# Future:
## CMIO & CNIO

S. Andrew Spooner, MD, MS
Chief Medical Information Officer

Terri Price, MSN, RN
AVP and Chief Nursing Informatics Officer

Cincinnati Children's Hospital Medical Center

**HiMSS**
**CENTRAL & SOUTHERN OHIO** *Chapter*

# Objectives

1. Participants should understand that although the EHR is cited as a cause of burnout, providers continue to adopt EHRs almost universally.

2. Participants should understand the role of the CMS rules for documenting Evaluation and Management Services in creating the current EHR experience in the United States, as compared to the EHR experience in other countries.

3. Participants should understand that the role of the CMIO is moving away from implementation issue and more toward user optimization, informatics research, and harnessing the innate power of computer systems to reduce provider workload.

4. Participants should understand the evolution of the CNIO role.

5. Participants should understand the role that technology plays today in healthcare delivery.

6. Participants should be able to articulate why informatics roles are needed in healthcare today.

# The Fundamental Theorem of Medical Informatics

Friedman 2009 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2649317/
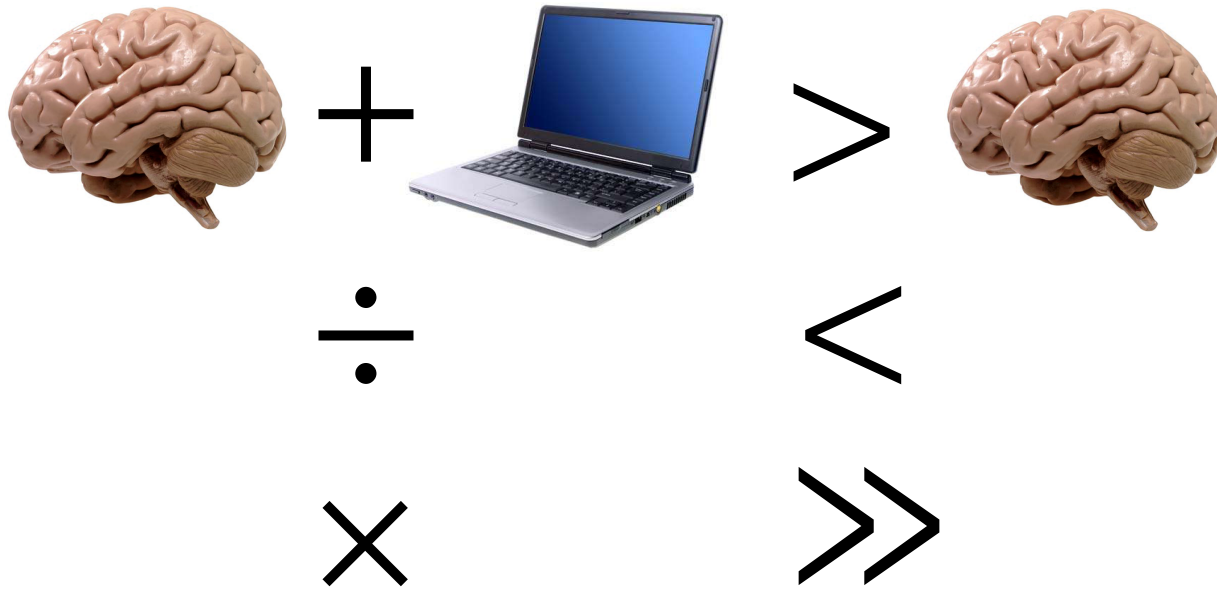
Service of Dr. Arch. I. Carson          EPISCOPAL HOSPITAL          SURGICAL

Number 60/1918          Name ......

Age 15 yrs.          Sex Male          S. M. W.

