Research using Taiwan National Health Data

Alex PA. Nguyen, Ph.D.
Assistant Research Fellow (alexnthhp@tmu.edu.tw)
Taipei Medical University
Taiwan OHDSI
History of Taiwan National Health Insurance Database

• 1995: National Taiwan Insurance (NHI)
  – 23 million population/530 hospitals/17,000 clinics

• 2000: Taiwan’s National Health Research Institutes (NHRI)
  – Taiwan National Health Insurance Database (NHIRD, claim data)
  – Longitudinal Health Insurance Databases (LHID2000, LHID2005, and LHID2010)

• 2016: The service is stopped
Health and Welfare Data Center (HWDC): Opportunity for Big data Analysis

• 2017 – present: Taiwan’s Ministry of Health and Welfare (MOHW)
  – HWDC, a large data repositories
Response to COVID-19 in Taiwan
Big Data Analytics, New Technology, and Proactive Testing

Taiwan is 81 miles off the coast of mainland China and was expected to have the second highest number of cases of coronavirus disease 2019 (COVID-19) due to its proximity to and number of flights between China.1 The country has 23 million citizens of which 850,000 reside in and 404,000 work in China.2,3 In 2019, 2.71 million visitors from the mainland traveled to Taiwan.4 As such, Taiwan has been on constant alert and ready to act on epidemics arising from China ever since the severe acute respiratory syndrome (SARS) epidemic in 2003. Given the continual spread of COVID-19 around the world, understanding the action items that were implement quickly in Taiwan and assessing the effectiveness of these actions in preventing a large-scale epidemic may be...
Uncovering exposures responsible for birth season – disease effects: a global study

Mary Regina Boland, Pradip Parhi, Li Li, Riccardo Miotto, Robert Carroll, Usman Iqbal, Phung-Anh (Alex) Nguyen, Martijn Schuemie, Seng Chan You, Donahue Smith... Show more


Published: 28 September 2017  Article history ▼

Paediatrics
Original research

Application of a Common Data Model (CDM) to rank the paediatric user and prescription prevalence of 15 different drug classes in South Korea, Hong Kong, Taiwan, Japan and Australia: an observational, descriptive study

Ruth Brauer 1, Ian Chi Kei Wong 1–2, Kenneth KC Man 1–2, Nicole L Pratt 3, Rae Woong Park 4, Soo-Yeon Cho 4, Yuchen (Jack) Li 5, 6, 7, 8, Usman Iqbal 9, 10, Phung-Anh Alex Nguyen 6, Martijn Schuemie 11, 12

Correspondence to Professor Ian Chi Kei Wong: i.wong@qmul.ac.uk
Analysis of Dual Combination Therapies Used in Treatment of Hypertension in a Multinational Cohort

Yuan Lu, ScD; Mui Van Zandt, BS; Yun Liu, PhD; Jing Li, MS; Xiaolin Wang, MS; Yong Chen, PhD; Zhengfeng Chen, MBBS, MMed; Jaehyeong Cho, PhD; Sreemanee Raj Dorajoo, PhD; Mengling Feng, PhD; Min-Huei Hsu, MD, PhD; Jason C. Hsu, PhD; Usman Iqbal, PharmD, MBA, PhD; Jirendra Jonnagaddala, PhD; Yu-Chuan Li, MD, PhD; Saw-Teng Law, MBBS, PhD; Hong-Seok Lim, MD, PhD; Kee Yuan Ngiam, MBBS, MMed; Phung-Anh Nguyen, PhD; Rae Woong Park, MD, PhD; Nicole Pratt, PhD; Christian Reich, MD, PhD; Sang Youl Rhee, MD; Selva Muthu Kumaran Sathappan, MSc; Seo Jeong Shin, PhD; Hui Xing Tan, MTech; Senf Chan You, MD, PhD; Xin Zhang, MS; Harlan M. Krumholz, MD, SM; Marc A. Suchard, MD, PhD; Hua Xu, PhD

Abstract

**IMPORTANCE** More than 1 billion adults have hypertension globally, of whom 70% cannot achieve their hypertension control goal with monotherapy alone. Data are lacking on clinical use patterns of dual combination therapies prescribed to patients who escalate from monotherapy.

**OBJECTIVE** To investigate the most common dual combinations prescribed for treatment escalation in different countries and how treatment use varies by age, sex, and history of cardiovascular disease.

**DESIGN, SETTING, AND PARTICIPANTS** This cohort study used data from 11 electronic health record databases that cover 118 million patients across 8 countries and regions between January 2000 and December 2019. Included participants were adult patients (ages ≥18 years) who newly

**Key Points**

**Question** What are the most common antihypertensive dual combinations prescribed to patients who escalate from monotherapy in clinical practice, and how do the combinations differ by country and patient demographic subgroup?

**Findings** In this cohort study of 970,335 individuals from 11 large databases, 12 dual combinations of antihypertensive medications were commonly used for initial escalation from monotherapy.
Future Opportunities

- **OHDSI CDM**
  - Increases accessibility of this data for research

- **Collaborations**
  - Taiwan & other countries/Universities/Hospitals
  - Evidence generated from it is reliable
  - Save time, money, and improves the quality and consistency of the data
Thank you for your attention!
Alex. PA Nguyen, Ph.D.
alexnthhp@tmu.edu.tw
Q/A?