Visualization tools

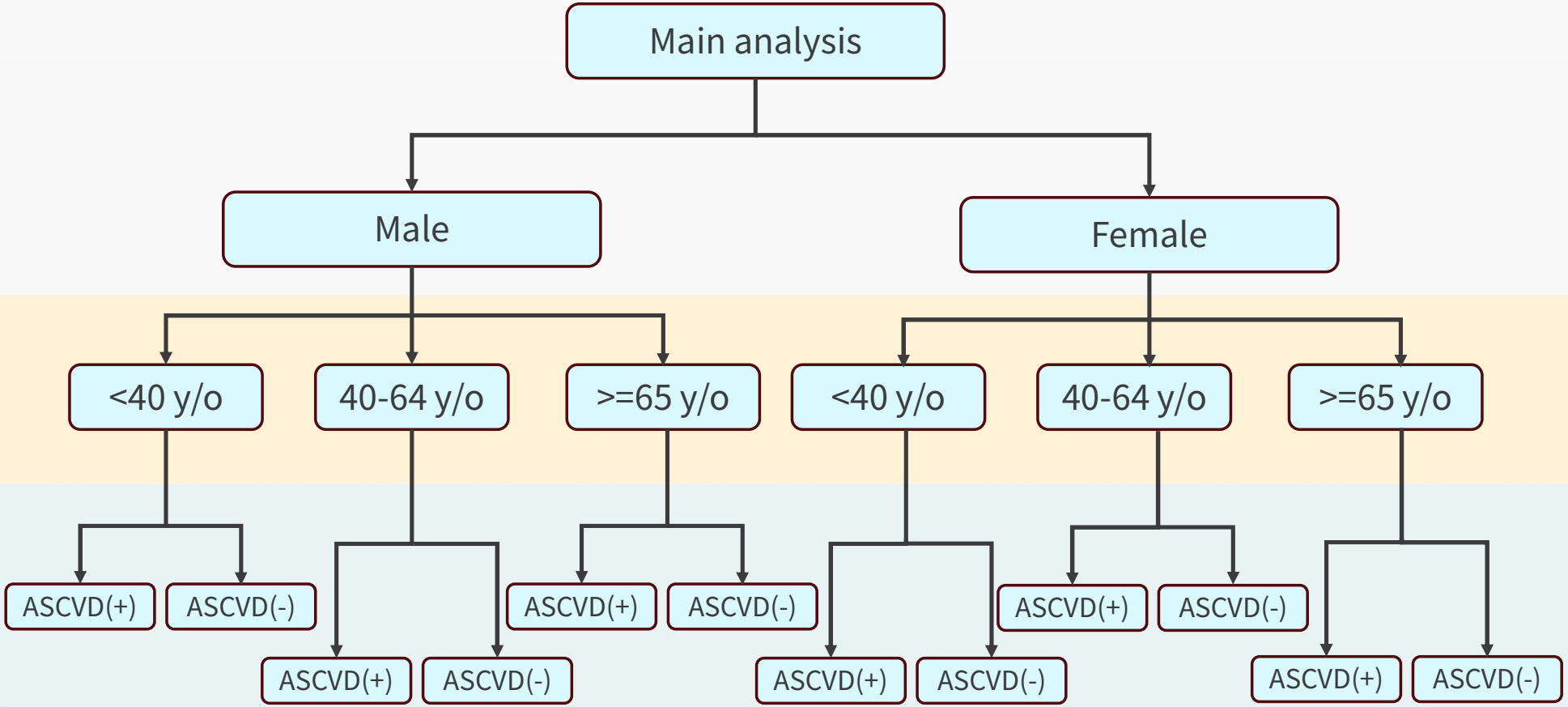
Avery Yang

Population Heath Data Center NCKU
National Cheng Kung University

成功大學

成大群體健康數據中心
Population Health Data Center NCKU

How traditional study report results



What we do

Appendices containing hundreds of pages

- Results from varies analyses
- Results from several countries
- Complicated table/ figures

Research visualization dashboards

- User-friendly
- Enhance transparency
- Inform decision-making

RWE visualization dashboards

Background

Real-world evidence (RWE) has emerged as an important source of insights for healthcare decision-making.

