



# Lab I - US Healthcare, Policy & Informatics

CS6440 Intro Health Informatics, 2020 Spring

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## **Section A - Burdens of Healthcare**

### **1. What are some of the greatest challenges in U.S. Health Care today? Detail at least 5.**

- A. Prohibitively high cost. Compared with other Organization for Economic Co-operation and Development (OECD) countries, people in the U.S. pay more than double on health care cost per capita. Moreover, poor people in the U.S. are more likely to not taking recommended treatment due to financial reasons (Davis, Stremikis, Squires, & Schoen, 2014).
- B. No universal healthcare. The U.S. government does not provide universal health benefits to citizens. Other developed countries that do provide universal healthcare, such as the United Kingdom, Switzerland, Japan, and Germany, have a negligible number of personal bankruptcies related to medical expenses (Arnquist, 2009). Medical bill is the largest cause of U.S. consumer bankruptcy (Austin, 2014).
- C. Waiting time is long. Typically, a patient will usually need to schedule an appointment to get medical care. One will need the referral of PCP, then wait for another period of time, to see specialist clinician for a more complicated problem (Patrick et al., 2011).
- D. Over-expanded administrative system. It has been reported that Duke University Hospital has 900 hospital beds, but 1,300 billing clerks, surpassing the typical number of clerks in Canada by 50-100 times (D. J. P. N. Cutler, 2013). The expend of the complex administrative system not only increased administrative cost, but also deteriorated the overall efficiency (Woolhandler & Himmelstein, 1991)
- E. The fear to the threat of lawsuits. Due to the fear to malpractice lawsuits, healthcare givers tend practice defensive medicine, that is, to expand their examination list. Researches have noticed that in the U.S., in sates that has a higher risk of malpractice lawsuits, health care providers tend to have a higher concern of lawsuits, and tend to suggest more examinations. This scenario in turn increased the healthcare cost, increased suffering to patient, and decreased the efficiency of the healthcare system (Carrier, Reschovsky, Mello, Mayrell, & Katz, 2010).

### **2. What are some of the advantages of U.S. Health Care compared to the rest of the world?**

- A. High insurance coverage. Most people in the U.S. are covered by health insurance. As of 2014, 89.6% of the U.S. population are covered by health insurance. The insurance company provides financial buffering against high healthcare cost for individuals and families (Carrier et al., 2010)
- B. Plenty of funds for the research and development of new technologies and prescription drugs. In 2013, the U.S. spent \$1026 per capita on pharmaceuticals and other non-durable medical care, more than double the OECD average of \$515 (OECD, 2015). The amount collected by the healthcare system made the U.S. the country pays the most for medical research and development. In the year of 2012, the sum of U.S. medical research funding account for 50% share of the

total medical research funding from all countries globally (Moses et al., 2015)

**3. What accounts for the majority of healthcare costs? Why?**

- A. The cost of new technologies and prescription drugs. As we have discussed above, people in the U.S. spent double the amount for pharmaceuticals and other non-durable medical care compared with average per capita cost in OECD countries (OECD, 2015).
- B. The rise of chronic diseases, including obesity. Compared with other high-income nations, the U.S. has a higher rate of chronic illness and a lower overall life expectancy
- C. The high administrative costs. As we have discussed above, for example, Duke University Hospital has 900 hospital beds and 1,300 billing clerks, surpassing the typical number of clerks in Canada by 50-100 times (D. Cutler, 2013)

**4. In your own words, describe how laws, regulations and policies have impacted the US Healthcare system as we know it.**

Due the ideology of capitalism and freedom, free market has been adopted nearly in all economic areas, so is in healthcare, in the U.S. Compared with other countries, policies with a tune of more 'socialism' leaning, such as universal healthcare, state-owned clinic/hospital, and national bargaining with pharmaceutical companies (Nathan-Kazis, 2019). While such ideology and associated policies promoted competition and improved the research and development funding in U.S. healthcare system, they also caused high financial pressure and other problems.

