

# The Learning Health System (LHS) and Nursing's Role/Responsibility

PRESENTED BY DIANNA DODD, DNP, RN, RN-BC, CCM  
ANIA HEART OF AMERICA 3<sup>RD</sup> ANNUAL SYMPOSIUM  
MAY 18, 2018

---

---

---

---

---

---

---

---

"ANIA  
where caring and technology meet"  
"Finding the Heart in Informatics"

---

---

---

---

---

---

---

---

## Disclosure

- Presentation today reflects my Doctor Of Nursing Practice (DNP) Capstone Project, 2016; and ongoing activity.
- I am not representing Cerner Corporation during this presentation nor during the symposium

---

---

---

---

---

---

---

---




---

---

---

---

---

---

---

---

### Health and Healthcare Report Card

|   | A | B | C | D | F |
|---|---|---|---|---|---|
| Healthcare Spending                         |   |   |   |   | X |
| Healthcare Waste                            |   |   |   |   | X |
| Needless Harm/Neglect/Death (Hospitalized)  |   |   |   |   | X |
| Research Participation                      |   |   |   |   | X |
| Research Multiple Variables                 |   |   |   |   | X |
| Evidence Generation to Implementation       |   |   |   |   | X |
| Human Cognitive Abilities - Data Volume     |   |   |   | X |   |
| Public's View of Nurses/Nursing (favorable) | X |   |   |   |   |

---

---

---

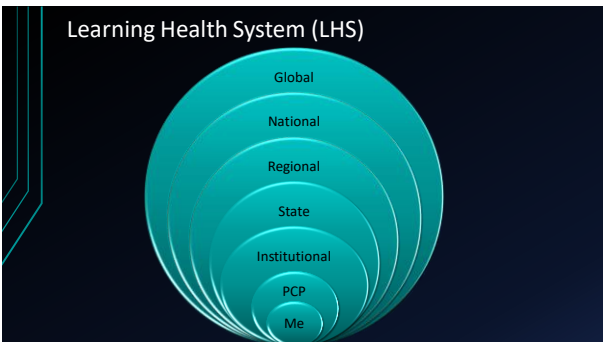
---

---

---

---

---




---

---

---

---

---

---

---

---

## LHS Core Values

**Person-Focused** The LHS will protect and improve the health of individuals by informing choices about health and healthcare. **Privacy** The LHS will protect the privacy, confidentiality, and security of all data to enable responsible sharing of data, information, and knowledge, as well as to build trust among all stakeholders. **Inclusiveness** Every individual and organization committed to improving the health of individuals, communities, and diverse populations, who abides by the governance of the LHS, is invited and encouraged to participate. **Transparency** With a commitment to integrity, all aspects of LHS operations will be open and transparent to safeguard and deepen the trust of all stakeholders in the system, as well as to foster accountability. **Accessibility** All should benefit from the public good derived from the LHS. Therefore, the LHS should be available and should deliver value to all, while encouraging and incentivizing broad and sustained participation. **Adaptability** The LHS will be designed to enable iterative, rapid adaptation and incremental evolution to meet current and future needs of stakeholders. **Governance** The LHS will have that governance which is necessary to support its sustainable operation, to set required standards, to build and maintain trust on the part of all stakeholders, and to stimulate ongoing innovation. **Cooperative and Participatory Leadership** The leadership of the LHS will be a multi-stakeholder collaboration across the public and private sectors including patients, consumers, caregivers, and families, in addition to other stakeholders. Diverse communities and populations will be represented. Bold leadership and strong user participation are essential keys to unlocking the potential of the LHS. **Scientific Integrity** The LHS and its participants will share a commitment to the most rigorous application of science to ensure the validity and credibility of findings, and the open sharing and integration of new knowledge in a timely and responsible manner. **Value** The LHS will support learning activities that can serve to optimize both the quality and affordability of healthcare.

