

Digital Advancements in Preventive Care

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ABSTRACT

Market demands superior care management as key driver to reduce cost and improved health. Many of the lives have chronic conditions ever before and preventive care can help people avoid these conditions, including diabetes, hypertension, and other lifestyle-related health issues. Digital advancements in healthcare has shown to improve quality by increasing adherence to guidelines, enhancing disease surveillance, and decreasing medication errors. Much of the evidence on quality improvement relates preventive care. Preventive care has witnessed a boost in efficiency and effectiveness post implementation of advanced digital technologies like - mobile health apps, tele-health, wearables and remote monitoring. This has helped lowering healthcare costs in America by preventing diseases before they require emergency room care. Living a healthy life style starts with prevention. As healthcare IT evolves day by day and becomes a mainstream, at-home diagnostics, digital wearables, new health based apps and tele medicine will play a vital role in ensuring better & long-term health and wellness for everyone.

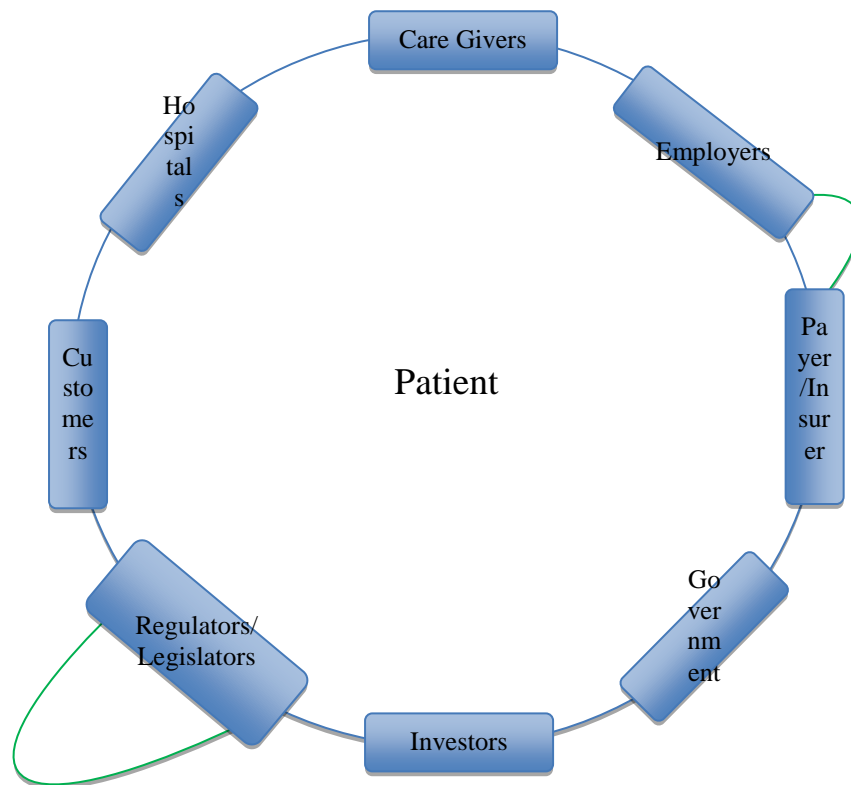
1. Introduction

Digital advancements in healthcare has shown to improve quality by increasing adherence to guidelines, enhancing disease surveillance, healthcare compliance, less utilization of unnecessary services, health coaching and decrease in medication errors. Much of the evidence on quality improvement related preventive care. Preventive care has witnessed a boost in efficiency and effectiveness post implementation of many advanced digital technologies such as telehealth, digital stethoscope, mobile health apps, IoT, wearables, ingestible sensors to improve medical adherence by capturing medication intake dynamics, virtual health, digital medicine and remote monitoring. These technological advancements have helped lowering healthcare costs and improved member experience in United States by preventing diseases before they require medication or emergency services. Americans have more chronic conditions than ever before, and preventive care can help people avoid these conditions, including diabetes, hypertension and other health related issues. Under the Affordable Care Act, over 20 preventive services like annual physical exam, pediatric exam, cancer screening, immunization, vaccination is covered without any out of pocket cost for consumers.

2. Industry drivers in redesigning the care

Payers and providers today face tough questions about caring for new populations, implementing new reimburse model, managing increasing administrative costs and navigating through revolving regulations. Payer and providers are constantly being challenged to lead their organizations and the entire industry toward a more collaborative and integrated future. There is enormous complexity built into the Healthcare ecosystem due to variety of regulations, mergers and acquisitions, legislation and mandates, growth of technology and consumerism, increasing medical and drug costs. Healthcare expenditures are growing faster than the GDP, premiums are rising faster than the inflation rate and wages. Providers are managing populations of patients with risk for cost and quality.