Nativity American          Religion Catholic          Address

Occupation          East

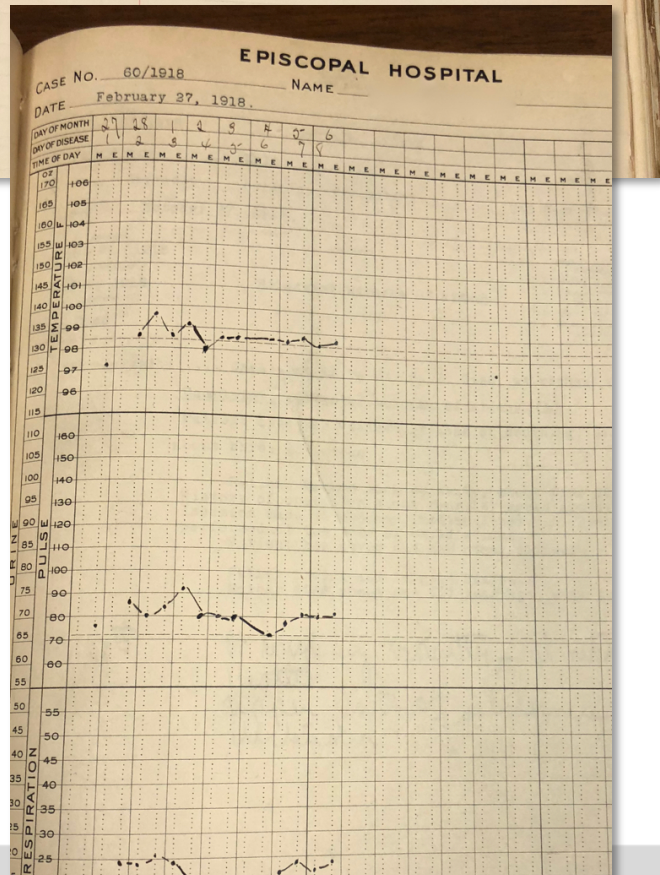| Admitted.<br>Feb. 27, 1918<br>Discharged.<br>March 9, 1918<br>Result.<br>Well | Diagnosis<br><br>Phimosis | Observe following history:<br>1. History of pres<br>2. Previous history pathological<br>3. Family history.<br>4. Present conditi amination. |
| --- | --- | --- |

On admission ..... Patient examined this afternoon by Dr. Carson, in

Out-Patient Clinic.

Patient admitted for circumcision.

Previous history negative.

March 1st    Circumcision done

March 9.    Patient discharged, condition good

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# EPISCOPAL HOSPITAL

CASE No. 60/1918          NAME

## PHYSICIAN'S ORDERS.

| No. | DATE ORDERED | DISCONTINUED | ORDER |
| --- | --- | --- | --- |
| 1 | March 7–18 | | General diet |

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# EPISCOPAL HOSPITAL

CASE No. 60/1918          NAME

DATE February 27, 1918.

| DAY OF MONTH | 27 | 28 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| DAY OF DISEASE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | |

EPISCOPAL HOSPITAL ............ M E D I C A L ............

Service of Dr...W., J., Graf..for..Dr...Ramsey......

Number...16/1918...    Name ...

Age...9..yrs.....    Sex...Male...........S. M. W.

Nativity .American../..Protestant......

Occupation ......

Address
5th St.,
Portsmouth

Admitted.
Jan. 10, 1918
Discharged.
March 3, 1918
Result.
Improved

Diagnosis
Idiocy
Hypertrophied tonsils,
Adenoids
Decayed teeth

Observe following orde...
history:
1. History of present illness.
2. Previous history, physiological and pathological.
3. Family history.
4. Present conditions and physical examination.

On admission .... Case sent in by Dr. Keil, Portsmouth, O.
Diagnosis, Chores, condition of two (2) years standing.

Trouble dates back to two (2) years ago when patient had whooping-cough followed by measles. Soon after this patient became nervous. Tonsils and adenoids were removed and circumcision was done, but nervous condition became worse.
Patient has attacks of melancholia and hysteria. There are other times when he tears his clothing and seems to hav... a desire to destroy everything, but seems unconscious of wh... he is doing.
No history of other illness. No history of epilepsy.

According to the mother, she had a nervous attack during pregnacy, due to the father's sudden disappearance.
The child has been raised by the grandmother, and has never played with other children. Was taught to sing in public when three years old.
Nonhistory of nervous diseases in the family.
No other children.
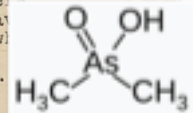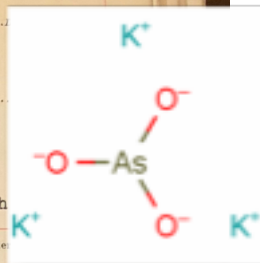
Jan 12th: Pt examined by Dr. Graff. Fowler's gtt ii TID. Increased to gtt viii. Advises removal of teeth (decayed) & tonsils. Mental condition bad.

Jan 15th: Pt had slight attack of tonsillitis

Feb 1st: Adenoids & tonsils and bad teeth (5) removed

Feb 8th: Pt less nervous--mental condition same. Throat condition OK.

Feb 15th: Fowler's solution discontinued.

Feb 19th: Cacodylic acid gtt every third day

March 1st: Pt up most of day--mental condition unimproved. General health good.