---

---

---

---

---

---

---

---

---

---

## Foundational Aspects of the LHS




---

---

---

---

---

---

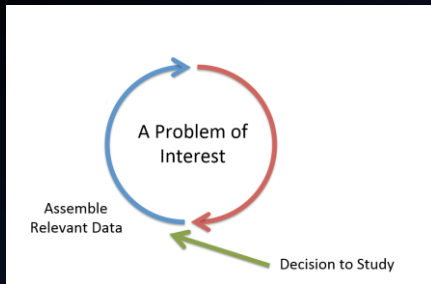
---

---

---

---

## Virtuous Learning Cycle



Friedman, 2014, Virtuous Cycle of Learning

---

---

---

---

---

---

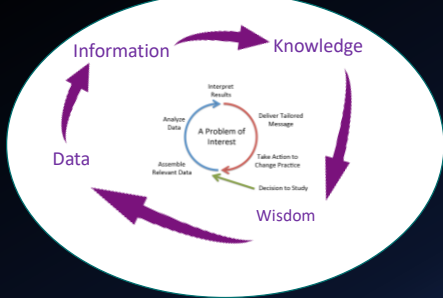
---

---

---

---

### Nursing Informatics Framework



---

---

---

---

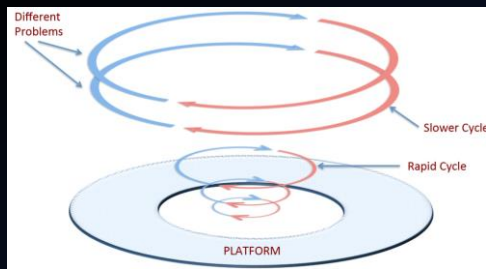
---

---

---

---

### Multiple Learning Cycles Simultaneously



Friedman, 2014, Virtuous Cycle of Learning

---

---

---

---

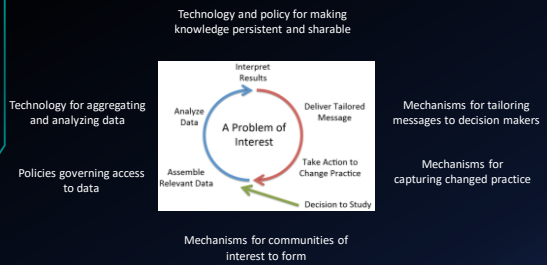
---

---

---

---

### Platform for Learning Cycles



Friedman, 2014, Virtuous Cycle of Learning

---

---

---

---

---

---

---

---

### Subject Matter Experts



Google Images

---

---

---

---

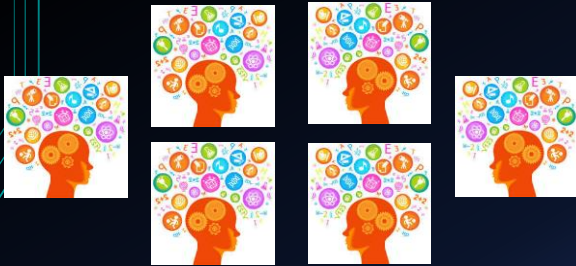
---

---

---

---

### SMEs > Collaborative Intelligence



Google Images

---

---

---

---

---

---

---

---

### Nursing Connection

it's not  
who you are  
that holds you  
back, it's who  
you think  
you're not.

-anon

Google Images

---

---

---

---

---

---

---

---

### Nursing Trends

- 2018 > Average age of a nurse is > 50 years of age
- By 2020, anticipated over 80,000 nurses will leave the workforce...every year
- By 2025, anticipated nursing shortage of ~ 130,000
- By 2028-2030, anticipated over 1 million nurses of retirement age

---

---

---

---

---

---

---

---

### Nursing Involvement

- Leadership involvement not really voluntary
- Expand thinking beyond "I'll be a leader in my own <group>" to "I'll be a formal leader in <area>"



Google Images

---

---

---

---

---

---

---

---

### Largest Group Providing Healthcare



Google Images

---

---

---

---

---

---

---

---

### Why Are You Needed?

- Educational Purposes

We don't have a lot of technology people in Congress, so one of the basic things is to help people be educated on how technology works: what's there, where is it headed, what some of the challenges and opportunities are.

Suzan DeIBene

---

---

---

---

---

---

---

---

### Why Are You Needed?

- Educational Purposes
- Technological Engagement Styles
  - Digital Immigrants versus Digital Natives
  - Digital Visitors and Digital Residents
- Changing Landscape of Healthcare Delivery
- "Social-ness" of the Digital World



Figure 1. Technological and social aspects related to IoT  
[http://iot.ieee.org/images/files/pdf/IEEE\\_IoT\\_Towards\\_Definition\\_Internet\\_of\\_Things\\_Revision1\\_27MAY15.pdf](http://iot.ieee.org/images/files/pdf/IEEE_IoT_Towards_Definition_Internet_of_Things_Revision1_27MAY15.pdf)

---

---

---

---

---

---

---

---

### Why Are You Needed?

- Educational Purposes
- Technological Engagement Styles
  - Digital Immigrants versus Digital Natives
  - Digital Visitors and Digital Residents
- Changing Landscape of Healthcare Delivery
- "Social-ness" of the Digital World
- IoT

---

---

---

---

---

---

---

---

Wikipedia: The Internet of Things (IoT) is the network of physical objects or "things" embedded with electronics, software, sensors and connectivity to enable it to achieve greater value and service by exchanging data with the manufacturer, operator and/or other connected devices.

---

---

---

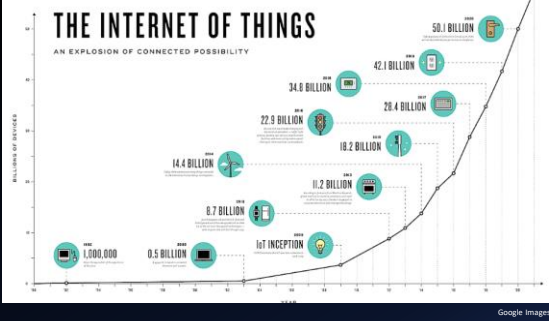
---

---

---

---

---



---

---

---

---

---

---

---

---

### Data Explosion



---

---

---

---

---

---

---

---



## Data Handling

- Analytics
  - Descriptive
  - Predictive
  - Prescriptive
- Artificial Intelligence
  - Machine Learning
  - Neural Networks / Deep learning
- Language Recognition

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

## How Might Healthcare Be Different?



---

---

---

---

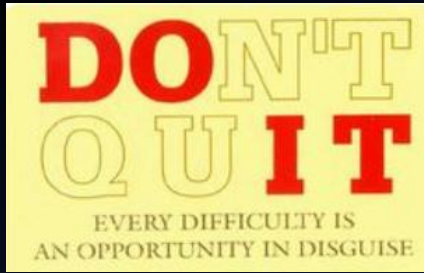
---

---

---

---

Let's Continue the Conversations:  
Dianna\_Dodd@yahoo.com



Google Images

---

---

---

---

---

---

---

---

Find a problem where  
your passions intersect  
society's needs.

Matt Might

---

---

---

---

---

---

---

---

Find where your passions  
intersect the Learning  
Health System, and Lead!

---

---

---

---

---

---

---

---