Key challenges of interpretating RWE :

1. Data complexity
2. Design complexity
3. Stakeholder diversity

Solution

RWE visualization refer to using visual tools to effectively communicate insights from RWE researches.

The dashboard was designed to be:

1. Clearly interpreted
2. Interactive
3. Comprehensive

Impact

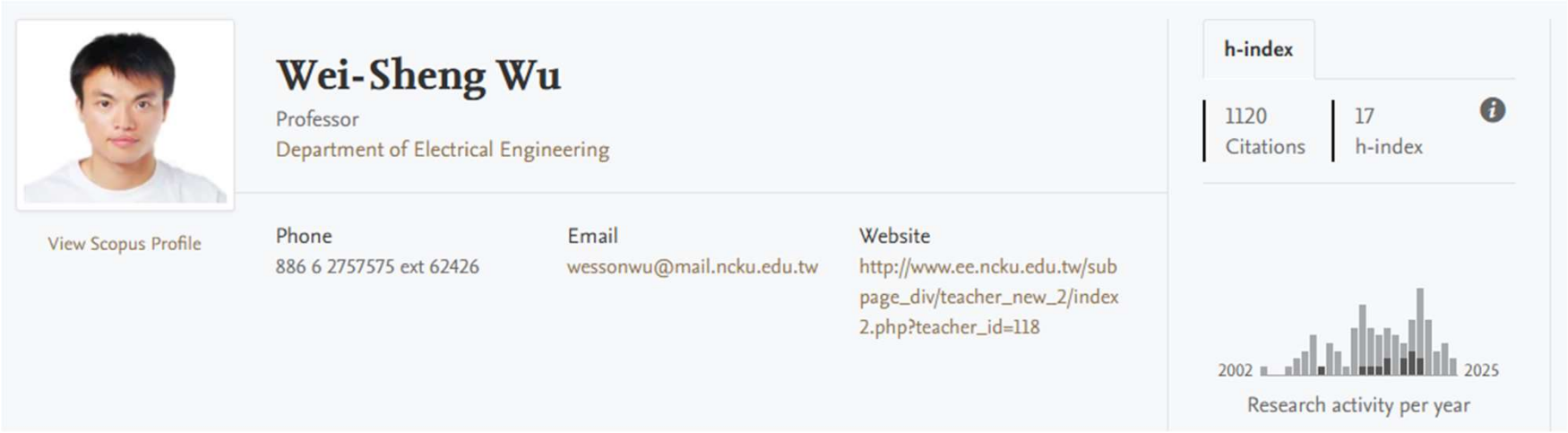
RWE visualization bridges the gap between data science and decision-making by making research output **understandable** and **adaptable.**

The visualization tool helps :

1. Regulatory review and policy adjustment
2. Shared decision-making
3. Hypothesis generation

Scan the QR code to visit website

Collaboration with Prof. Wu



Affiliation:

- Department of Electrical Engineering, NCKU
- Finance and biological big data analysis Lab, NCKU

Specialities:

- Fintech
- Biological big data analysis
- Software development
- Database and web tool development

Key feature of the visualization dashboards

Epidemiology: to provide the prevalence and incidence rate during the study period

Characteristic: to present the baseline characteristics of the study cohort and identify any potential imbalances.

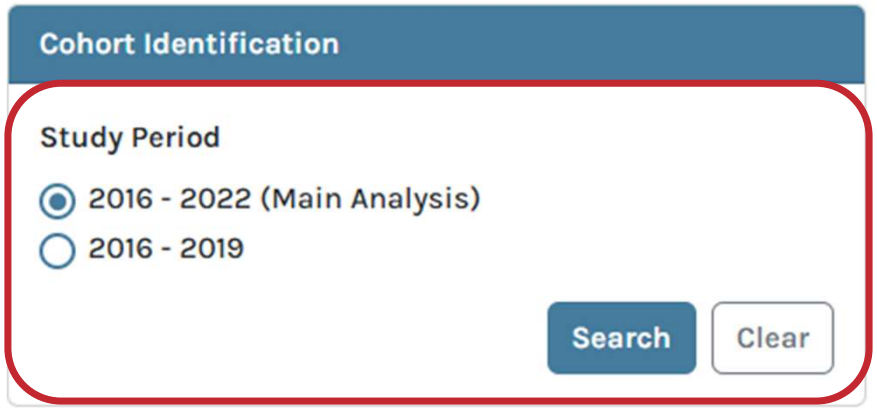
Drug utilization: to illustrate the use and transition patterns of the medication of interest.

