Afternoon workshop: Exponential Thinking

With Zayna Khayat
Medicine Will Advance More in the Next 10 Years Than It Did in the Last 100

By Vivek Wadhwa - Oct 26, 2016  •  75,029
The last 10 seconds ...
Global Life Expectancy
-10,000 BCE - 2003

Years of Life Expected at Birth

Source: Indur M. Goklany, “The Improving State of our World.” Washington, DC: Cato Institute, 2007. 36. Life expectancy is believed to have been 20-30 years prior to 1820. Age 25 is selected as an average.
Average time from evidence to practice in medicine: 17 years
Healthcare innovates linearly and locally … the world is global and exponential

Adapted from Paul Barter (York U.)
6 D’s of Exponential Disruption

- Digitized
- Deceptive
- Disruptive
- Dematerializing
- Demonetizing
- Democratized
“Soon it will cost less to sequence a genome than to flush a toilet”

Ray McAuley
Singularity University

“It will be a birthright to get whole genome sequencing”
IF THE RATE OF CHANGE ON THE OUTSIDE EXCEEDS THE RATE OF CHANGE ON THE INSIDE, THE END IS NEAR

- JACK WELCH
Punch it Chewie
THE DIGITAL HOSPITAL: 82 COMPANIES REINVENTING THE PRACTICE OF MEDICINE

- CARE PLANNING
  - dbazahealth
  - caremerge
  - caresync
  - Oncora Medical
  - Wellframe
  - rimidi

- SUPPLY MANAGEMENT
  - ATHERAN
  - Lab Sensor Solutions

- EMR/ PRACTICE MANAGEMENT
  - MODULARIZING MEDICINE
  - pokitdok
  - CareCloud
  - FLATIRON
  - Augmedix
  - yoso

- COMMUNICATION
  - DrFirst
  - [m]pirik
  - cureatr
  - voalte
  - BeckonCall
  - patientsafe
  - Stitch
  - tiger text

- RADIOLOGY
  - BUTTERFLY
  - HeartFlow
eaglomed
  - imaging
  - SonarCine
  - imagia
  - Trice

- DIAGNOSTICS
  - Genalyte
  - freenome
  - BLUEBEE
  - Lunit
  - lumiata

- PATIENT MONITORING
  - SENTRIEN
  - MediBeacon
  - Glytec
  - Optiscan
  - Onnim
  - EarlySense

- SURGERY
  - gauss surgical
  - intelli joint
  - TOUCH SURGERY
  - CMR
  - Surgical Theater

- MEDICATION MANAGEMENT
  - PerceptMed
  - TALYST
  - Zeus
  - ZappRx
  - CAPSULE
  - RxRevu

- REFERRALS
  - aidin
  - Arista MD
  - GRAND ROUNDS
  - KYRUS
  - SOLera
  - Healthify

- HOSPITAL NAVIGATION
  - GOZIO
  - Connexent

- CARE COORDINATION
  - Health Gorilla
  - DASH

- READMISSIONS / EMERGENCY DEPARTMENT
  - analytics MD
  - jvion
  - Position Health
  - check-ER

- INFECTION CONTROL
  - Altitude Medical
  - Xenex
  - Hyginex
  - Hand-in-Scan

- PATIENT EXPERIENCE
  - Bivarus
  - Narrative Dx
  - medStatix
  - applied VR

- CARE COORDINATION
  - Health Loop
  - SILVERVUE
Zebra Medical Vision offers $1 AI medical scans on Google Cloud

- Zebra Medical Vision creates AI algorithms that can read medical images and detect anything untoward before humans can
- Zebra has put its algorithms to Google’s Cloud to help the start-up scale
- Zebra is a customer of Google’s and neither party are working on anything currently for joint customers

Arjun Kharpal | @ArjunKharpal
Published 2:20 AM ET Wed, 8 Nov 2017 | Updated 2:09 AM ET Mon, 13 Nov 2017
Warm Up
Rubles For Minutes, Not Mochas, At Russian Cafe Chain

January 10, 2013 - 8:25 AM ET
Heard on Morning Edition

COREY FLINTOFF

[Image of people enjoying the cafe]
Say goodbye to cramped knees: 'Legroom adjustable' plane seat moves backwards and forwards according to height of the traveller
The Netherlands Keeps Closing Prisons Because It Doesn’t Have Enough Prisoners

Crime is down, and sentences are, too.
Imagine it is 2025 ... on your watch, your organization no longer exists.

What were the trends you missed?
What were the signals you ignored?

What were the investments or decisions you delayed which led to this demise?

What could you do today to prevent this from happening?

Adapted from: Anders Sorman-Nilsson
NAME 6 THINGS ...
Future of Health = **Innovation**

<table>
<thead>
<tr>
<th>Today: System</th>
<th>Future: Person</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TIMING</strong></td>
<td>Reactive, sick care</td>
</tr>
<tr>
<td><strong>PRECISION</strong></td>
<td>1 size fits all, crude, analog</td>
</tr>
<tr>
<td><strong>MODALITY</strong></td>
<td>Institution-centred</td>
</tr>
<tr>
<td><strong>DURATION</strong></td>
<td>Episodic, intermittent, silo’d</td>
</tr>
<tr>
<td><strong>POWER</strong></td>
<td>Provider</td>
</tr>
<tr>
<td><strong>CURRENCY</strong></td>
<td>Volume,costs,fee-4-service</td>
</tr>
</tbody>
</table>
Emerging technologies in health(care)
1. SHIFT (PICK): TIMING | PRECISION | MODALITY | DURATION | POWER | CURRENCY

2. DRAW THE EXPERIENCE TODAY

3A. DOUBLE THE IMPACT

3B. DOUBLE IT AGAIN

3C. DOUBLE IT AGAIN

3D. DOUBLE IT AGAIN

*leverage consumer pull, low $, exponential tech – AI, VR/AR, Blockchain, ‘Oomics, Networks, bots, autonomous vehicles, 3D printing*