

IMPACT COVID-19 ON NON-COVID-19 CARE AT UNIVERSITY HOSPITAL BRUSSELS (ICON STUDY) – PRELIMINARY RESULTS

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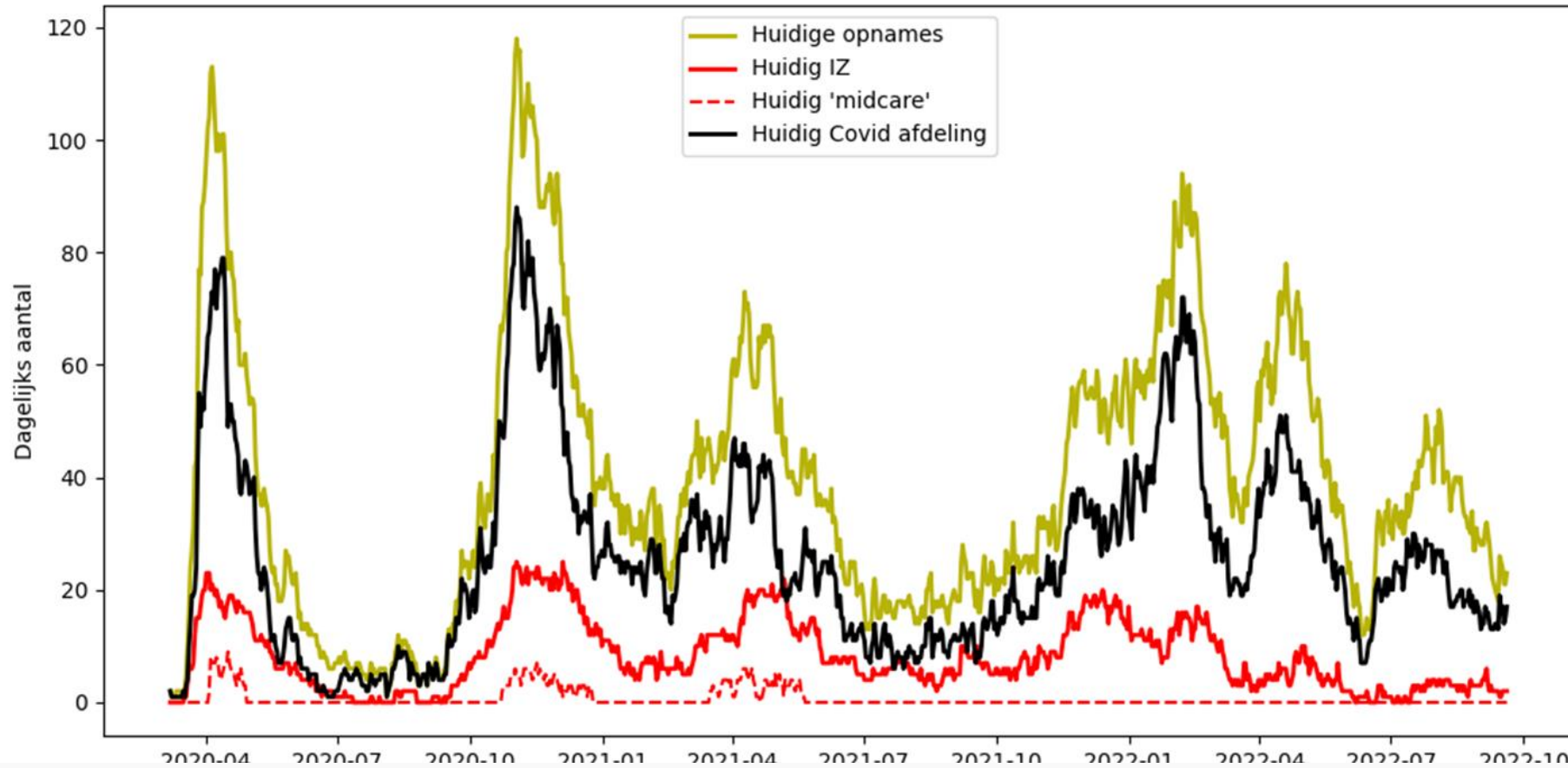
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UNIVERSITY HOSPITAL BRUSSELS – COVID-19



