Module: Race, Class, and Medicine

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1. Race and class obviously matter for medicine.
   - Will deal with problems of poverty first.
   - Health problems due to environmental conditions are very clearly spatially correlated with wealth. (Later, we will see the same pattern in the context of Neglected Tropical Diseases which are pathogen-caused and, in that sense, environmental.)
   - For instance, obesity in the United States at a national scale shows a remarkable geographical pattern: the Southeast (though not Florida) dominates. (Texas is somewhat better off than the states to the immediate east and northeast.)
   - Similar spatial patterns are seen (for obesity) at municipal leves, especially in inner city neighborhoods.
   - Such problems are induced and aggravated by businesses taking advantage of unhealthy consumption practices, for instance, the dominance of fast food vendors in inner city neighborhoods and the quality of food available at supermarkets.
   - In other words—and we will see this problem repeatedly—economic disparities generate public health problems of variable severity.
2. Class disparities manifest themselves very strongly in the quality of health care available globally.
   - At the national level the United States suffers from this problem like many Third World countries though the problem is not as severe as in large countries with pronounced economic disparities such as Brazil or India.
   - However, the United States is far worse than any other Northern country, for instance, Germany where public health care mandates go back to the nineteenth century.
   - The most tangible evidence of this disparity is in the type of health insurance individuals typically have (because of what they can afford).
   - While the Affordable Care Act is of some importance, especially when it comes to pre-existing conditions, it is very weak. For instance, it does not guarantee long-term care.
   - Some fifty years ago, Nixon was willing to sign on to a much more comprehensive national health plan. That project was torpedoes by liberals such as (Ted) Kennedy who wanted something better and thought they could get it.
   - The United States has changed since then because of the neo-conservative capture of most institutions of state starting in the Reagan era. (What you make of it is a question of your values, your politics.)
3. Race is of at least equal importance in medical disparities in the United States
   - Note that we will use a "folk" conception of race, that is, follow customary social usage. We can do so for convenience even though there is no biological basis for claims of distinct races.
   - Moreover, our concerns here are largely about social origins of health disparities which justifies use of a sociological concept of race (which is close to a folk conception.
   - The levels at which racial disparities in health occur—and the extent to which they occur, along with the history of racism in U.S. Medicine—staggering.
     - How many of you know of the Tuskegee syphilis experiment on African-American men? (If you don't, look it up: `https://www.cdc.gov/tuskegee/timeline.htm`. Note I am using a CDC website which would count as "reliable" by any standard.)

- Tuskegee may have been grotesque and an exception because of the severity of what happened and when it did (continuing even after the Nuremberg code of medical ethics had come into force).
- But Tuskegee is not particularly exceptional: experimenting with the bodies of slaves was common practice for white doctors. There was no qustion of consent.
- Do you know the story of the HeLa cell line? (Look up Henrietta Lacks: `https://www.hopkinsmedicine.org/henriettalacks/`.)
- A wide variety of medically undesirable physiological conditions (including obesity, as discussed earlier) show a racial pattern of variation. This is not particularly unexpected given what was said earlier.
- There are more puzzling phenomena: for instance, in the pre-natal care available to African-American women which shows a distinct race-based bias.

- A natural question: are racial disparities reducible to class disparities?
  - Such hypothesis is plausible enough given the well-documented correlation between economic status and race in the United States. (This is the primary reason why the U.S. Census is so interested in racial data.)
  - The geographical patterns we discussed earlier can be interpreted equally as variation by economic class and variation by race.
  - Two responses:
    (a) Even if it is a matter of class, the ethical problems remain. When we are speaking of economic disparities correlated with race, the causal factor is race, that is, systemic racism (and not in any sense the other way around and not due to a common cause). So, we must face up to the real problem: race matters.
    (b) There are ways to test this hypothesis. We can, for instance, impose a class stratification first. Then, within each stratum, we can test for racial disparities. If these disparities are found in a significant majority of the strata, that is evidence that race matters. This analysis has been carried out multiple times for a wide range of medical problems. There is no way to avoid the conclusion that race matters,
- To sum up: in the context of medical care in the United States, racial disparities cannot be reduced to class.