3. Complex Healthcare System



- Siloed Care: Care is ad-hoc, atomized across systems and treatment. Lot of physicians have read about changes coming in the healthcare system, for an example, Fee for Service has created a very siloed delivery system. Every provider does their own service, paid for what they deliver but there aren't been rewarded for the continuum of the care.
- Lack of Transparency: Insufficient access to healthcare costs, information shared and services. The cost burden for four vaccine-preventable diseases among adults over the age of 50 is \$27 billion per year.
- Healthcare Bureaucracy: Consumers are asked to navigate through a complex system, handle complex choices while the expectations are always on the rise when it comes to personalized experience, price transparency and being digitally connected. Many of the preventive services that patients receive are delivered outside of scheduled health exams.
- Healthcare industry is shifting from the historic fee-for-service model to value-based imbursement models.

4. Shift towards value and simplicity

The study conducted by Harvard on behalf of United Healthcare Group reveals that just focus on reducing spent is not enough for achieving value based care. New dimensions such as rewards program for providers for reducing spent and improving quality and infrastructure support also help to achieve the goals. Federal health officials unveiled a new primary care experiment that seeks to pay doctors for providing stepped-up services that keep patients healthy and out of the hospital. This is an effort to transform basic medical services for millions of American patients. The initiative names "CMS Primary Cares" includes five new payment options for small and large providers, allowing them to take varying levels of financial responsibility for improving care and lowering costs.

5. Forces for Change: Key Drivers

Adapting to the changing environment means preparing for new competitors, incorporating rapidly evolving exponential technologies and being prepared for disruptions. Healthcare stakeholders are adopting innovative, forward looking strategies to manage the rapidly evolving healthcare landscape.

- **Policy:** Government policy at every level (national and local) influence the shape of healthcare industry.
- **Payment Models:** the economic drivers in healthcare are evolving through federal and state policy. Scanning across the globe, other industrialized nations have similar drives to move from volume to value with varying underlying economic

drivers. Essentially this shift is intended to lower the growth of healthcare spend to create a more sustainable healthcare system. Transforming healthcare through payment models, shifting from fee for service to value based payments.

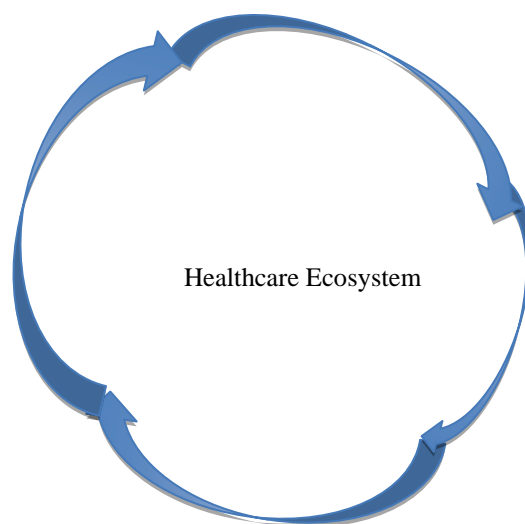
- **Exponential Technologies:** The healthcare industry is facing tectonic shifts of underlying technologies driving rapid change. The consumerization of the patients, the growing demands of clinicians to deliver the right care at the tight time and the focus on cost containment are in concert with the growth of emerging exponential technologies. Bigdata, Machines Learning, Artificial Intelligence, wearables, sensors, virtual care, new advances in Blockchain have made significant shift in healthcare digitally.
- **Outside Forces:** Mergers and acquisitions shaping new competitive forces. Venture capital funding and other investments fueling start ups. Big players in the industry are paving away new strategies to gain the market share.

6. Value in Early Intervention

Lack of early diagnosis and intervention on diseases financially impacts payers and risk bearing health systems costing 18X total medical costs for patients with a major disease, relative to patients with no major diagnosis. This investment brings sizeable returns, as every \$1 invested in early disease detection and intervention can return \$3 in savings. For an example, Employers spend at least 3X for members with Chronic Obstructive Pulmonary Disease v/s members who don't. In the new world, it's all about the outcomes. Reduce cost of care, reduce preventable emergency department visits, admissions and readmission rate and improve quality and health outcomes.