COVID-19 PANDEMIC

Hospital: postponement of non-urgent procedures

Patients: minimizing symptoms and anxiety for infection: avoidance of hospital

Data:

2019 – 2020 – 2021

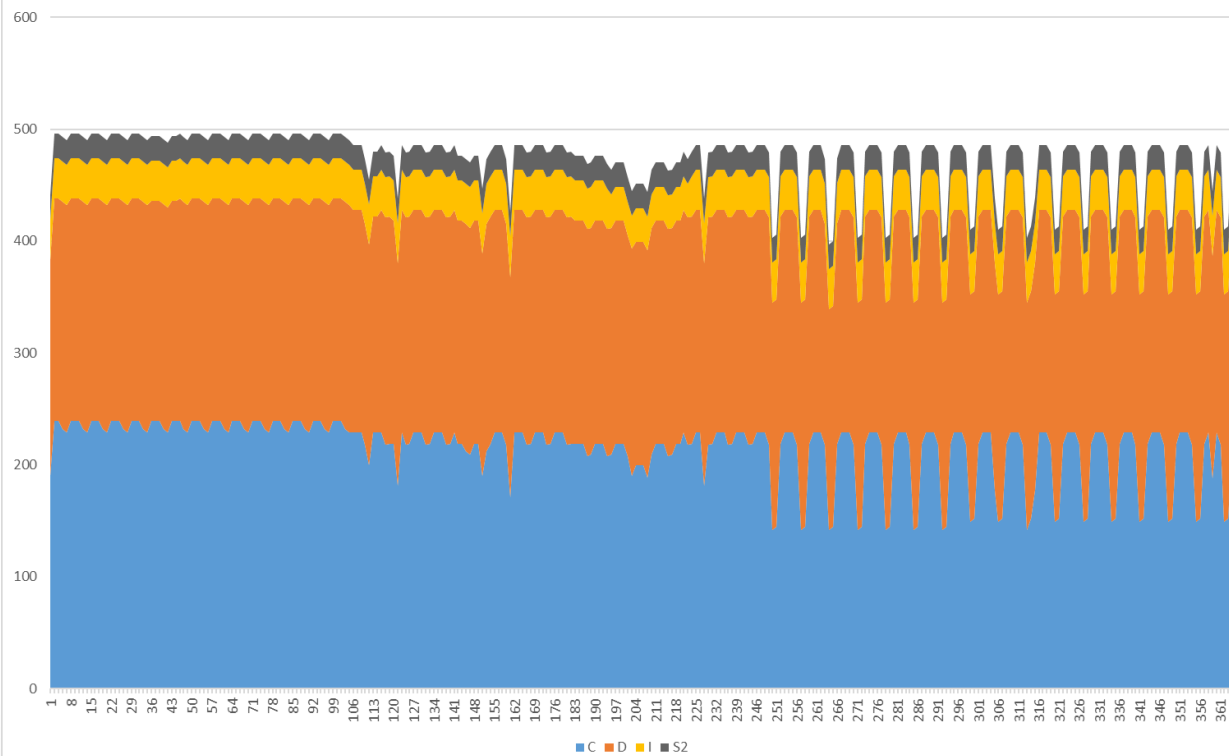
Secondary use: Minimal Hospital Data – Claims Data