March 3rd: Pt dismissed--taken to farm by mother

# Report: 55% of Time Spent in Front of EHRs, Other 45% Spent Cursing at EHRs

By **Dr. 99**

BOSTON, MA – In a report that is both shocking yet not shocking at all, a Harvard University report states that health care professionals spent 55% of their work day in front of an electronic health record (EHR), while the other 45% of their time is spent rigorously cursing out their EHRs.

"Ugh, I hate typing notes," lamented primary care physician and author of the report Bonnie Townsend, who is ahead of pace in her quest to acquire carpal tunnel syndrome.   Seconds later, her computer screen freezes and her progress note that she had been working on for 20 minutes

| COMPANY | EHR | ADMIN'S TAKE | NURSES' TAKE | DOCTORS' TAKE |
|---|---|---|---|---|
| Cerner Corporation | PowerChart | Fantastic! | Sucks | Sucks |
| Epic ... Cor... | | | | |

*GomerBlog*
*Earth's Finest Medical News*

**2014 SURVEY OF**

# AMERICA'S PHYSICIANS

## Practice Patterns & Perspectives

An Examination of the Professional Morale, Practice Patterns, Career Plans, and Perspectives of Today's Physicians Based on Over 20,000 Survey Responses

Survey conducted on behalf of The Physicians Foundation by Merritt Hawkins | Completed September, 2014. Copyright 2014, The Physicians Foundation

### 33. Has your practice implemented Electronic Medical Records?

|  | 2014 | 2012 |
|---|---|---|
| Yes | 85.2% | 69.5% |
| No | 14.8% | 30.5% |

### 34. If yes, how has EMR affected your practice? (check all that apply)

| 2014 | |
|---|---|
| Improved quality of care | 32.1% |
| Detracted from quality of care | 24.1% |
| Improved efficiency | 24.3% |
| Detracted from efficiency | 45.8% |
| Improved patient interaction | 4.6% |
| Detracted from patient interaction | 47.1% |
| Has had little to no impact on the above | 7.6% |

# How are we doing?

http://dashboard.healthit.gov/HITAdoption/
(2015 NEHRS)



% of all Physicians that have Adopted Certified EHRs | National Avg = 78%

Less than 40%   40 - 51 %   52 - 62 %   63 - 74 %   75 - 85 %   More than 85%
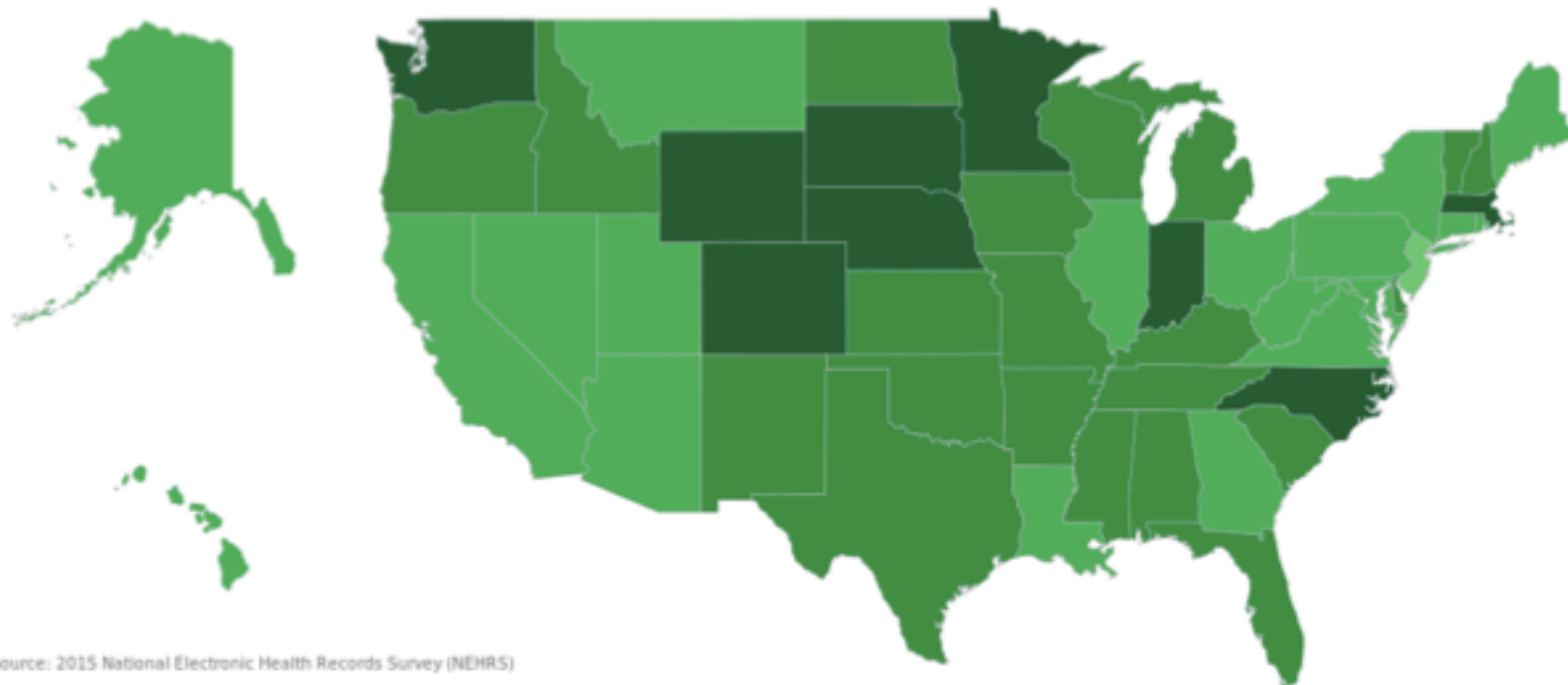
Source: 2015 National Electronic Health Records Survey (NEHRS)