Compared with other industries, healthcare is more associated with basic human rights. Thus, in the realm of healthcare, 'fair' should be more pronounced compared with 'freedom competition', and policies such as universal healthcare, state-owned clinic/hospital, and national bargaining with pharmaceutical companies shall be promoted. For these reasons, legislations such as <Affordable Care Act> and <The 21st Century Cures Act> are brought out to work on improving the cost and proficiency of U.S. healthcare.

**Section B - Chronic Illnesses**

**1. What is the CDC? What purpose does it serve?**

CDC stands for Center of Disease Control and Prevention. The purpose of CDC is to perform "as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and health education activities designed to improve the health of the people of the United States. " ("CENTERS FOR DISEASE CONTROL AND PREVENTION,")

**2. What are chronic illnesses and why are they important to know?**

By the definition from the U.S. National Center for Health Statistics, chronic illness is disease that lasts longer than 3 months. Examples of chronic illness

including arthritis, cardiovascular disease, and cancer. As chronic diseases tend happen more often with higher age, it become an important factor that affect the life expectancy and quality in developed countries.

**3. What are some examples of acute conditions? How are acute conditions different from chronic illnesses?**

Examples of acute diseases include appendicitis, acute leukemia, and strep throat. In medicine, describing a disease as acute indicates it is of short duration and of recent onset. The meaning of "acute" is used in contrast with "chronic", which indicating disease last longer than 3 months.

**4. What are the differences between a PCP and Specialist?**

PCP are doctors who are trained to guide the patient to find the correct aspect of the health care system. PCP could decide if the patient should be referred to specialists, depending on the patient's health condition. Specialists are doctors who have advanced training in a particular aspect of healthcare, such as an orthopedic specialist or a cardiology specialist ("Primary Care Provider (PCP) vs. Specialist," 2019)

**5. Describe the value of a PCP.**

- A. Familiarity. PCP is important, as by interviewing the patient, the PCP will get familiar with the patient's health and wellness conditions. With such information, the PCP could personalize healthcare suggestions, and suggest proper specialist, if needed. These help the patient to save time and financial cost.
- B. Prevention and manage. PCP is responsible for screening all major health-related conditions, and manage chronic condition.

**6. How can information technology be used to help PCP's with care coordination?**

A great part of the patient-related data, from height and weight, to medicine history, could be stored in database and help the PCP's decision. Furthermore, with the help information technology, the PCP can distinguish if the patient is with the risk of some rare disease.

**Section C - Learning Health Systems**

**1. In your own words, describe the good, the bad, the ugly of the US Healthcare system. You are not limited to the articles provided, in fact we highly encourage you to do a bit of research to get a better understanding.**

The good: The U.S. is the largest investor in the research and development of healthcare. Research funding and angel investments pour in every day. These money makes the U.S. very competitive in the aspects of bioscience, biomedical engineering, and related areas. Such progress not only bring hope to patients, but also brought the economic benefit to the whole society. The high standard in developing, and cautious attitude in policy making make the FDA's approval an international-recognized standard for drugs, which in turn strength U.S. economy safety and soft power.

The bad: The U.S. healthcare system is the most expensive and least effective in the developed world. The insurance system, or the lack thereof, make patient unwilling to accept treatment, due to financial issues.

The ugly: Healthcare givers tend to check on everything on the patient to avoid being stuck in lawsuits. On the other hand, the waiting time for any examination or treatment is long. Patients literally die, or just recovered by themselves in the waiting process for the countless examination. Due to the high income of the healthcare giver, they seriously lack experience, or even seems ignorant, compared with their counterparts in the rest of the world. Eric Duncan's tragedy (Botelho & Wilson, 2014) is the combination of all of these problems mentioned above: the combined effect of the long waiting time and the ignorance of healthcare givers together killed Duncan

## **2. In your opinion, how are learning health systems impacting the US Healthcare system? Good or Bad.**

The learning health system could potentially buff up the experience of the healthcare givers by providing them information. For example, the learning health system could suggest that based on the patient's measurements, whether there is a chance the patient is developing some rare disease, or even infectious disease, and further suggest examination for the healthcare givers. Such help could potentially bring down the patient waiting time, and provide better healthcare service.

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