4 QUESTIONS/GOALS

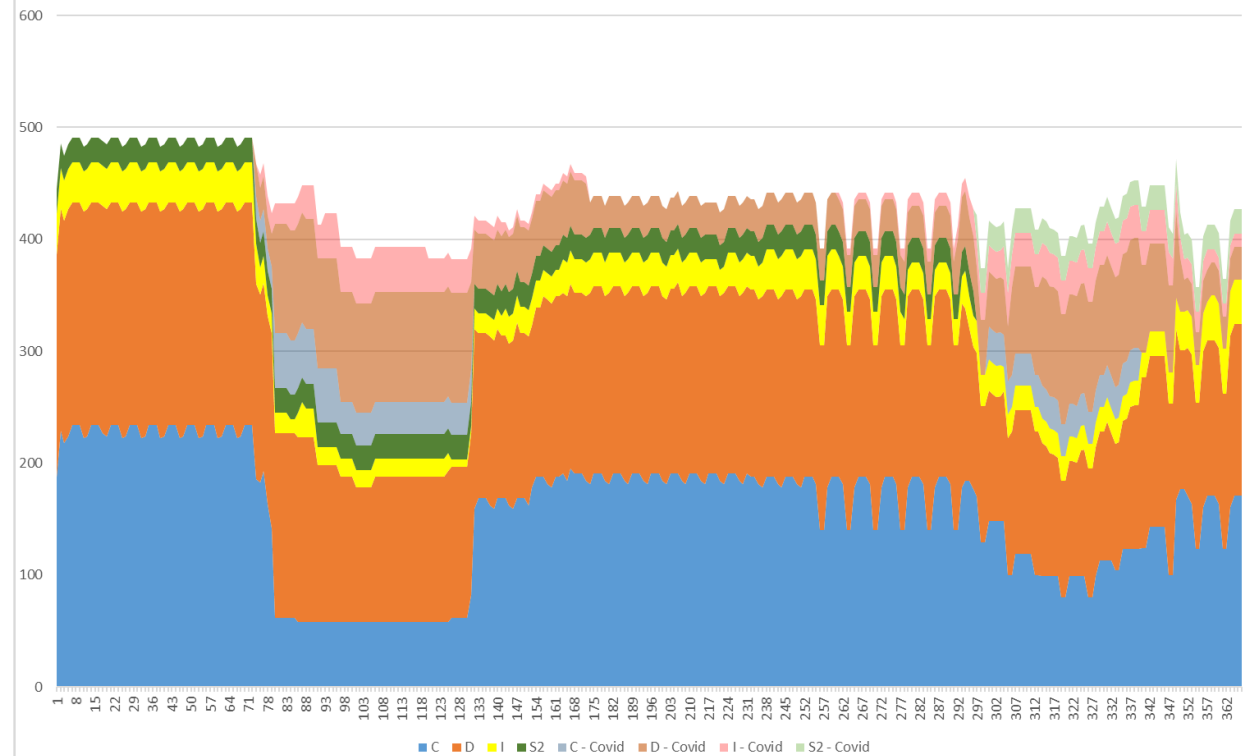
1. Prediction model: ICU capacity, non-ICU capacity & rehabilitation beds
2. Analyze size of reduction in non-COVID-19 admissions
3. Analyze difference in LOS, ROM and SOI
4. Impact on reimbursement