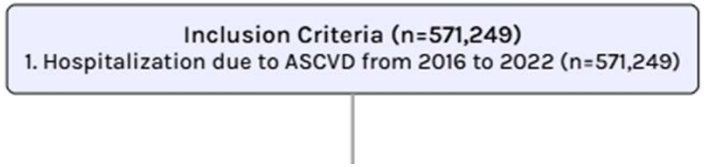
Event rates/ risk estimates: to report the incidence rate, risk ratio of prespecified outcomes

Cohort selection

Study Description:

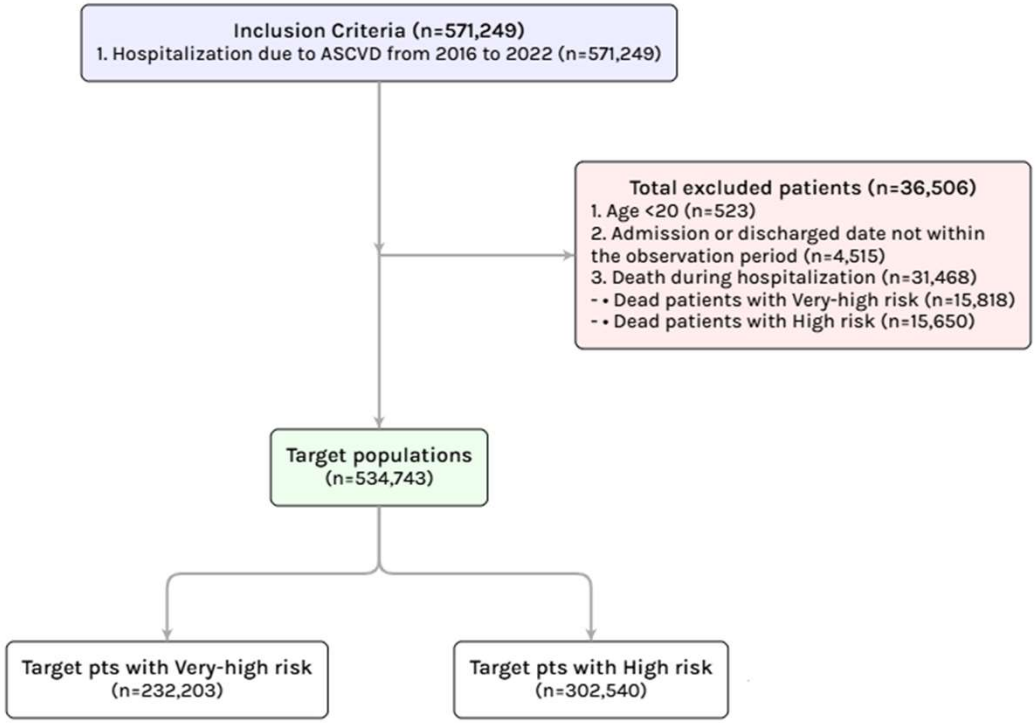
This study aims to examine the real-world treatment patterns and ris
lowering therapy utilization and subsequent cardiovascular events, t
Asian and Western cohorts, with implications for improving region-sp