HEALTH

# These doctors think electronic health records are hurting their relationships with patients

BY DAVID GORN, KQED FUTURE OF YOU   *July 21, 2017 at 11:01 AM EDT*

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Chan says he would never want to go back to the paper-only era.

"I remember back in the old days of paper medical records ... not being able to find a patient's chart was just maddening. We don't have that anymore."

*Dr. Albert Chan demonstrates inputting medical information into an electronic health record. Many doctors are fed up with how time-consuming EHRs have become, and how they can impede the doctor-patient relationship during exams. Photo by Serginhoo Roosblad/KQED*

THE POST-
PHYSICIAN ERA

Medicine in the Twenty-First Century

JERROLD S. MAXMEN

## 2

# THE MYTH OF
# PHYSICIAN NECESSITY

Man's strongest instinct is the will to live. We not only strive for longevity, but also crave a life free of infirmity. In the absence of health all human endeavors are

Maxmen JS. 1976. ISBN-13: 978-0471578802

# Artificial Intelligence

# Artificial Intelligence



I hold out hope that artificial intelligence… will transform our experience, particularly if natural-language processing and video technology allow us to capture what is actually said and done in the exam room. The physician focuses on the patient and family… by the end of the visit, the progress notes and billing are done.

—Abraham Verghese, MD

The New York Times Magazine, May 18, 2018

# Documentation Guidelines
# for Evaluation and Management Services

- Piecework approach to payment
- "Usual and customary" determined payment
- Later 80s: Resource-based Relative Value Scale
- CMS 1995 and 1997 rules
- "[P]ayers… may require reasonable documentation that services are consistent with the insurance coverage provided"