PREDICTION MODEL: ICU CAPACITY, NON-ICU CAPACITY & REHABILITATION BEDS

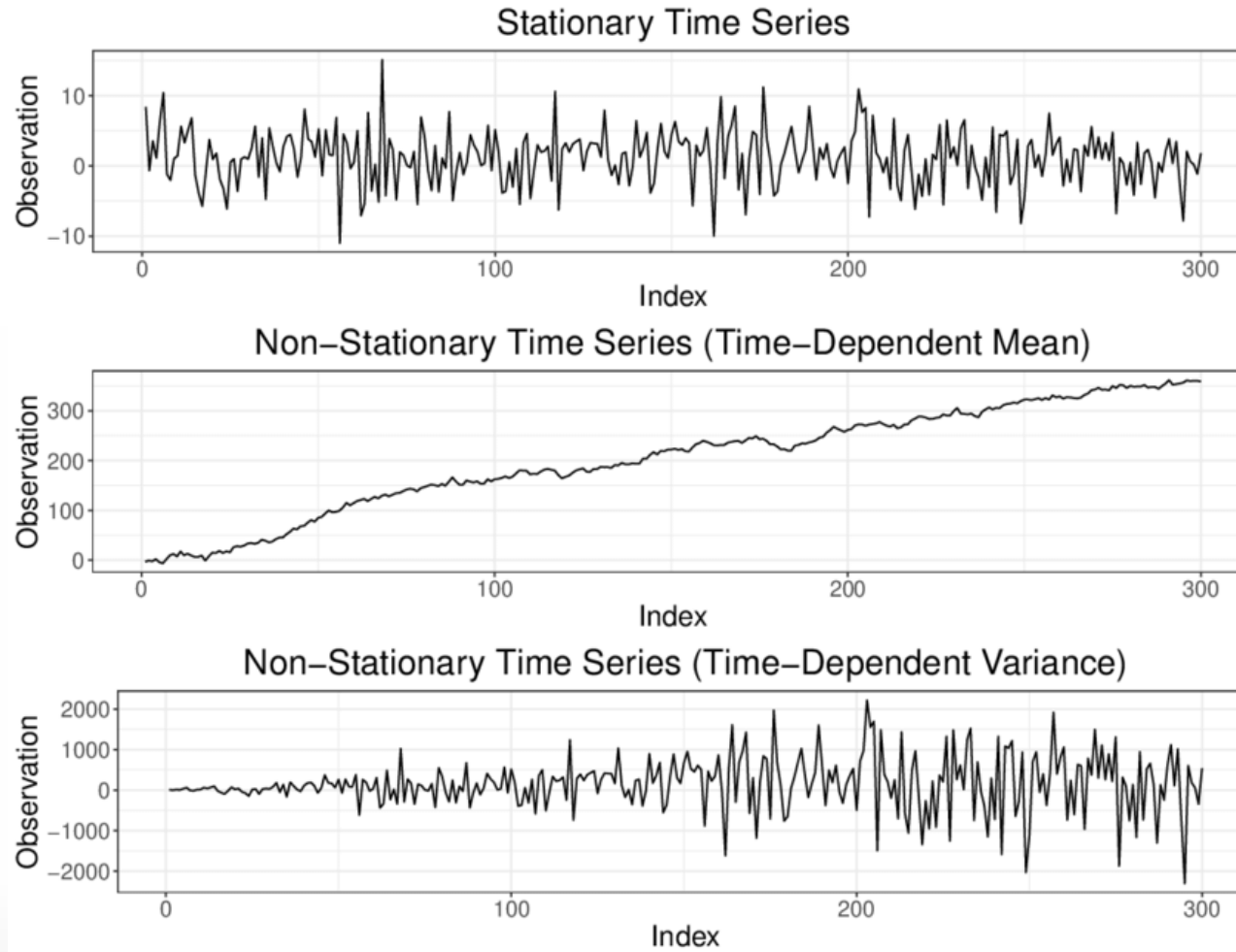
Bed Occupancy - 2019



Bed Occupancy COVID and Non-COVID - 2020



NON-STATIONARY TIME SERIES





ARIMA

Autoregressive-integrated-moving-average

