Challenges Healthcare Providers Face Investing in Prevention:

How Industry is Demonstrating the Value of Technology

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GE Healthcare
GE Healthcare

Healthcare Systems
... imaging technologies that address today's healthcare challenges

Medical Diagnostics
... in vivo & in vitro diagnostics that enable personalized medicine

HCIT & Solutions
... tools to digitize and industrialize healthcare

Life Sciences
... tools to enable the next generation of bio-therapeutics

- $19 billion GE unit
- 53,000 employees
- Broad technology portfolio
Entrepreneurs get better with age


- Highest rate of entrepreneurship has shifted to the 55-64 age group
- Entering development stage of “Can I make my life count?”
- Life stage marked by productivity and creativity
- People over 55 are almost twice as likely to found successful companies vs. 20 – 34 year olds
Will Healthcare 2020 meet the needs of our aging communities?

1. Delay onset of costly and debilitating disease?
2. Extend & maximize healthy and productive years?
3. Deliver these big gains cost-effectively?
Challenge 1: Technology


Source: Singularity University
Challenge 2: Labor

EU austerity will create a funding gap of 1M workers by 2020

Healthcare Productivity has declined over past 20 yrs

Productivity Boost of 15% is required to meet demand by 2020

India faces a skills gap of 6.2M in technically trained support staff

Disparity in access to education for China’s rural doctors

Top 5 Training Priorities
1. Ophthalmology technicians
2. Rehabilitation therapists
3. Surgical and intervention
4. Medical lab technicians
5. Radiography and imaging

Disparity in access to education for China’s rural doctors

(1) Kocher. Rethinking Healthcare Labor. NEJM 2012
(2) EU commission report Action plan for EU health workforce, 2012
(3) PHFI. Allied Health Professionals. 2012
(4) China Statistic Year Book 2011
Challenge 3: Waste

"Waste reduction = removal of non-value-added practices"
Don Berwick, CMS Administrator

Annual Cost of $558 billion or 21% of national health expenditures

How industry demonstrates the value of technology

From product-based to system-based
From RCTs to real-world studies
From acute care to prevention & productivity

Source: RAND. Redirecting Innovation in Healthcare. April 2014
New Innovation Targets

Operational Efficiency
- Releasing non-health care resources
- Productivity benefits
- Patients’/carers’ convenience

Clinical Excellence
- Tackling new disease/indication
- Health outcomes: 
  - quality of life ↑
  - life duration ↑
- Faster treatment
- Safety: 
  - side effects ↓
  - tolerability ↑
- Interaction with other drugs
- Subpopulation treated

Benefits of prevention & early detection

**KEY FACTS ABOUT MSDs**

- **21.3%**
  - Of disabilities worldwide are due to MSDs

- **4th globally in impact on the health of populations**
  - 2nd greatest cause of disability worldwide

- ** Biggest single cause of disability is back pain**

- **Across the EU 44M workers have MSDs which are caused by their work**

- **€240 BN**
  - Cost to the EU each year in lost productivity and sickness absence (2% of GDP)

- **These conditions account for half of all absences from work**

- **... and for 60% of permanent work incapacity**
World Alzheimer’s Report

- 28 million of the world’s 36 million people with dementia have yet to receive a diagnosis

- Earlier diagnosis allows people to plan ahead while they still have capacity

“Unintended Benefits” Lin PJ et al. April 2014

- Modeling study
- 10% reduction diabetes, HTN, CV disease, obesity
- “potentially modifiable risk factors”
- Dementia: Lower risk, delay onset, reduce duration, lower costs
Challenges for providers to invest in prevention:

- Linear model of innovation
- Labor productivity
- Big studies
- Budget silos
- Patient motivation
How providers can direct innovation towards healthy aging:

- New targets
- Faster development
- Prizes
- Maps
- Crowd sourcing
Prizes

- The Qualcomm Tricorder XPRIZE: $10 million to develop a hand-held, portable, wireless device for health
- Heritage Health Prize: $3 million to predict hospital re-admits
- Michael J. Fox Foundation: $10K to recognize Parkinson’s disease from smartphone accelerometer data
Healthcare need Big Data to:

- Understand
- Project
- Solve

Maps
Models
Games

Problems
Maps & Crowd-Sourcing
Thank you