

Characterization of Health by  
OHDSI Asia-Pacific chapter to  
identify Temporal Effect of the  
Pandemic for Diabetes Mellitus  
CHAPTER-DM

PRESENTER: Seng Chan You

INTRO:

Type 2 Diabetes Mellitus (T2DM) is important comorbidity among patients diagnosed with COVID-19 with high prevalence, which is also shown to increase the COVID-19 mortality risk and lead to worse severity.

By investigating the temporal change in the incidence of T2DM before and after the emergence of COVID-19, this study will provide insight on the impact of COVID-19 and reveal the resilience of healthcare system regarding T2DM across nations and time.

METHODS

T2DM patient data from Australia LPD and Japan claims converted to the Observational Medical Outcomes Partnership (OMOP) common data model (CDM) were adapted as our data source.

Cohort of T2DM are defined as 'persons with new type 2 diabetes and no prior T1DM or secondary diagnosis' according to the phenotype definition provided by the (OHDSI) community during the 'Phebruary' imitative.

The trend of incidence of T2DM from 2010 to 2021 were described and compared before and under the COVID-19 pandemic using interrupted time series analysis.



Yizhi Dong<sup>1</sup> (yizhi@nus.edu.sg), Seng Chan You<sup>2,3</sup> (seng.chan.you@ohdsi.org), Subin Kim<sup>2,3</sup> (jg051623@yuhs.ac), Jing Li<sup>4</sup> (jing.li2@iqvia.com), Can Yin<sup>4</sup> (can.yin@iqvia.com), Mengling Feng<sup>1</sup> (ephfm@nus.edu.sg)



<sup>1</sup>Saw Swee Hock School of Public Health and Institute of Data Science, National University of Singapore, Singapore

<sup>2</sup>Department of Biomedical Systems Informatics, Yonsei University College of Medicine, Seoul, South Korea

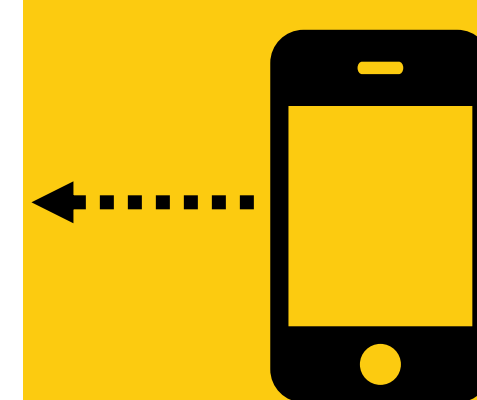
<sup>3</sup>Institute for Innovation in Digital Healthcare, Yonsei University, Seoul, South Korea

<sup>4</sup>IQVIA

# Potential temporal change in the diagnosis of Type 2 Diabetes Mellitus after COVID-19 pandemic occurrence in the Asia Pacific.

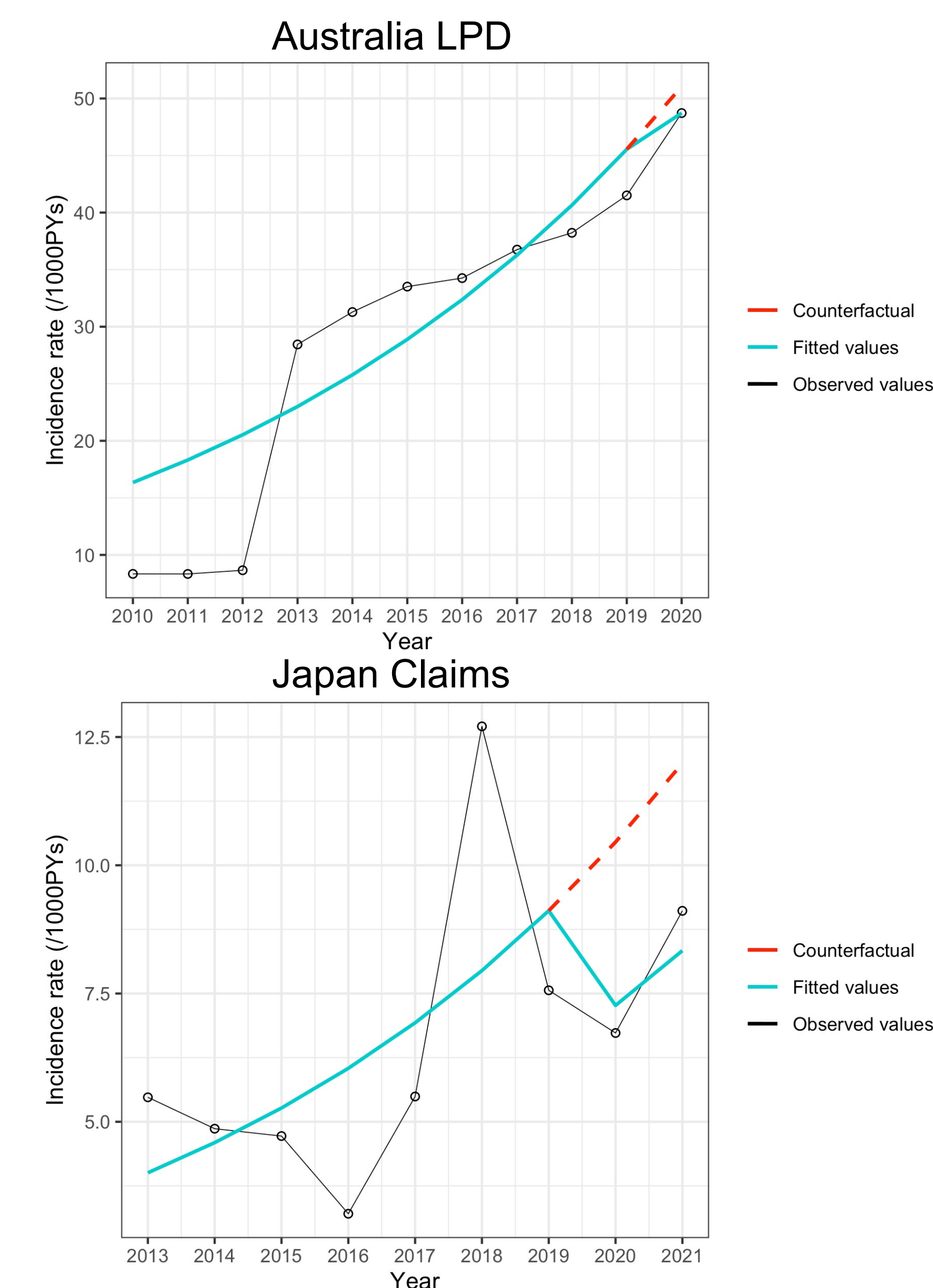


The temporal effect of the pandemic may reveal the the pattern of identification and treatment given to patients with diabetes during the pandemic.



Scan QR code link to github repository

## AMMO BAR



Comparison of the periods with and without COVID-19 pandemic exposure.

The counterfactual refers the predicted values had no COVID-19 occurrence, and the fitted values are estimated based on the Poisson regression model with adjusting time vector (years).

The figures show there is a sharp decline in the incidence of T2DM in the Australia LPD in 2020, whereas this trend is less evident in the Japan claims. There was rebound of T2DM incidence in 2021 in the Australia LPD

## RESULTS

In our preliminary result, we found the potential change in the incidence of T2DM after COVID-19 pandemic occurrence. The further investigation of CHAPTER study group will more accurate and detailed information.



YONSEI  
UNIVERSITY