Patients

Pharma Companies

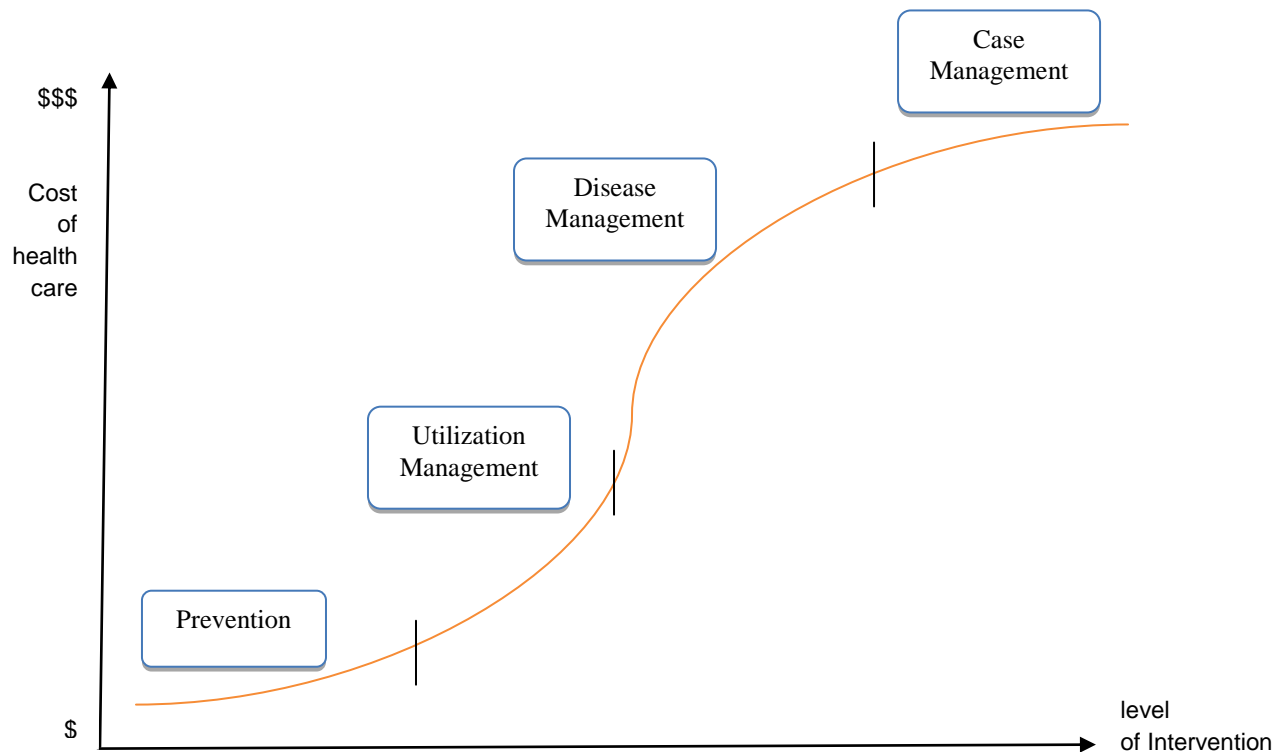


Payers

Provider/Health System

For patients, value based vasa means a better health outcomes, improved access to care and frictionless experience, and lower cost of care. For Payers, it deals with improving patient health outcomes, and thereby reduction in 911 calls, Emergency visits, inpatient care and overall cost of care. For Pharma, value means improving patient health outcomes, through increased adherence and utilization, ability to gather real world evidence in evaluating drug outcomes. For Providers, improving patient health outcomes, and adherence to treatment, improve patient experience and quality of care and reduce overall cost of care.

7. Expanding Focus on Wellness & Prevention



8. Pathways to a High Performing Payer Organization

A digitally enabled Health Plan needs to be consumer focused, cost optimized, simple and agile.

- **Consumer Focused:** Meaningful and intuitive personalized best-in-class experience to all stakeholders. This entails to a human centric design and re-imagined process for an enhanced digital experience.
- **Cost Optimized:** Manage cost to build differentiating and next gen capabilities to provide affordable care at competitive premium. Being cost optimized requires leveraging automation and digital capabilities across all customer journey and all business functions. Health plans should design and build compelling self service capabilities by automating key interactions/transactions across all customer journeys, anticipating and meeting individualized customer needs.
- **Intelligent process automation:** this includes many difference core technologies like Robotic Process Automation, Smart workflow, Artificial Intelligence, Advanced Analytics, Data Acquisition, Natural Language and Cognitive Agents. Assess the use case inventory to validate which cases are fit for automation. Ensure automation is a strategic priority with support and commitment from executive leadership that cascades throughout the organization.
- **Institute an organizational change management strategy** from the inception of automation initiatives and communicate early and often.
- **Simple and agile:** Simplification in order to achieve responsiveness to market trends and consumer expectations.

9. Conclusion

The adoption of connected technologies in healthcare remains limited and is progressing slowly, despite the promise they hold for cutting medical costs by preventing illness. One major obstacle for the adoption of connected devices and platforms is the design of most insurance systems. Insurers reimburse critical care, not the avoidance of incidents, therefore investments are not targeted towards prevention. Beyond the data that is presently available through clinical systems, processes, ecosystem will collectively enable greater personalization for preventive healthcare and treatments. Living in a connected world is becoming more and more pervasive. Consumer adoption of digital health tools are growing exponentially and being used by key population groups. Monitoring of chronic conditions through remote devices becoming more commonplace and will scale with enabling networks. Prescribing of apps and many devices for care is ramping up. Today the culture of care delivery is entrenched in factory like, volume driven operations with majority of care delivered in person. Processes, workflow with side-care connected health is not

scalable. True digital transformation is when the business curve bent to achieve previous unachievable outcomes. This can only be done when we combine the casualty-based prediction and evolutionary-driven prescriptive capabilities into a continuous business operation cycle.

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