Innovations in Digital Health

Barriers to Health System Adoption, Emerging Trends and Opportunities

CITRIS Research Exchange

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MJCC

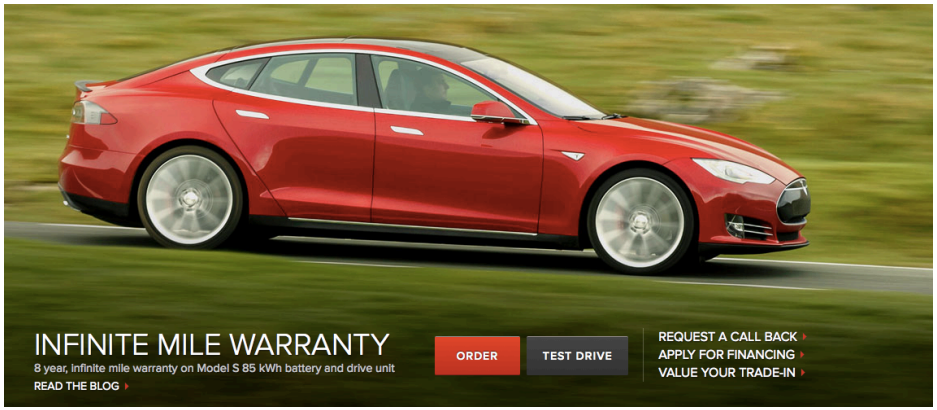
Disclaimers and Disclosures

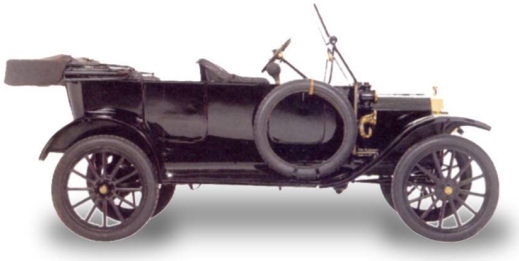
- Executive in Residence, AVIA http://www.aviahealthinnovation.com/
  - AVIA is a network of 25 health systems with > $100B in revenues

    Our mission is to advance care delivery transformation by helping leading health systems to identify and deploy digital solutions, and by providing strategic focus, process discipline, and a collaborative approach to deliver measurable results
- Boards and advisory roles:
  - Aetna, Inc. – health insurer, board member
  - PATH – international NGO for global health innovation, council chair
  - ConsejoSano – hispanic health education, industry council chair
  - Lucro – digital platform for vendor selection, advisory council
  - Sommetrics – airway management, advisor

- *No financial relationships with any other products, services or companies included in this presentation. AVIA is described.*

Tesla vs Google





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Applying This To Healthcare

- **Business models for innovations in care delivery**
  - Sell to
    - Health plans
    - Employers
    - Delivery systems
    - Consumers / patients
  - Products – Point solutions vs platforms
- **Four key barriers:**
  - Reimbursement models
  - Installed base and culture of healthcare
  - Fragmentation of disruption
  - Regulation and scope of practice

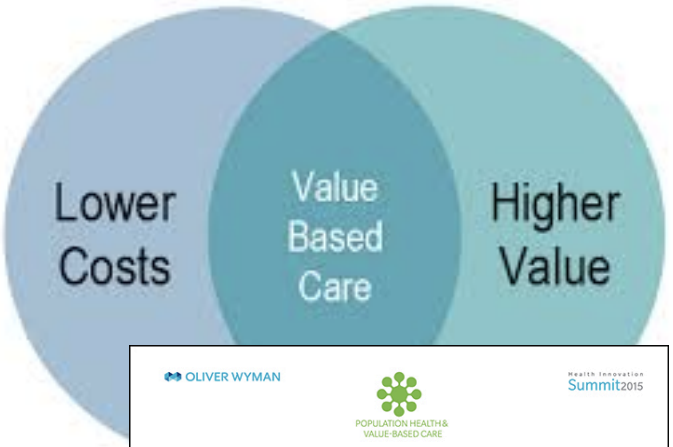
Sampling of major trends

- **Dramatic shift to care in the home and community:** Address social determinants of health, self-management, draw on community resources
- **Value Based Care:** ACOs, risk-based contracts, bundled payments
- **In-home palliative care:** Early enrollment, 24x7 access, nurse + social worker
- **Behavioral health:** integrated into primary care, address provider scarcity

