Fall 2021 CS 687 Capstone Project

Literature Review

Online Vaccine Scheduler

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**1.** **RELATED WORK**

The topic of my reseach is understanding the factors that affect the spread of coronavirus and the creating public health policies using these factors. Specifically the social distancing factor and giving people the remote tools they need so they can socially distance.

Since it is a literature review, this paper’s purpose is to explore the previous related work for the field of research. It will allow us to familiarize ourselves with the topic as well as see the approaches and conclusions of other researchers in different times and geographies.

The articles in the annotated bibliography for this research are going to be used for the literature review.

Literature Review

The literature scrutinizes all kinds of factors that affect the transmissibility of the coronavirus.

(Park et al., 2020) talks about the uninvasive public health policies and even the voluntary behaviour changes of people (Voluntary decreased traffic at public transportation) to reduce the transmission.

They talk about how South Korea was good at reducing transmission. They analyze what was the role of social distancing in this.

Recommendation of wearing masks in everyday life and staying indoors.

Delayed the start of school semesters.

Intensive testing and contact tracing enabled rapid identification and isolation of case patients.

Conlusions,

Epidemics can be suppressed with less extreme measures than those taken by China.

Necessity of prompt identification and isolation of case-patients in preventing spread.

Even though social distancing alone might not prevent spread, it can flatten the epidemic curve.

(Cowling et al., 2020) focuses on three types of measures against pandemics.

-Personal protective measures and environmental measures.

The combination of masks and hand hygiene has been shown to reduce transmission of respiratory viruses and serves to highlight that layering of NPIs (nonpharmaceutical interventions) is more effective at reducing disease transmission than any NPI alone.

-Isolation of ill and quarantine of exposed persons.

-Community mitigation measures.

Given the evolving picture of the COVID-19 pandemic, the application of layered, multifaceted, location- and population-specific NPIs will need to be considered and initiated quickly to curb widespread transmission. When NPIs are “reactive” to widespread transmission, instead of “proactive” to the potential for transmission, they often fail to reduce rates of illness.

(Kwon et al., 2010), (Larson et al., 2017), (Jiang et al., 2020), and (Bogg et al., 2020) talk about the fators that make people more or less interested in joining public health policies. They find that health of individuals is negatively correlated with their willingness to take part in the efforts against diseases.

(Price et al., 2021) also conclude that “The number of state-level COVID-19 infections decreased with respect to our measure of individual social distancing.”

(Sallis et al., 2020) concludes that active muscles produce chemicals that improve immune functioning.

“PA has multiple well-documented benefits directly related to reducing the impact of the COVID-19 infection itself, as well as helping the global population cope with the isolation and stress caused by the pandemic. Yet PA is not being strategically nor systematically promoted to reduce harms from the current pandemic.”

(Lin et al., 2020) and (Zhu et al., 2020) look at the meteorological factors such as weather and humidty.

(Okten et al., 2020) look at the differences between genders. They look at how each factor changes by gender and how these factors affect their social distancing adherence over the pandemic.

(Mallapaty et al., 2020) looks at the transmissibility in older and younger children as well as teachers and compares these with transmissibility in the area of the school and finds a correlation.

Review Conclusions

There are multiple different layers of measures that can be taken to fight diseases. Some of the layers are proactive, some of them are reactive. Having this multi layered, location and population specific policies will help with either completely preventing the spread, or flattening the curve.

**2.** **REFERENCE**

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