Models are used to forecast demand data from historical time series data

Univariate method

ARIMAX

Autoregressive-integrated-moving-average model with exogenous input

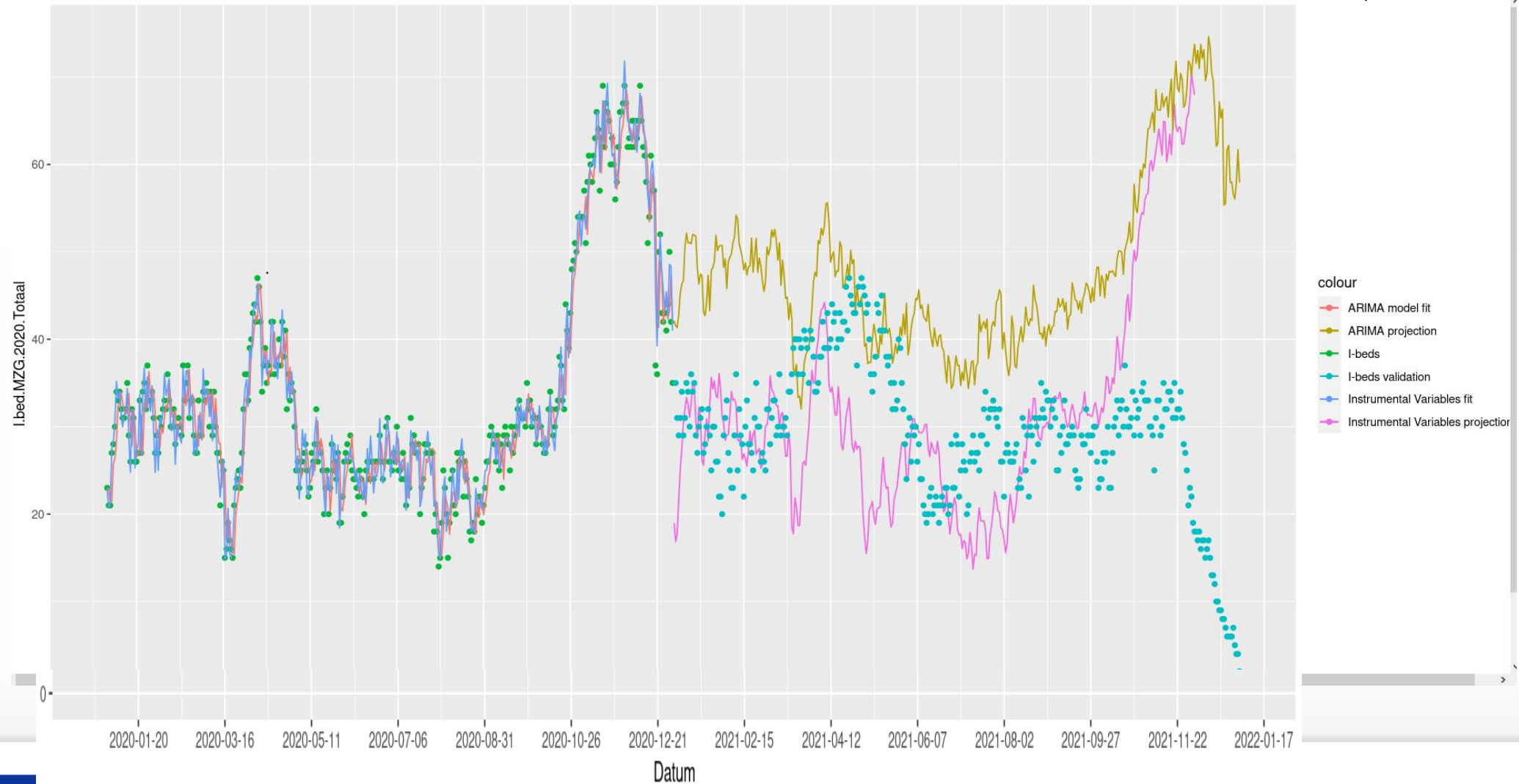
Models are used to forecast demand data from historical time series data