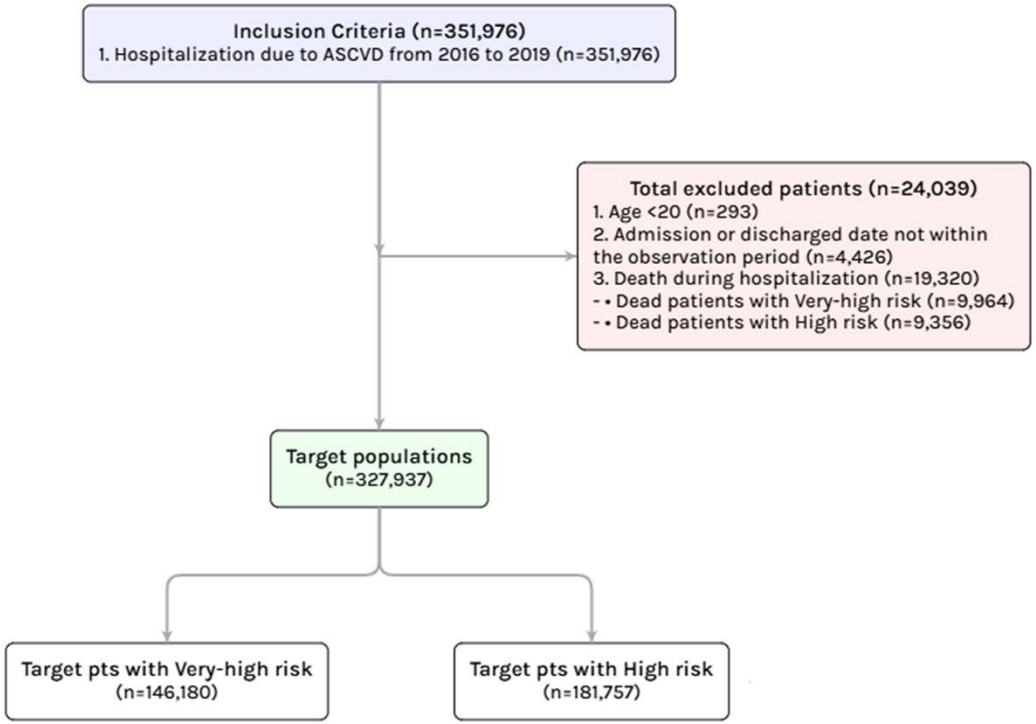


Comparison between cohorts

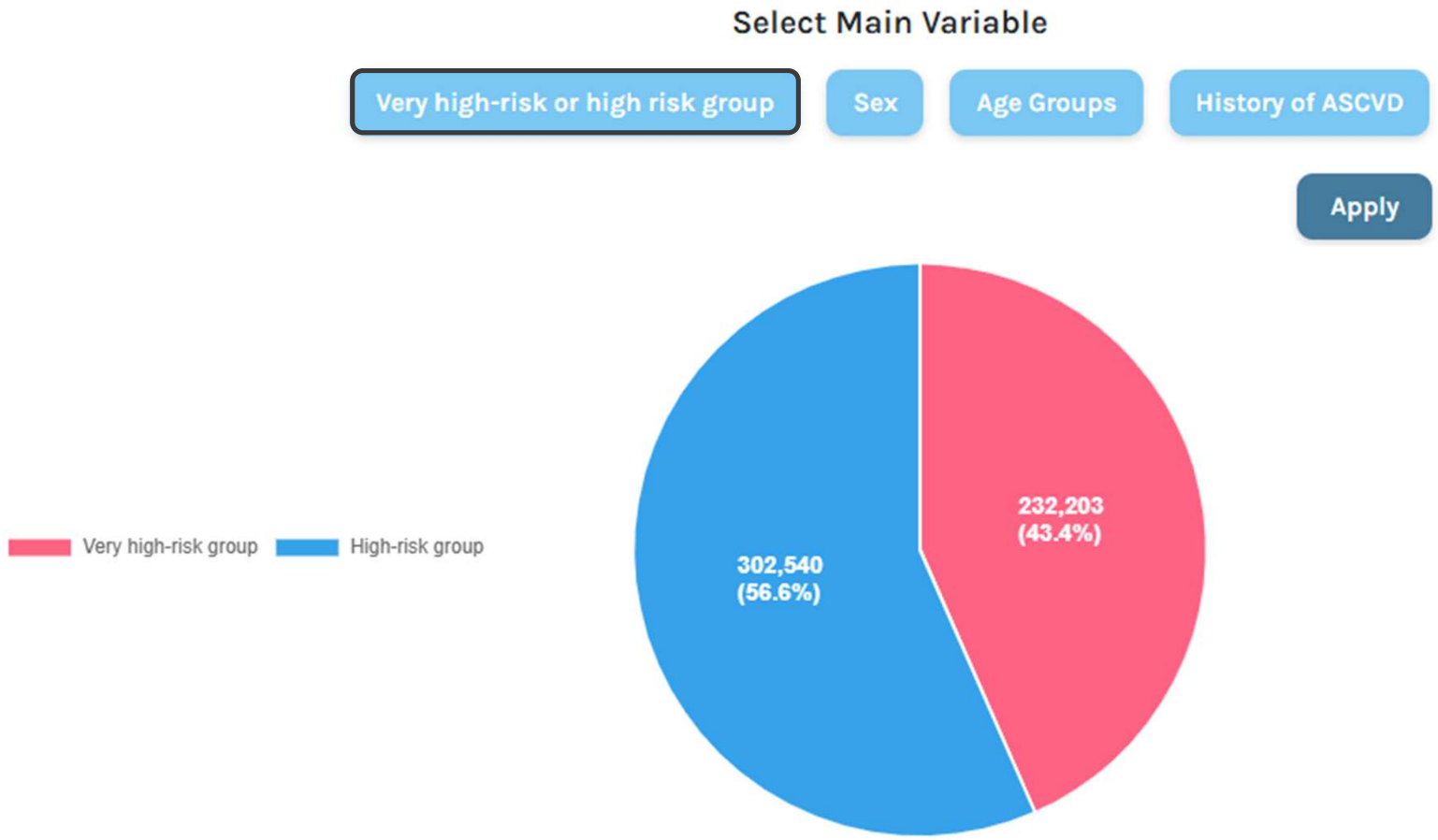
Main analysis (2016-2022)