Sampling of opportunities ignored

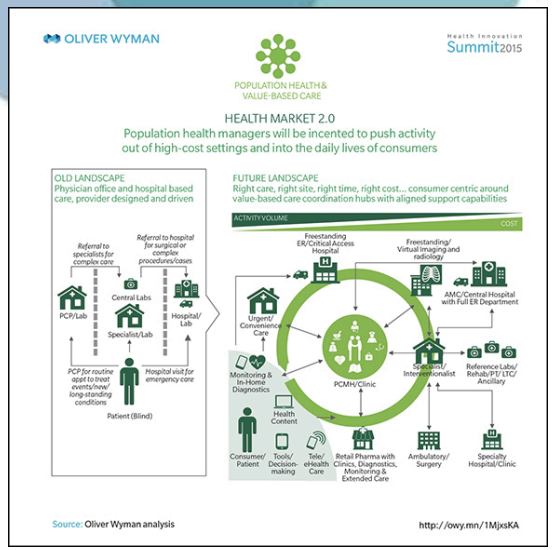
- **e-Consult model to leverage capacity and save money:** Use of templated exchanges between PCPs and specialists avoids 40%-60% of specialist referrals
  - SF General Hospital, Mayo, LA DHS, Kaiser Permanente – *implementation depends on drivers*
  - Lack of software platforms, modules
- **TeleICU:** Hub and spoke model for monitoring remote ICU patients, detecting problems, guiding interventions
- **Hospital at Home:** Care in home for mild cases
- **Grand Rounds:** Focused application of expert knowledge to resolve diagnostic, treatment variation from best practice

Barrier: Reimbursement models



- "50% value-based care"?
- Threshold for break-through?

- ROI versus "move the needle"
  (especially for digital solutions)
- <u>Real</u> calculus by COO and CFO
- Low CapX requirements constitute a *barrier*



- <u>Bottom line</u>: there is no usual process for considering disruptive new approaches

Barrier: Reimbursement models

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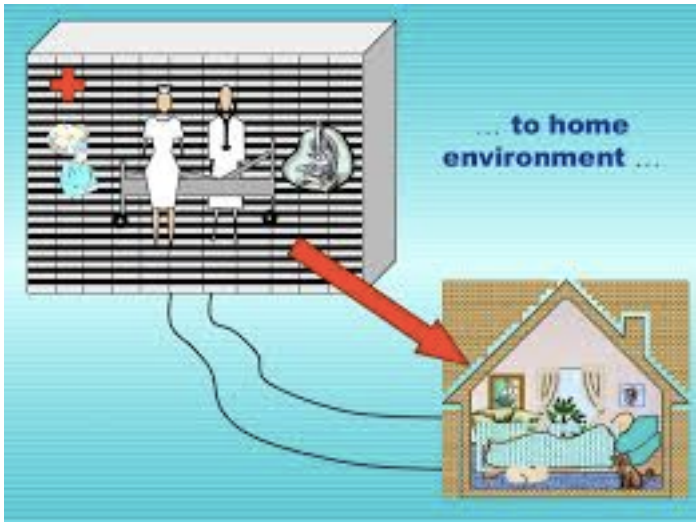
Health Plan, Inc.



9 hospital Integrated Delivery Network (healthcare system) in New Mexico with 30 years of managed care experience, 400,000 lives

Barrier: Installed base and culture

- Hard and soft installed bases:
  - IT / EHR systems -- test case = Decision Support
  - Staff configuration -- test case = Mobile
- "Deep" installed base:
  - Physical facilities
  - Inherited culture
- Cultural challenges:
  - "First do no harm"
  - Clinical trials vs A-B testing
  - "Mother may I", hierarchical systems vs. distributed initiative and problem-solving

Barrier: Installed base and culture

Sutter Health

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Google Glass Startup Augmedix Secures $17 Million Strategic Investment from Five Leading Healthcare Systems

Posted on Apr 25, 2016 in Transformation

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Major Healthcare Systems, including Sutter Health, Dignity Health, CHI and TriHealth, to Scale Augmedix EHR Charting Service Across Their Organizations with a Mission to Rehumanize the Doctor-Patient Relationship

