

# A Study on COVID-19 Forecasting with SEIR Model

TRAN Duc Vu      リスク解析戦略研究センター      特任助教

## Overview

This research aims at developing technologies for assisting fighting against COVID-19. It includes developing methodologies for scenario planning and forecasting. Scenario planning technology provides solutions for checking the feasibilities of plans.

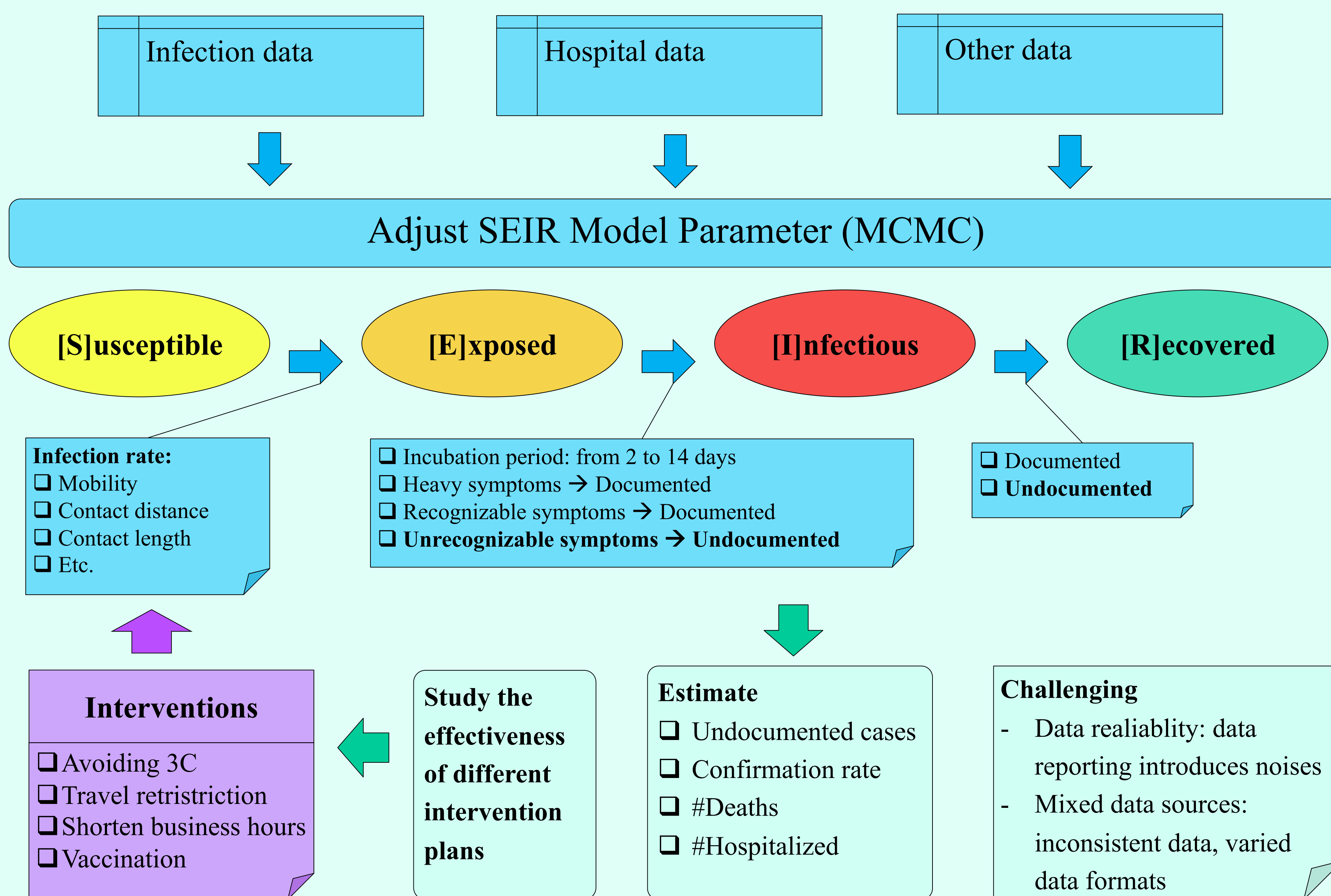
Forecasting technology provides solutions for preparing for the possible scenarios given the current situation.

Combining both scenario planning and forecasting, the system assists drafting feasible plans given a situation and a targeted outcome.

## Approach

- Utilizing machine learning and simulation techniques on top of SEIR model.
- Machine learning and simulation work together to bring out the most appropriate solution.
- Utilizing data from several domains: not only data directly representing COVID 19 situation (infection, death, hospitalization, etc.), but also other data that may indirectly influence the COVID 19 situation development.

## SEIR Model



## Development Direction

- Extending the capability to process more data sources.
- Extending the features for more sophisticated scenario planning and forecasting.
- Extending the targets of scenario planning and forecasting.