# Same EHR, Different Countries
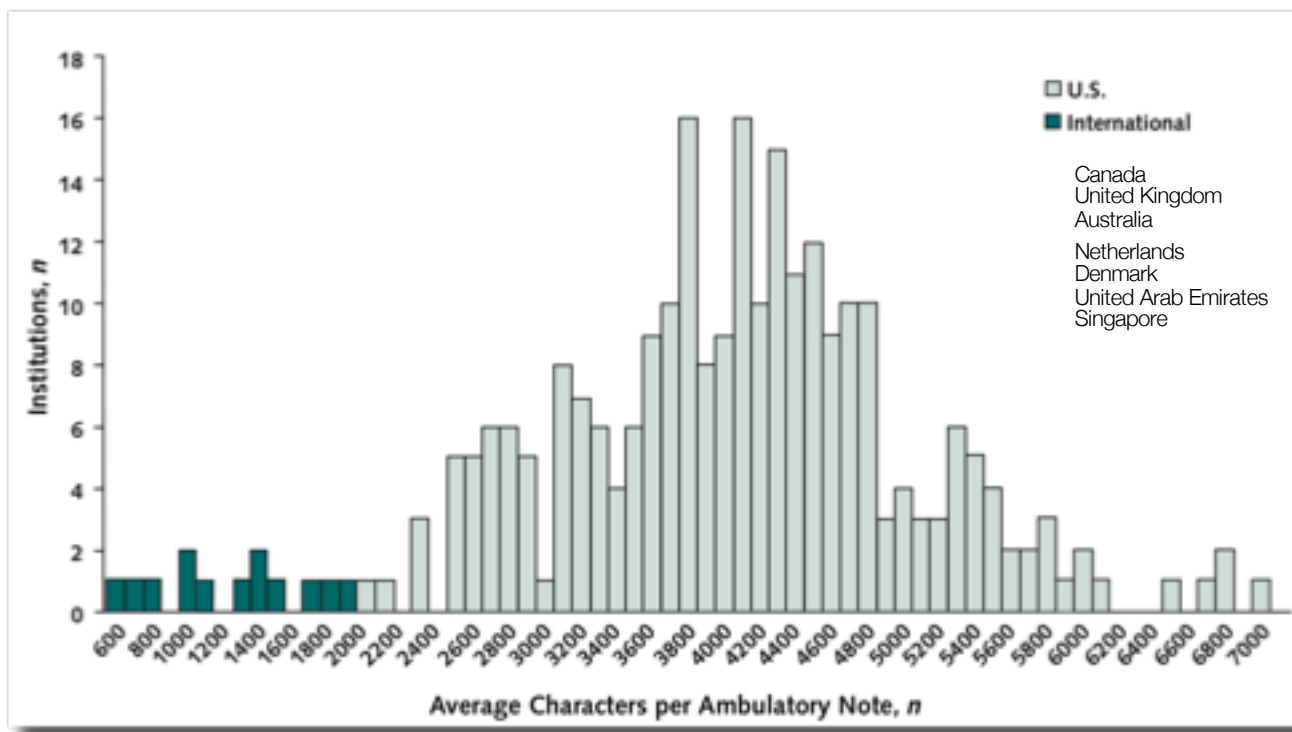


Downing NL. Ann Int Med 3 Jul 2018.

HiMSS
CENTRAL & SOUTHERN OHIO Chapter

**Brief Communication**

## A usability and safety analysis of electronic health records: a multi-center study

Raj M Ratwani,[1,2] Erica Savage,[1] Amy Will,[1] Ryan Arnold,[3] Saif Khairat,[4] Kristen Miller,[1] Rollin J Fairbanks,[1,2] Michael Hodgkins,[5] and A Zachary Hettinger[1,2]

**PRACTICE MANAGEMENT**

# 62 clicks to order Tylenol? What happens when EHR tweaks go bad

SEP 14, 2018

Staff

AMA

Share t
article

| Tylenol (500 mg PO, 4-6 hours) | Task duration (sec) | 51.4 (15.3) | 70.4 (32) | 69.3 (38.2) | 45.6 (15.9) |
|---|---|---|---|---|---|
| | Clicks | 14 (4.1) | 23.5 (15.8) | 61.6 (94) | 25.8 (11.2) |
| | Error rate | 8.3% | 0 | 7.1% | 30% |

# CMIO Role

- Old
  - Implement EHR
  - Paper-to-electronic engineering, psychology
  - Decision support design
  - Governance of clinical decisions

- New
  - Optimize users
  - Optimize the implementation
  - Support research
  - Push vendors toward more data processing
  - Nurture next generation

# Evolution of Nursing Informatics



**1992** ANA recognizes NI as a specialty practice

**2002** ANA publishes Scope and Standards of Practice for Nursing Informatics

**2008** Florence Nightingale's birthday, May 12, is officially recognized as Nursing Informatics Day.

# Nursing Informatics -Defined

A specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, knowledge and wisdom in nursing practice.

American Nursing Association. (2014). Nursing informatics: Scope and standards of practice. 2nd ed.

