

CSE599S

Computing and Global Health – Addressing the global pandemic

Administrivia

- M, W, 3:00-4:20, Lowe 101
- Expectations
 - Class readings
 - Research course topics
 - Maybe a project
 - Help with class write up

Computing and global health

- Growing work in health information systems to support public health programs in LMICs (Low and middle income countries)
- Global development – top down work supported by global organizations, donors and NGOs
- ICTD – bottom up technology innovation work

Covid

- Global pandemic with substantial regional variation in impact and action
- Recognition that the entire world needs to bring Covid under control, but nations target own interests first
- Covid mitigation is a mix of policy, technology, and ideology

What I am interested in

- What is the role of computing technology in mitigating and understanding covid on a global scale
- Emphasis on Developing Countries and how the issues relate to “Global Good” technology solutions

What I am thinking of for this class

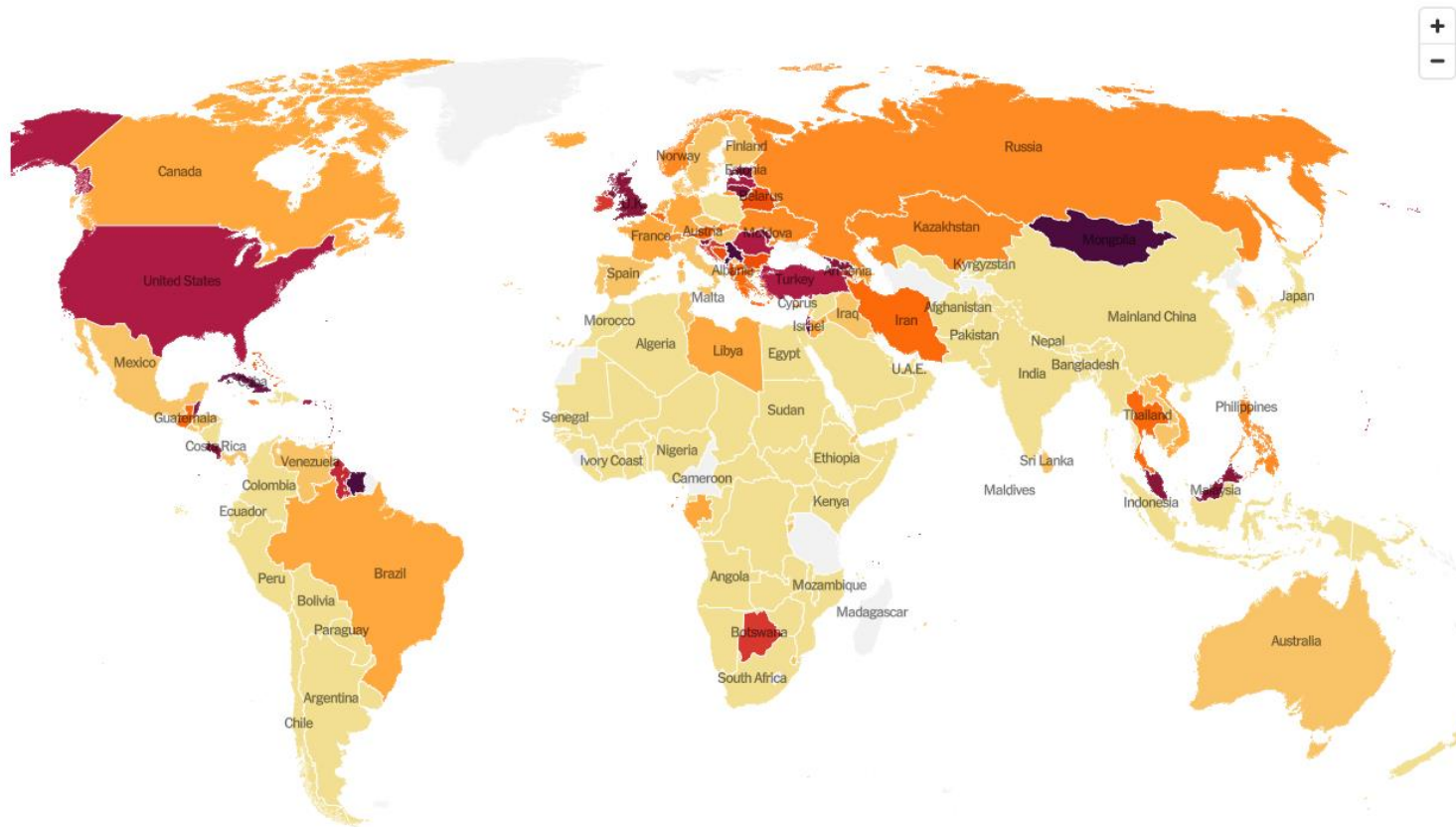
- Desk research on Computing and Covid
- Conduct assessments of various computing challenges for Covid
- Produce a write up of what we learn
 - Reference for others
 - White paper or position paper
 - Research Agenda

Topics

- Health data reporting
- Epidemiological modeling
- Immunization logistics
- Immunization planning
- Vaccine passports
- Contact tracing

Health data reporting preview

- Where does this data come from? Is it meaningful?



Aggregate counting of disease incidence

- Standard activity of government health organizations
- Used for public health interventions, science, and reporting
- Different diseases are handled very differently
 - Small Pox, Polio, Echinococcosis, Dengue, Malaria, HIV, TB, influenza, rhinovirus
- Basic reporting problem
 - Count cases locally and report up the hierarchy
 - DHIS2 has become a major system for this (we will talk lots more about this)
- Aggregate reporting versus case tracking

Reporting and Covid: Questions

- What data do you actually report
- What are the main indicators for impact of Covid
- How do you assess accuracy and completeness
- What are the technologies to use for reporting
- What are the other ways of assessing impact
 - Count of excess deaths
 - Sampling