Notes Oct 10 2018

Big Data’s Impact on Healthcare

* “Big Data is high-volume, high-velocity and/or high-variety.
* Big Data’s Uses
  + Astronomy
    - Sloan Digital Sky Survey of telescopic information
  + Retail Sales
    - Amazon, Walmart, Target track sales per customer
  + Search Engines
    - Google maintains user profiles.
  + Politics
    - Campaign’s focus political advertisements on search data
  + Healthcare
    - Personally stylized profiles, analyzing
* Personalized Profiles
* Triage
  + Pilot Programs in Kaiser Permanente Northern California use triage algorithms centered around data trends to identify risk patients.
    - One tests newborns for early onset sepsis
    - One tests adult patients for severity of illness
* Decompensation
  + Defined: The worsening of a patient’s condition at a noticeable rate.
  + There is a brief period of time in which physiological data is useful for telling if a patient will decompensate.
    - Current Big Data analytic systems increased accuracy of alarms to 50%, rather than the typical 5% to 10%.
* Adverse Events
  + Renal Failure
    - Constant monitoring of renal functions through kidney function, blood pressure, urine outputs, and renal fluid levels could have earlier signs of renal failure.
  + Adverse Drug Reactions and Events
    - Current systems in place are not effective in preventing adverse reaction related deaths and cannot detect patients in early stages of those reactions.
* Specialized Treatment
  + Chronic conditions which span multiple organ systems are often hard to maintain information on.
  + Being able to predict the real-time changes a patient make experience can help treat symptoms and prevent secondary medical problems.
  + Lowers
* Insurance Cost
  + High-risk pooling is becoming more accurate
    - This can effectively lower cost by eliminating false positives
    - More accurate data analytics are high-risk qualifiers
  + Current government regulations and provisions do not force providers to be more focused on lowering cost
    - Even with a better system the cost may not be lower
* Privacy and Ethics Concerns
  + Many people do not want their health data linked with their social data due to risk of discrimination.
  + HIPAA does not address major concerns in combining patient data for more accurate patient models.
  + There is currently not enough protection around hospital patient data, and fears are that linked profiles formed from big data are at greater risk.
* Discussion Questions
  + If the Big Data analytic models will not lower insurance costs, is it worth implementing them?
  + Is it ethical for medical providers to be held responsible when then do not implement more efficient diagnostic systems and cost-effective treatment options when they are available?

Computers and Communications (The Catfish Edition)

* What is “Catfishing”
  + The act of “catfishing” is to lure (someone) into a relationship by means of a fictional.
* Question Time:
  + What are some recommendations that you would give an online social site in efforts to catch catfish profiles and verify the authenticity of its users?
* Different Types of Catfishing
  + Revenge Catfish: creating this online romance simply to get back at you.
  + Bored Catfish: Person who has to much time on their hands. You may or may not know this person, you’ve been randomly chosen for this by someone.
  + Scary Catfish: This catfish is simply out to break hearts and cause chaos.
  + Lonely Catfish: This catfish usually has some sort of sob story and needs someone to talk too, and.
* Why Do People “Catfish”
  + Stalking & Spying
  + Bullying
  + Child Molestation
  + Retribution or Revenge
  + Third Persona
  + Financial Fraud
* Question Time:
  + Should catfish victims be able to pursue legal actions against the individual(s) who catfished them?
* Dangers of Catfishing – Person Being Catfish
  + Persons “catfished” become emotionally invested in the other person and the “relationship” while the “catfisher” does not
  + Embarrassment
* Dangers of Catfishing – The Catfisher
  + They could have alternative motives
  + They could be criminals (ex. Pedophiles, Killers, Rapist)
  + They could have hate towards something.
* The Danueal Drayton Case, 2018
  + A serial killer and rapist
  + Lured and targeted women on popular dating sites and ride-hailing apps
  + Took many different women out on dates…held them captive
* The David Russel Case, 2011
  + 25 year old David Russel lured 19 year old Maricar Benedicto on Facebook by pretending to be famous metal lead singer, Oliver Sykes, from the band Bring Me The Horizon
  + Persuaded Maricar to come visit him
  + He took her to a nearby forest.
* The Anna Delvey Case, 2017
  + Pretended to be a German Heiress on social media
  + Scammed at least $270,000 from friends, hotels and businesses.
* How to Avoid Being Catfished…Look for These Red Flags
  + They won’t Skype or use a webcam to talk with you, they often text, prefer telephone contact or they repeatedly cancel in-person meetings at the last minute.
  + They profess their love for you really quick
  + They have a profile that looks new or incomplete, with a lot of pertinent information missing.
* Questions