yet we will only have an increase of 5 million additional informal caregivers.

♦ Caregiver burden includes psychological morbidity, physical ill-health, financial hardship and social isolation.

♦ Typical familial caregiver profile is a female in her late 40’s / early 50’s. 50% are Boomers, Millenials 25%, and Gen X 25% of informal and/or familial caregivers.

♦ In 2008, 40% of U.S family caregivers were men, an increase of 21% from a 1996

♦ Increasing Gap of professional caregivers. BLS projects Personal Care Aides and Home Health Aides as 1st and 3rd largest occupational jumps by 2024.

♦ Free mobile apps and Wearables, providing care coordination, education, and medication adherence tools will make a big impact on preventing hospital admissions and enable transparent care.
Virtual Care
Medical and Behavioral Health

Connie Haralson, LPC
Vice President, Behavioral Health Sales
About Us

Our mission is to deliver an incredible customer experience never seen before in healthcare - providing **convenient, virtual access** to the best medical and behavioral health care.

- **MDLIVE**, founded in 2009
- Acquired Breakthrough Behavioral Health, a wholly owned subsidiary in November 2014
- Provides telebehavioral health solutions for health plans, employers, health systems, and direct to consumers
The Perfect Storm

80% Diagnosed with DEPRESSION
80% of Americans diagnosed with depression do not get the care they need due to barriers to care and limited provider access.

Four out of five smartphone users are interested in mobile health technologies that allow them to interact with a healthcare provider.

38 Billion WASTED
The overuse of U.S. emergency departments (EDs) is responsible for $38 billion in wasteful spending each year.

$44 BILLION
Depression alone costs $44B in lost productivity.

33 DAYS
National average wait time for an initial behavioral health visit is 33 days and counting.

50 STATES
The great majority of states allow delivery of telebehavioral health services via video.
Member-centric Virtual Care

- Care Coordination
- Telehealth
- Behavioral Health
- Smoking Cessation
- Second Opinion
- Connected Devices
- Chronic Conditions
- Price Transparency
- Dermatology
- Secure Messaging
- Triage & Redirection
- Symptom Checker
- Nurse Advice
- Medically Trained Service Center

EXISTING CAPABILITIES

UPCOMING

Medically Trained Service Center

Symptom Checker

Nurse Advice

Triage & Redirection

Secure Messaging

EXISTING CAPABILITIES
Mobile App, Web, and Video

See a Therapist

CHOOSE YOUR THERAPIST

Virtual Care, Anywhere.
24/7 Access to Board Certified Doctors
Username
Forgot Username
Password
Forgot Password
Sign in
Create a FREE account
See a Doctor
See a Therapist
MDLIVE Assist
Message Center
Symptom Checker
My Accounts
Filters
Arlene Feuerberg-Isaacs
Marriage/Family Therapist
Accepts insurance, Self-Pay $150
Irwin Isaacs
Licensed Professional Couns...
Accepts insurance, Self-Pay $150
Helen Ackerman
Psychologist
Accepts insurance, Self-Pay $56
Virtual Care, Anywhere.
Leading the Way

Comprehensive Member Experience
We enable consumers to access telehealth in the way they prefer—via concierge support, phone, online or the MDLIVE App.

Member Engagement
Supports strategic initiatives and integration to promote member engagement.

Focus on Innovation
Evolving with the telehealth landscape to incorporate emerging uses such as behavioral, dermatology, second opinion, chronic condition, health coaching, smoking cessation, and care coordination.

Telebehavioral Health
We offer the only 3rd party, validated behavioral telehealth service to address some of healthcare’s most costly behavioral health needs.
LYRA HEALTH
Healthy minds. Productive lives.
ONLY 1 OUT OF 7 WILL RECEIVE EFFECTIVE CARE
PEOPLE NEED HELP FINDING EFFECTIVE CARE

UNENGAGED

65%
People with a known issue never seek treatment

UNAVAILABLE

80%
Psychiatrists are NOT accepting new patients

NON-ADHERENT

50%
Medications and referrals are NOT completed

POOR QUALITY

60%
Psychologists are NOT trained in CBT
THE LYRA HEALTH SOLUTION

We help employees and their families access effective, convenient, and affordable behavioral health care

CONFIDENTIAL SCREENING  
through a simple online and personalized experience to find the right type of care

BETTER ACCESS  
to available providers with the right skills for a person’s needs

ONGOING SUPPORT  
with on-demand clinicians to make sure people get better
PERSONALIZED TREATMENT RECOMMENDATIONS

- Online therapy tools
- In-person or video therapy
- Medication or psychiatric assessment
The Lyra Health search algorithm instantly shows all available, high-quality BH providers for the person’s condition(s) and preferences.
We’re Still in the Top of the 1st Inning/ Period / Half

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