Sensitivity analysis (2016-2019)



Explore the cohort by prespecified variables



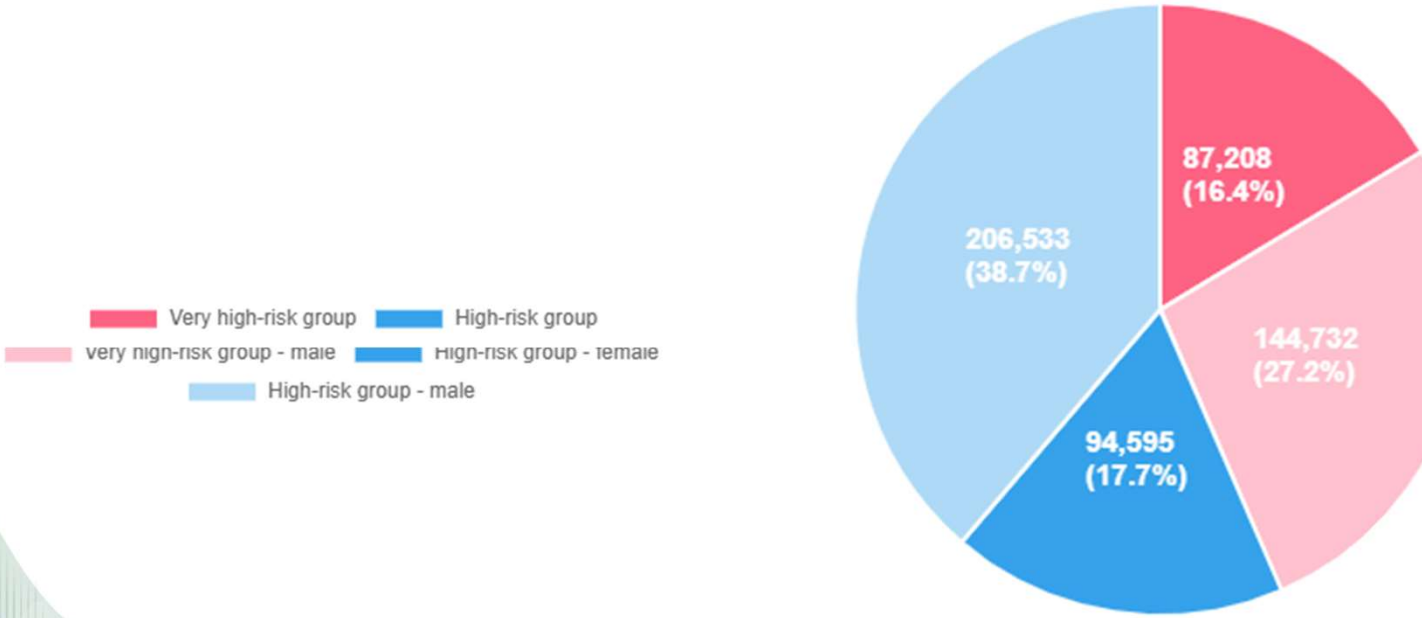
Explore the cohort by prespecified variables

