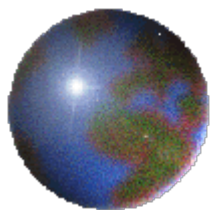


The 12th IP Conference

Technology and Legal Frontiers in Global Pandemics: Risk Management, Capital Mobility and Intangible Assets, USCIPI, AIIPS and CUHK, July 31, 2020 (Webinar)

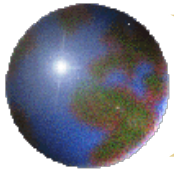


The Optimal Patent Policy of Medical AI in the Crisis of Covid-19 Pandemic

醫療人工智能在2019冠狀病毒病大流行危機中的最優專利政策

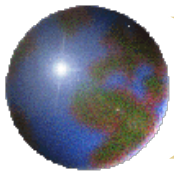
Yahong Li

Department of Law, HKU



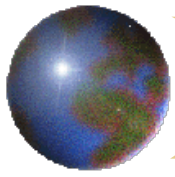
The challenge of the Covid-19 pandemic

- ✦ “The coronavirus COVID-19 pandemic is the defining global health crisis of our time and the greatest challenge we have faced since World War Two.” (UNDP, 2020)
- ✦ As of July 30, 2020, about 17 million people have infected and about 667,000 have died of the disease worldwide.



The advancement of medical AI tech.

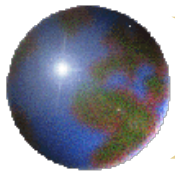
- ❖ AI 'has established itself as one of the next digital frontiers of innovation' that would revolutionize the interactions between humans and machines.
- ❖ "While biotechnology will continue to contribute, due in large part to a combination of genomics, microbiomics, and proteomics, information technology will drive the next wave of healthcare evolution. As a result, healthcare will benefit from rapid advancements in digital technology and artificial intelligence." (WIPO, 2019)



AI applications for Covid-19 pandemic

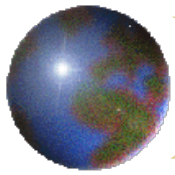
- ✦ screening, tracking and predicting the current and future patients,
- ✦ early detection and diagnosis of the infection,
- ✦ monitoring the treatment,
- ✦ contact tracing of the individuals,
- ✦ projection of cases and mortality,
- ✦ development of drugs and vaccines (e.g., Insilico)
- ✦ reducing workload of healthcare workers,
- ✦ prevention of the diseases.

(Vaishya, et al., 2020)



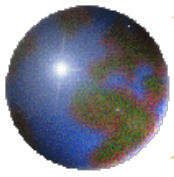
Patent or not patent?

- ✦ Do patents promote or impede drug innovation?
- ✦ “The US innovation has fallen due to the weakening patent protection, evidenced by the shortage of better diagnostic tests in the Covid-19 pandemic. (Judges Paul Michel and John Battaglia, 2020)
- ✦ As a negative right, patent may block others from using the invention that are vital in stopping infections and saving human lives.



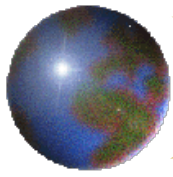
Patent or not patent?

- ✦ Do patents block public access to medicines that are urgently needed?
- ✦ “Sofosbuvir (owned by Gilead Sciences) is a drug used to treat Hepatitis C. It might also be a treatment for COVID-19. It costs \$5 to make. In the United States, the current list price for a 12-week course is more than \$84,000. Pirfenidone (owned by Roche) is a drug used for lung fibrosis. It costs about \$31 for a 28-day treatment course. In the US, a course is priced at \$9,606.”
(Hong Kong Lawyer, 2020)



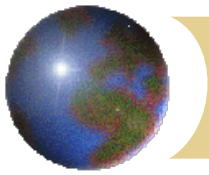
Bridging the gap between developed and developing countries

- ✿ “while the innovations of previous decades disproportionately benefited the developed world, IT-led innovation should give a much-needed boost to providing basic healthcare at a greater scale and reduce significant gaps that exist between developed and developing countries today.” (WIPO, Innovation Index 2019)

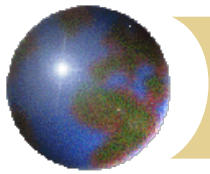


Balancing the Conflicts between Patent Rights and Public Interest

- ✦ The government initiatives
 - ✦ Title 28 of US Code section 1498
 - ✦ ““orphan drug”
 - ✦ Government’s patent ownership of the drugs
 - ✦ Government’s enforcement of its patents
 - ✦ Compulsory licensing.
 - But “an active stance of compulsory licensing may discourage companies from stretching limited resources to discover new cures, be it for COVID-19 or other emerging diseases.” (Hong Kong Lawyer, 2020)
 - ✦ Shortening the term of data exclusivity
 - ✦ Accelerating the process of FDA approval.

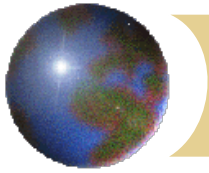


- ✦ The social responsibility and collective efforts of private entities
 - ▣ Open Covid Pledge
 - ▣ Patent pooling
 - ▣ Patent-free inventions
 - Examples of publishing invention without patenting it.
 - Excluding public health crisis related inventions from the patentable subject matters?



Concluding remarks

- ✦ Covid-19 is here to stay, maybe for a long time, and is spreading fast and wide.
- ✦ AI is one of the most effective tools for combating the pandemic and bridging the gap in medical access, thus should be the top priority in national innovation lists.
- ✦ Patent has a significant impact not only on drug innovation aided by AI, but also on equitable and affordable access to the life-saving drugs and treatment.
- ✦ It's time to rethink about an optimal patent policy for the inventions (including medical AI) fighting the serious epidemics live Covid-19 pandemic.
- ✦ Patent-free approach or a more flexible patent policy should be adopted, in addition to the initiatives from int'l organizations, national governments and private entities, to collectively combat the deadly pandemic.



Thank you for listening!

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