4. Neglected Tropical Diseases (NTDs):

   (a) Acknowledge the contributions of Peter Hotez (2008), Dean, National School of Tropical Medicine, Baylor School of Medicine, Houston.

   (b) Widely acknowledged in the North that there is a huge disparity in healthcare between the North and the South.
   - This situation has led to many efforts (with significant funding) by transnational organizations and private foundations, for instance, the Gates Foundation in sub-Saharan Africa.

   (c) However, attention has been restricted to the"Big Three": malaria, HIV/AIDS, and tuberculosis.

   (d) But there is a large set of other diseases that each affect a smaller number of people but which together affect as many people as any one of the Big Three.

   (e) These are the Neglected Tropical Diseases.

   (f) Hotez emphasized 13 of these:
   - Soil-transmitted helminth infections:
     - Ascariasis (roundworm).
     - Hookworm infections.
     - Trichuriasi (whipworm).
   - Other helminth infections:
     - Schistosomiasis (snail fever).

  - Lymphatic filariasis (elephantiasis).
  - Onchocersiasis (river blindness).
  - Dracuncuiasis (guinea worm).
- Protozoan infections:
  - Leisshmaniasis.
  - Chagas disease (American tryponosomiasis).
  - Human African typanosomiasis (sleeping sickness).
- Bacterial infections:
  - Trachoma.
  - Buruli ulcer.
  - Leprosy.

(g) There are many others, some of which are of overwhelming medical importance.

- This list does not include the viral infections.
- Flavoviruses cause chikungunya, dengue, yellow fever, and Zika.
- All of them are transmitted by Aedes mosquitoes.
  - In Austin you may have seen—and been bitten by—the Asian tiger mosquito. It has black and white stripes on its legs. (Perhaps it should have been called the zebra mosquito, but there are no zebras in Asia.) That is *Aedes albopictus*. It is an important vector of these diseases though not as important as the yellow fever mosquito, *Aedes aegypti*, which it displaced through competitive exclusion in central Texas after arriving here in a ship, probably from Singapore in the 1980s.

5. NTDs also occur in the North, outside the tropics.

- NTDs are far more frequent in parts of the North than typically acknowledged.
- Many of them occur in the United States.
  - Here, they are known as "diseases of poverty."
  - They occur because the disparity of wealth and opportunity that show up in geographical/spatial differences at different resolutions.
    * They are more prevalent in the south than in the north of the country. Of course, we need to be careful here: besides the role of poverty, there is also the ecological fact of latitudinal gradient: the south is closer to the tropics than the north.
    * At the local level, these differences occur at the neighborhood level.
- Here, we will focus on Texas:

(a) We had a fight to make Chagas disease reportable in Texas. It only happened in 2013. Until then only six cases in Texas were recognized. Now there are thousands.

(b) Helminthic disease were supposed to have been eliminated in the United States by the 1980s through therapy and improved sanitation and hygeine. Yes, since 2000, it has been known that strongyloidiasis (caused by the parasitic helminth, *Strongyloides stercoralis*) continues to infect human populations in the south-eastern U.S., for instance in the Appalachian regions of Kentucky and Alabama. Recently, evidence of infection has been found in a Latino community near San Marcos. Bad sanitation facilities have been implicated. Mitigation efforts are under way. This is the work of Rachael Singer, who was one of the TAs the last time I taught this course (Spring 2019).

(c) No one knows about the prevalence of NTDs in our *colonias*.

(d) The cost of doing research on NTDs:
  - There are no grants.
  - Graduate students have minimal job opportunities because very few people have funding for post-docs working on NTDs.

- Dengue research became relevant only when the Zika crisis hit. Lauren Gardner was the graduate student working on that project, now responsible for the JHU data on global Covid-19 statistics.
- CRISPR-based gene drive against malaria is moving forward at a breathtaking pace. CRISPR-based dengue/chikungunya elimination is lagging behind.

(e) The question of ethics: given how rich we are as a state—and how rich many of the communities in Texas are—how could we tolerate such a situation?

References:

- Hotez, P. J. 2008. Forgotten People, Forgotten Diseases: The Neglected Tropical Diseases and Their Impact on Global Health and Development. Washnington, DC: ASM Press.