Multiple variables to incorporate external data



strategic interventions & policy measures

ARIMA(X): MODEL 1 – ICU BEDS

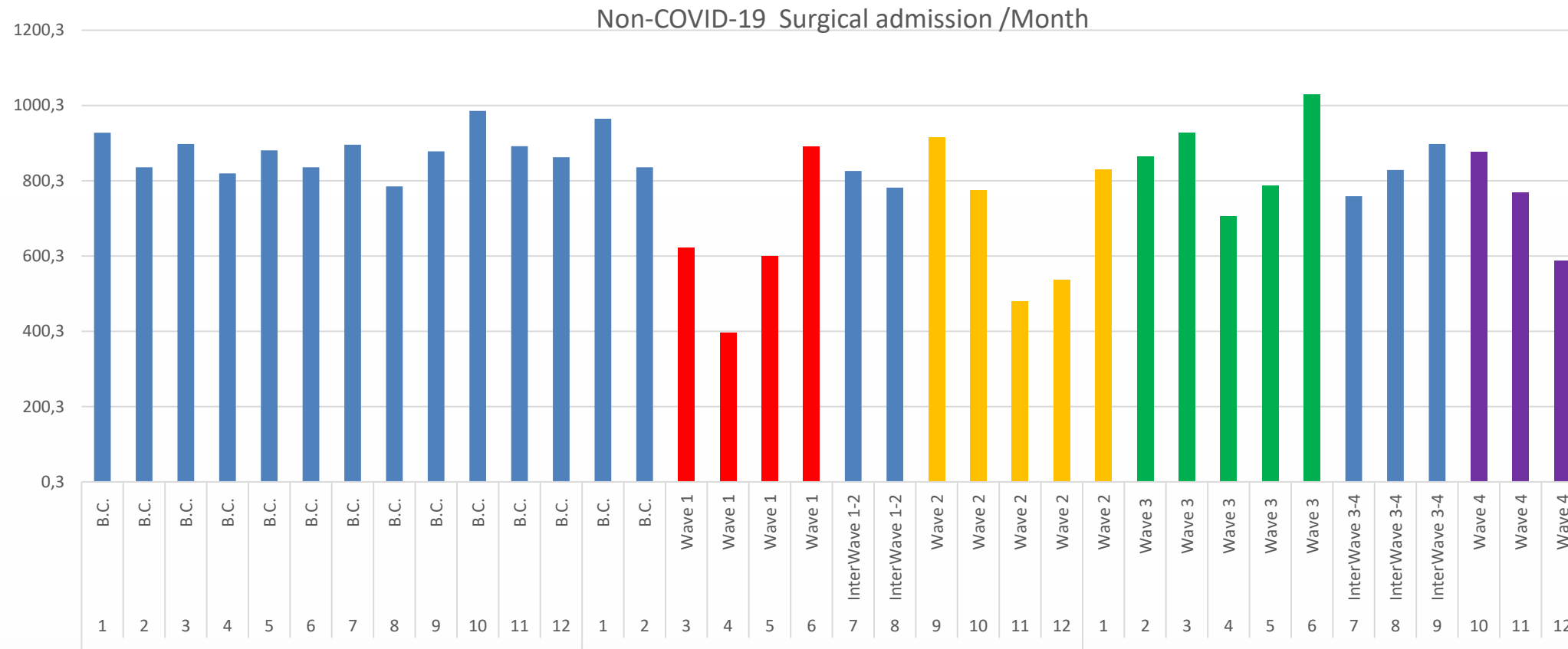


"I don't have a crystal ball. Everybody's entitled to their own opinion, but I don't operate here on opinion. I operate on facts and on data and on numbers and on projections" – New York Governor Andrew Cuomo – March 24, 2020

