Digital Transformation in the Post-Pandemic Future

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Welcome

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Conflict of Interest

Anne Snowdon, RN, PhD

Has no real or apparent conflicts of interest to report.
Agenda

- Drivers of Digital Transformation: “The Burning Platform”
- COVID19: “never waste a crisis”
- Digital Health
  - Creating Digital Health Ecosystems
  - Supply Chain as an Enabler of Digital Health
  - Learning Health Systems
- Leading the Future: Digital Health Transformation
Learning Objectives

• Examine the drivers of digital transformation in global health systems

• Define digital health and the key dimensions of digital health transformation

• Examine the opportunities for digital transformation and the role of Nursing in leading transformational change
Drivers of Digital Transformation: Personalization and Precision

“Omics” technologies: personalized therapies for every individual

• Information Technologies: new expectations among consumers for healthcare
System Pressure for Precision Medicine

The 10 highest grossing drugs in the USA, number of people that improve (blue) vs. number of people that fail to improve (red)

Consider the Value:
- Cost of drugs
- Emerging genomic therapies
- Harm or adverse outcomes for patients
Chronic disease is responsible for 75% of total healthcare costs in the U.S...existing care delivery models not well constructed to manage chronic illness effectively. (Milani, et al, 2016)
95% of the North American Population and Europe are online, connected to the internet, live and work in digital societies

57% of the World’s population are online…. 4.3 billion people

Yet, Health Care Systems continue to rely on “in person” care delivery, with limited capacity to deliver digitally enabled care
The Consumer Culture: “One Size does not fit all”

- Impatient
- See themselves as “invincible”
- Super connected
- Loyalty to value, relevance
- Transparency is expected
- Researches, negotiates
- #boomer remover

Our Parents
- Patient, used to waiting
- Values stable relationships
- Loyalty to brand
- Health as a service
- Defers to the expertise of the provider

Our Children
- Impatient
- See themselves as “invincible”
- Super connected
- Loyalty to brand
- Health as a service
- Transparency is expected
- Researches, negotiates
- #boomer remover
Health of the Millennial Workforce

- Double digit increase in prevalence for 8 of the top 10 conditions since 2014

- Older millennials (age 34-36) have higher prevalence rates for nearly all of the top 10 conditions than did Generation X members when they were in the same age range (age 34-36)

- Millennial women 20% higher prevalence top ten conditions compared to men

(https://www.bcbs.com/the-health-of-america/reports/the-health-of-millennials)
Global Pandemics: A Recurring Event

https://www.visualcapitalist.com/history-of-pandemics-deadliest/
Impact of COVID19 to date

• Limited digital infrastructure to flow data in real time to inform decisions
• No data infrastructure that links hospitals, communities, regions, and public health to track cases, testing outcomes, outbreaks
• Overwhelmed supply chain capacity, critical product shortages and logistics challenges (PPE, vaccinations)
• Global “Me First”
• Substantive Workforce Health and Safety impact
Rapid emergence of virtual care

- Dramatic Shift in Care Delivery to Virtual
- No measure of value, impact, outcomes
- “Shadow Pandemic” - Care for Non-Covid patients
- Overnight shift to digital care delivery for the Workforce
New Urgency for Digital Health Transformation

• Digital health is widely viewed as an opportunity to optimize and advance health system performance, support safe and supportive work environments, to meet care demands now and in the post pandemic future. Digital health is critical for proactive management of pandemics, while also advancing Economic value.

• How?
  • Health systems need a clearly defined strategy that defines digital health, what it can achieve, where to start, and how to measure progress
  • HIMSS is a not for profit, global network focused on advancing digital maturity in global health systems. A suite of maturity tools guide implementation to advance digital maturity
Digital health connects and empowers people and populations to manage health and wellness, augmented by highly accessible and supportive provider teams working within flexible, integrated, interoperable, and digitally-enabled care environments that strategically leverage digital tools, technologies and services to transform care delivery.
Building Blocks of A Digital Health Ecosystem

- Data stewardship, privacy, security, workforce integrity are foundational
- Mobilize and enable data exchange across the journey of care
- Transforms data into knowledge, insights, and outcomes
- Enables people to manage health, predicts risks
- Clinically Integrated Supply Chain

Populations Health & Wellness
Digital Capacity
Interoperability: Democratization of Data
Governance & Workforce
Analytics & Traceability: Outcomes
Digital Health Indicator

- Interoperability
- Person-Enabled Health
- Predictive Analytics
- Governance & Workforce

AMAM | CCMM | CISOM | DIAM | EMRAM | INFRAM | O-EMRAM
The Person-Enabled Health System

**Personalized:** people can connect directly to provider teams, report progress and outcomes

**Proactive:** identifies and manages risk to enable people to manage their health and wellness

**Population Health:** segment populations based on risk, focus on prevention
**Advanced Analytics: System Transparency**

*Personalized:* track progress toward individual’s personal health goals, meaningfully engaged with provider teams.

