SPRING SEMINAR SERIES

David Wallinga, MD, MPA

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Overfed and Undernourished:
Downstream Impacts of a Flawed Farm Policy?

- Wm T Grant Foundation Fellow, University of Minnesota; Director, Food and Health Program Institute for Agriculture and Trade Policy
- www.healthobservatory.org
- Satellite photo shows birds' eye view of the outcome of the changing landscape. Where there once was a diverse ecosystem and landscape there is now brown from corn and soybeans.
    - We have a monoculture with a couple of crops.
- **What drives the landscape change?**
- History: farms pre-WWII grew a wide variety of crops and animals and were on a small scale.
- Then there were the industrial, chemical and agricultural revolutions which led to a focus on increasing yield → **"productionist agriculture"**.
- The consequences were a specialized system on a large scale, not a local one.
- Henry Wallace (1930s) recognized that agriculture had a faulty price system. For farmers it was rational to increase production despite the price they get. So he put into place policies that recognized overproduction and how to discourage it. His goal was to minimize prices. He created the **farmer minimum wage** (pre 1974).
- (1974-present) **Cheap food policy**: create a surplus to export more
    - Goal = overproduction
- Didn't work very well. By 1996, a policy change was needed, which led to **commodity subsidies**: $17-18 billion a year go to soy, corn and wheat farmers.
- **Change in policy → overproduction → low price of corn and soy**
- For past 35 years their market price has decreased.
- Industrialization led to development of factories rather than farms.
- New farms were more specialized.
    - Loss diversity of crops grown

    - Same with animal system: now raise one animal and one age of that animal
        - i.e.) eggs vs. chickens
- **Specialization of farms → concentration geographically**
- This has implications. Estimates suggest that agriculture is responsible for 17% of fossil fuel use (same amount as the transportation sector).
- This has led to an increase globally of farm chemicals.
    - i.e. nitrate fertilizers, pesticide, etc.
- The majority of crop output is fed to animals.
    - Not food but FEED
    - This has led to indoor methods to raise meet which requires electric.
- **Unrecognized subsidy:** raise animal on feed rather than on pasture
    - This helps keep the price of meat at the market low.
    - The public is told feed is a more efficient system, but the low price is not taken into account and neither was manure disposal.
- The meat industry has been criticized for animal confinement. This can stress the immune system leading to disease and infections. As a result antibiotics and an arsenic compound are added to feed.
- This is not necessary on a pasture-based system.
- In a feed-based system, to make animals grow, they inject hormones such as **DES**, which is a synthesized estrogen that women took when they were pregnant. They found that the hormone made children more at risk to develop reproductive cancers when they were older.
- Other hormones are added to feed, but there is no tracking of their usage. This raises red flags!
- **Implications: Health impact of the system**
- **Climate**
    - Energy intensive system, especially meat production on both the production and consumption end (reducing consumption will decrease the carbon footprint)
    - Meat production and consumption increases the carbon in the atmosphere. How does this impact the food's nutritional content?
    - The fossil fuel used to produce food may affect its quality.
    - As temperatures increase the amount of crops grown decreases.
- **Undernourished/Overfed:**
- **Dilution Effect:** push one factor, decrease the other. So increasing yield decreases nutrient concentration.
- Unhealthy food is most affordable, easily accessible and inflation resistant
- Least healthy foods have become most affordable, which has led to an increase in caloric intake.
- We're overeating added fat and sugar, and refined grains.
- Sugar consumption has decreased, but high-fructose corn syrup consumption has increased during this time.
- Prior to 1970 we didn't have the technology to make HFCS.

- 80% of fat consumed is soy-derived. This means that one in five calories consumed comes from soy.
- The ratio of omega-6 to omega-3 fatty acid is too high in our diets, which may act as a pro-inflammatory factor, but this remains to be seen.
- **What we don't subsidize:** flaxseed, walnut oil, canola oil. There is a $20 billion direct payment to farmers for corn, which keeps farmers in the business because the market failed.
- **Decrease in Water Quality:** there is no regulation of manure disposal.
    - Runoff of nitrate and fertilizers goes into the water, such as Atrazine.
    - Atrazine is a potent hormone disruptor that has been banned in the UK, is associated with breast and prostate cancer, and decreases the immune system functioning.
    - Most pesticides are known to be hormone disruptors but they are still used.
    - This could be contributing to the increase in obesity.
- We don't know the cause of obesity, but prevention is critical.
- Early childhood environment is important in determining later life disease.
- Food exposes us to hormones.
- A few studies looked at **Bisphenol A** which the FDA said was safe. It is used in baby products such as the rubber of bottles. However, fetus and baby have 10-11x the exposure to the hormone as adults. It was banned in Canada because similar effects were found as with DES.
- Rat studies showed that the fetus exposed to DES gained more weight.
- Bisphenol A increases the number of fat cells and the amount they can store.
- This is an interesting phenomenon that may be playing a role in obesity.
- **Conflict: focus on health vs. focus on yield**
- Can we produce food another way? Yes, we can. We used to but today the policy structure doesn't support it.
- www.healthyfoodinhealthcare.org – notion is that health care is a system that can make investments that steer the food system helping everyone
- The healthy food bill will help obesity, but also our environment. There is a long list of positive outcomes.
- www.foodmed.org