Augmedix, Inc., today announced that it has closed a $17 million strategic round of funding that includes investments from five

- Fight physician burn-out
- Increase panel size
- ROI in first 6 months

- Crosses the line to satisfy *providers*
- Makings of a platform
- Health is a huge sector – challenges of early success

Barrier: Fragmentation of disruption

- Cacaphony of innovation
  - *More than 100 apps for breast feeding*
  - Intake, assessment, decision-making, implementation
- Emergence of health system venture funds
- Contrast: how Salesforce affected marketing across sect

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PERSPECTIVE

The Promise, Growth, and Reality of Mobile Health — Another Data-free Zone

Amira Roess, Ph.D., M.P.H.
N Engl J Med 2017; 377:2010-2011 | November 23, 2017 | DOI: 10.1056/NEJMp1713180

Share:

Mobile health (mHealth) tools and apps are proliferating and are increasingly being used by patients and clinicians, many of them in low- and middle-income countries. But the evidence supporting most mHealth interventions is still limited.

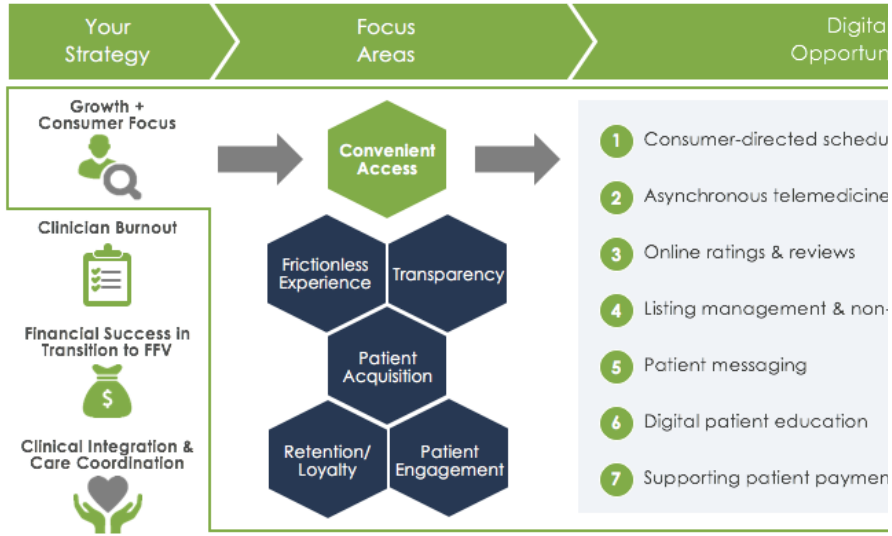
Barrier: Fragmentation of disruption

- The average hospital takes 23 months from seeing a digital need, to scaling a solution *American Hospital Association + AVIA Survey: January 2017*
- Growing list of complex opportunities, and no solution

avia

- 25+ health systems, 325 hospitals, >$100 m gross revenues

Linking your strategy to digital opportunities

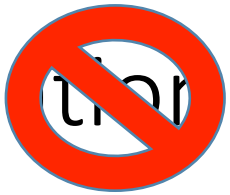


Implementation planning and support

- Where and how to operationalize
- Business case and ROI
- Sample project plan
- Single sign on, Epic integration
- Patient populations for phased rollout
- Marketing campaign and messaging
- Success metrics and reporting

Barrier: Regulation and scope of practice

- Regulation protects, but also creates “rice bowls”
- Disruption that lowers the cost of care, increases patient access and improves patient experience often breaks these rice bowls
- Professional scope of practice makes it very difficult to innovate in the best use of human potential
- Regulation of digital health is improving, being clarified now. Telemedicine and telehealth may be emerging from a long period of constraints
- Consumer convenience, trust and preference may drive changes as well

Barrier: Regul  tion and scope of practice

- VA exempt from state regulation of telemedicine
- Began national program in 2002.
  - Almost 1 million vets have received tele-services
  - Decreases in ED, hospital utilization averaged 23-56% for population using these services
  - 1/3 of population served is rural, high proportions of low SES
  - >30 diagnoses served, with strongest results seen for depression and PTSD
- The wheels grind slowly, and Churchill may well be right!