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