- **Proactive:** identifies risk and cues clinicians to enable proactive intervention to mitigate risks and keep people well.

- **Outcomes driven:** analytics track outcomes, cue providers on prevention strategies to optimize outcomes for people and populations.
Data Driven Decision Making – Actionable Analytics

React & Respond

Predict & Act

Prescriptive Analytics/Optimization

Predictive Modeling/Forecasting

Predictive: What should I do?
- Apply advanced analytic techniques to make specific recommendations
- Decisions automated or Provides Decision Support

Predictive: What’s likely to happen?
- Historical Patterns being used to predict specific outcomes using algorithms

Diagnostic: Why did it happen?
- Ability to identify root-cause
- Ability to remove/isolate confounding information

Value

Maturity

Bubble Size: Complexity

Graphic Courtesy of Mercy
How do you create Transparency?

Clinically Integrated Supply Chain

Tracking and traceability of products, care processes, provider teams, all linked to individual patient outcomes.

Real World Evidence of Value
Clinically Integrated Supply Chain Enables Transparency of Real World Data and Evidence of Value & Performance

- **ERP**
  - Supply Chain Data

- **EMR**
  - Patient Data

**Integrated Data Set**
- Real world informs solutions and innovation priorities, for specific patient segments, to enable procurement teams to procure priority solutions that offer best outcomes for patients

**Analytics Engine**
- Procurement Best Practice informed by real world evidence emerging from supply chain data, identifies solutions needed, products which work best for patients

**Predictive Analytics**
- Enabling proactive risk management, personalized to population segments
The Supply Chain Pathway to Personalized, Precision Health Care Delivery

Global Standards Adoption enables global traceability of products used in care processes.

Product Traceability and Recall is fully automated, which offers accurate case costing at the individual patient level.

Transparency of Patient Care Outcomes Across the Journey of Care tracks outcomes for patient populations and conditions under which best outcomes are achieved.

Personalized Health System Proactive care delivery informed by real-world evidence of outcomes.

Inventory Optimization reduces waste, generates 7:1 ROI and cost savings offer potential for self-funding.

Improved Quality and Safety Outcomes, reduced medical error—clinically integrated supply chain tools are used by program teams to measure quality and safety outcomes in real time at individual patient level to reduce medical error.

Predictive AI tools identify patients at risk, cue clinicians to proactively intervene to reduce risk, and support health outcomes at individual patient level and population segments.
Interoperability across Health Care Systems to enable global learning

- Global interoperability could offer real-time tracking of outcomes

- Interoperable data platform to support collaboration and learning: across organizations, systems, and jurisdictions

- Connects directly to people and populations - can collect outcomes data and push key messages to population segments at greatest risk
Governance and Leadership

- **Relentless focus on best care at lowest cost**
- **Transparency**: Real time flow of data informs care decisions.
- Transparency of outcomes across the journey of care
- **Workforce capacity** to deliver digitally enabled care, in safe work environments

Data >>> Information >>> Knowledge >>> Action >>> Accountability
The Mature Digital Health System: Learning Health system, data driven, outcomes focused

- Population health outcomes tracked by analytics, in real-time
- Outcomes inform the design, and scalability of new solutions
- Data flow across the system enables real-time tracking
- Outcomes inform system accountability
You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.

R. Buckminster Fuller
Opportunity for Nursing: Build a New Digital Ecosystem Model

- Lead the design of the future digital health ecosystem meaningful for every patient, virtual or in person.
- **Strengthen workforce resilience by creating work environments where Nurses thrive**, where our millennial nurses lead the future digital ecosystem.
- **Design digital care environments** that enable personalized care that is meaningful to patients—enabled by digital technologies, not digitizing today’s care system.
- **Rebuild confidence in the workplace**, which prioritizes a healthy, robust Nursing workforce able to partner with every patient and family achieve their health and wellness goals.

“If I had asked people what they wanted, they would have said Faster Horses”
Beyond Tomorrow (Berwick, 2020)

“Fate will not create the new normal, choices will”

Speed of Learning - faster

Value of Standards

Protecting the Workforce

Role of Virtual Care

Preparedness - resilience

Overcome Inequity
Thank You

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