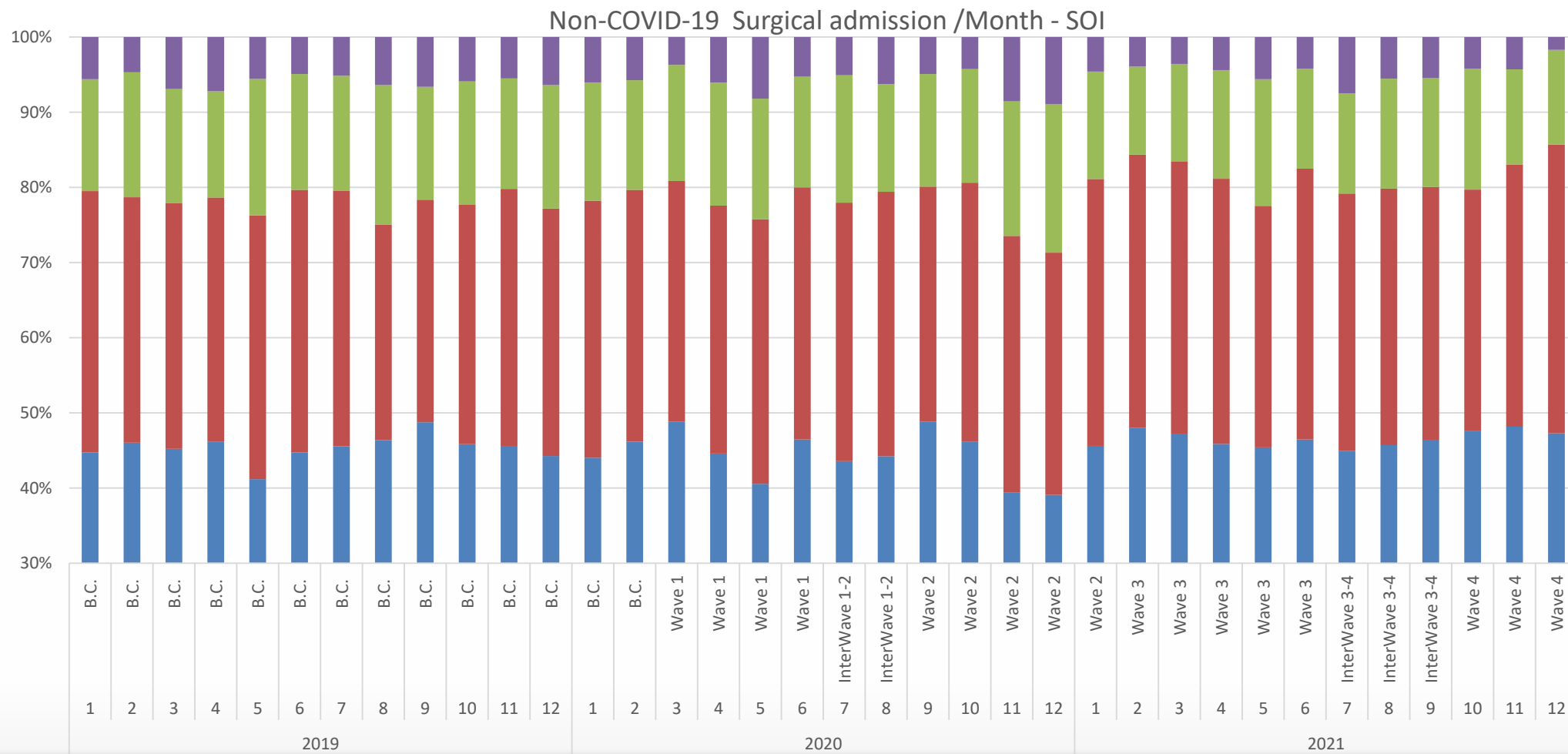
"Now, people can speculate. People can guess. I think next week, I think two weeks, I think a month, I'm out of that business because we all failed at that business. Right? All the early national experts. Here's my projection model. They were all wrong..." – New York Governor Andrew Cuomo – May 25, 2020

A case study in model failure? COVID-19 daily deaths and ICU bed utilisation predictions in New York State.
European Journal of Epidemiology (2020) 35: 733 - 742

MODEL FAILURE .. EFFECT?



MODEL FAILURE .. EFFECT?



MODEL FAILLURE... EFFECT?

	30 ICU beds	30 non-ICU beds
Nurses Day shift	30	3
Nurses Night shift	4	1
Head Nurse	2	1
Logistic assistent	3	1

On a daily basis!

THANK YOU

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