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Health Care Symposium 2018

Protecting Health Care Data

Health Care Data – How do we protect it?

- *Let's go home now*

Health Care Data – What is important?

- *The text book answer: "CIA"*

CONFIDENTIALITY

Only those who should see it, can see it

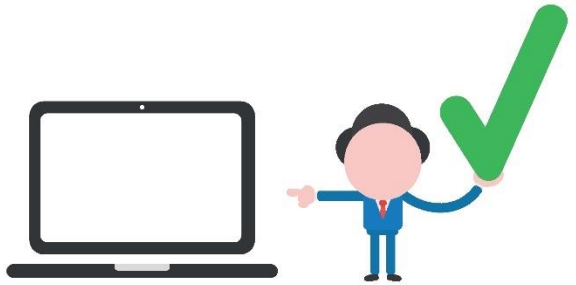
Health Care Data – What is important?

Integrity

- What you see, is what was entered (and should have been entered)

Integrity is NOT fidelity ! (But it is a factor)

Integrity = Valid Data that has fidelity.



Health Care Data – What is important?

Availability

At the appropriate time, at the appropriate place the appropriate people can get to the data

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Health Care Data – Competing Factors

- Share with Everyone. But only the Right Everyone
  - Not the Evil Everyone
- When shared with Everyone, Only the Right Everyone can make changes.
  - Which is NOT the same group as the “Sharing Everyones”
  - And only certain Everyones can change certain things
- Share with the Right Everyones very quickly.
  - But ensure fidelity as well as speed.

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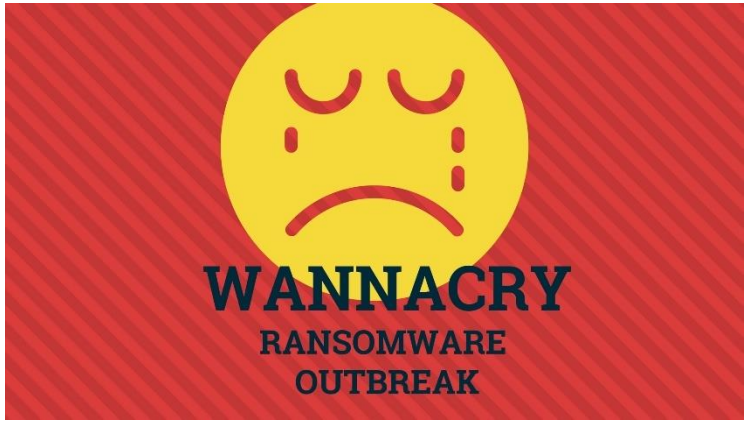
Health Care Data – Everyone

Health Care Data – Encryption

- **First reaction – Encrypt everything !**



- ***Hint – ability to encrypt data is NOT the problem***

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Health Care Data – So What Are The Problems?

- No standard “health record”
  - This is hard !
- No incentive for Vendors to make a standard record.
  - Why make it easy to migrate vendors?
- Medical Equipment Security
  - What is this ?
- Hospitals are in “Healthy People” business. Not “Security” business
  - Nor should they be in “Security” business !
- Dichotomy of sharing quickly, to only right people, no matter what.
  - Current *decrypt* standards not up to task.
  - Health data is bulky and hard to move around.

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Health Care Data – Solutions?

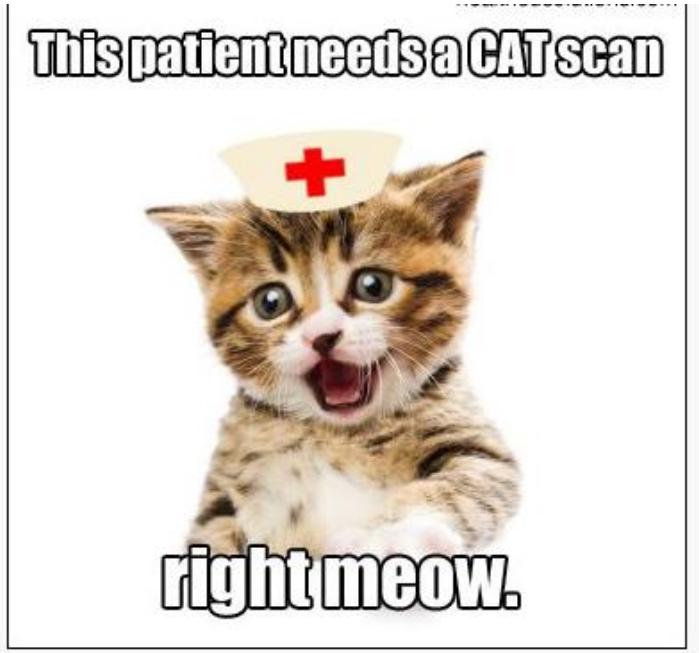
- No standard “health record”
  - Standard Health Care Record Collaborative is definitely helpful.
- No incentive for Vendors to make a standard record.
  - Large hospital groups need to push the major EHR vendors
    - Epic
    - MedTech
    - Cerner

Health Care Data – Solutions?

- Medical Device Security
  - Current state? - Abysmal
- Vendors are not incentivized to produce secure devices.
  - BUT WAIT ! THERE IS MORE ! For a nominal fee….
- Secure implementation mandates and guidelines.

Health Care Data – Solutions?

- Hospitals are not Security Businesses
  - And how do you move that data anyway ?



- Current configurations and technologies are NOT sufficient
  - We can encrypt quickly and maintain data integrity (valid and fidelity)
  - Great when we have high-bandwidth links. But rural healthcare does not have it
  - No standard record means no portable record
  - Current methods of authentication (decrypt on demand) are insufficient for health care needs

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Health Care Data – Solutions?

- New Security Model – Data Keepers and Central Authenticator.
  - Stores record in Standard Format – accessible by all EHRs
  - Data Keeper just keeps data
  - Central Authenticator only passes Authentication
    - Multi-factor
    - Authorized bypass IF from an ER by two authentication requests.
  - Vendors would have to develop new process and new technology
    - Data Storage and transmission
    - Data ingesting
    - New forms of multi-factor needed
    - Authentication profiles to enable rapid data delivery to ERs