# Nursing Informatics
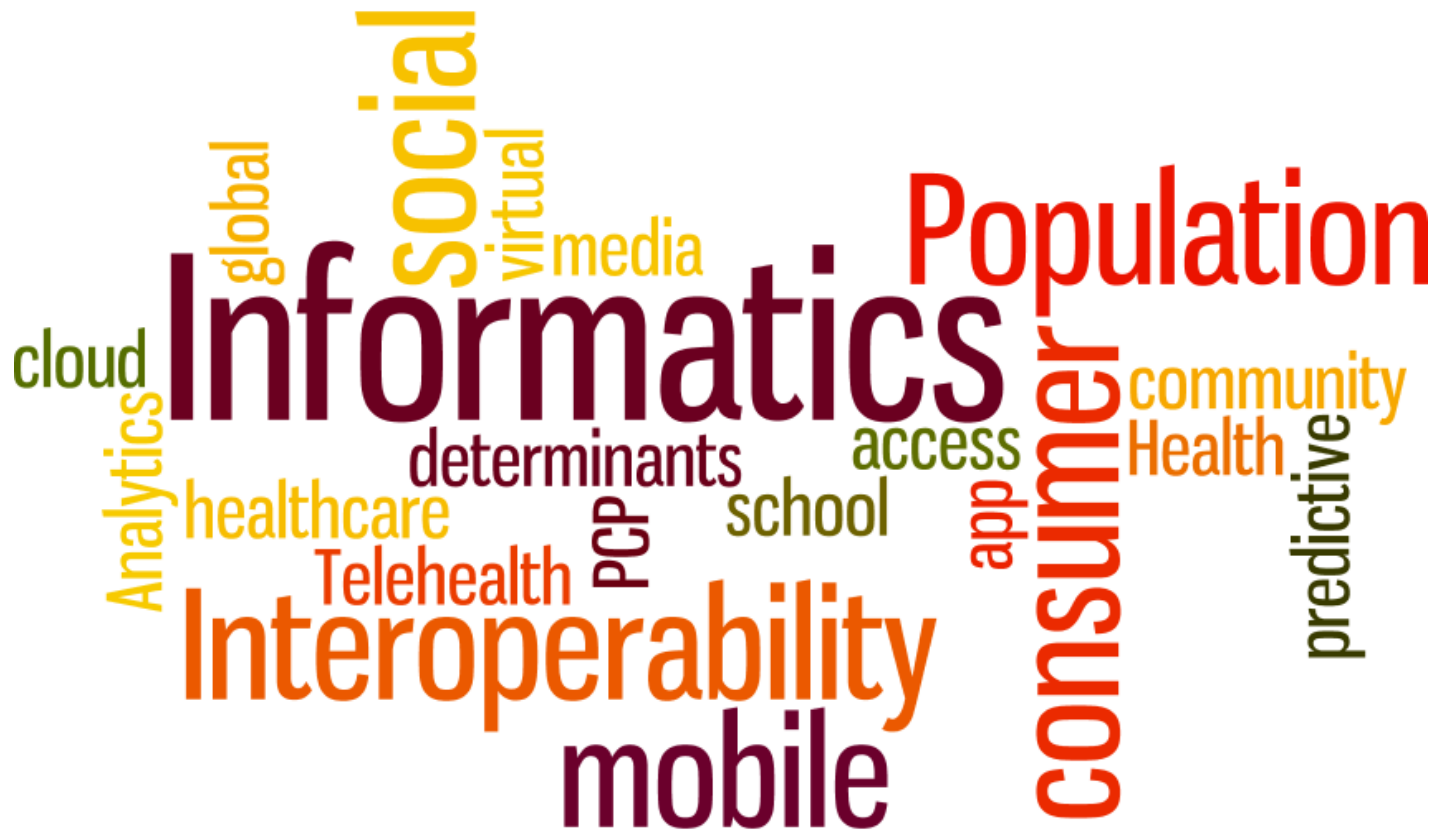# Applying the Definition

# Beyond the EHR
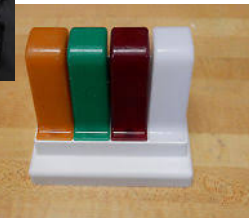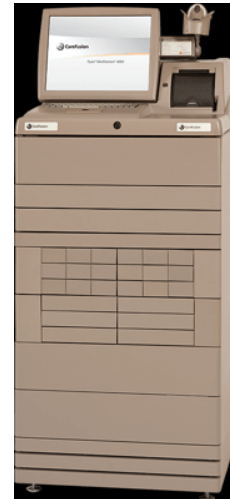
# CNIO Role

## Strategy that supports

- Planning and implementation of IT solutions

- Oversight of education to promote sustainable adoption of IT solutions and support of IT solutions to ensure safe and efficient use

- Evaluation of IT solutions to support evidence for best practice

# Beyond the Hospital

# CNIO Role

- Old
  - Implement/Oversight EHR
  - Paper-to-electronic transition
  - Workflow optimization

- New
  - Executive partner
  - Optimize EHR
  - Regulatory participant
  - Identify and implement IT solutions that meet org needs, promote safe and efficient care delivery and enhance the patient and family experience
  - Steward of vendor relationships
  - Push vendors for features and interoperability
  - Evaluate technology use to support best practice and population health
  - Serve as Innovative Leader

# Questions?