Select Main Variable

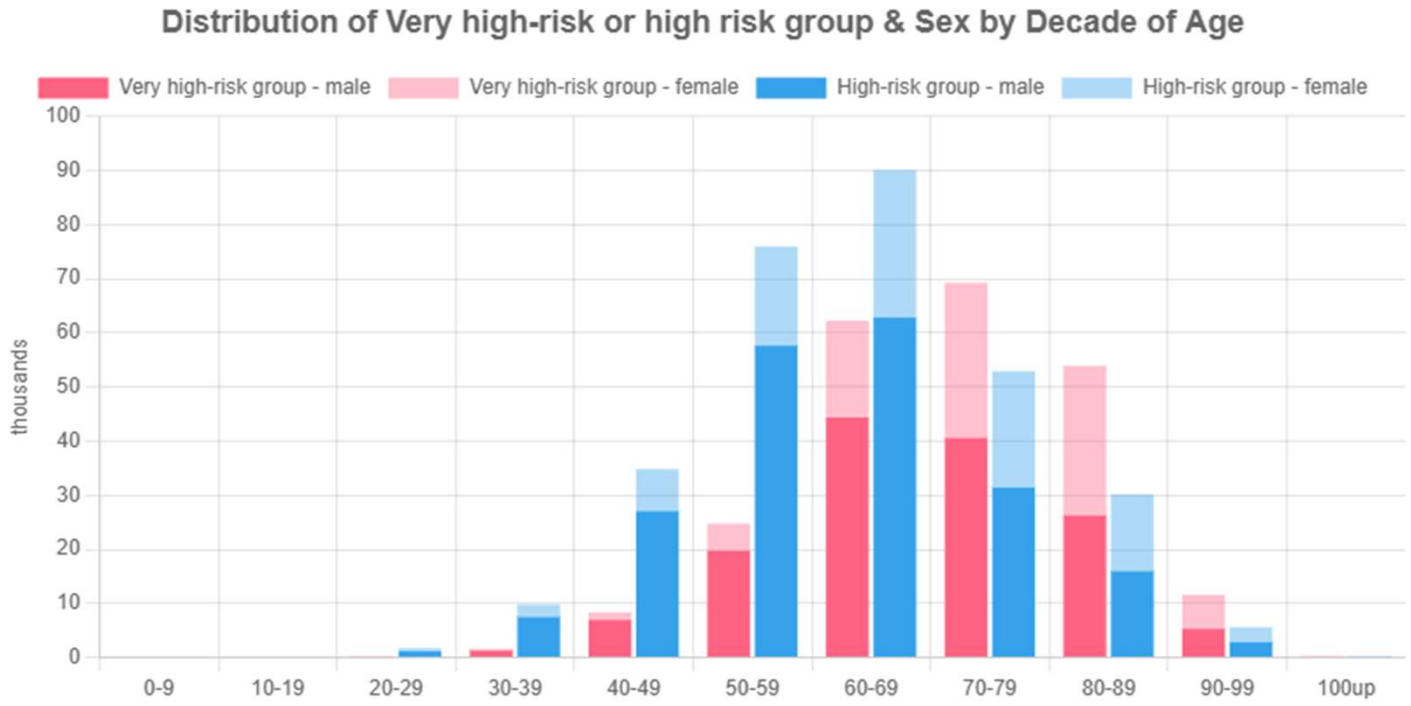
Very high-risk or high risk group | Sex | Age Groups | History of ASCVD

Then filter by subgroup (optional)

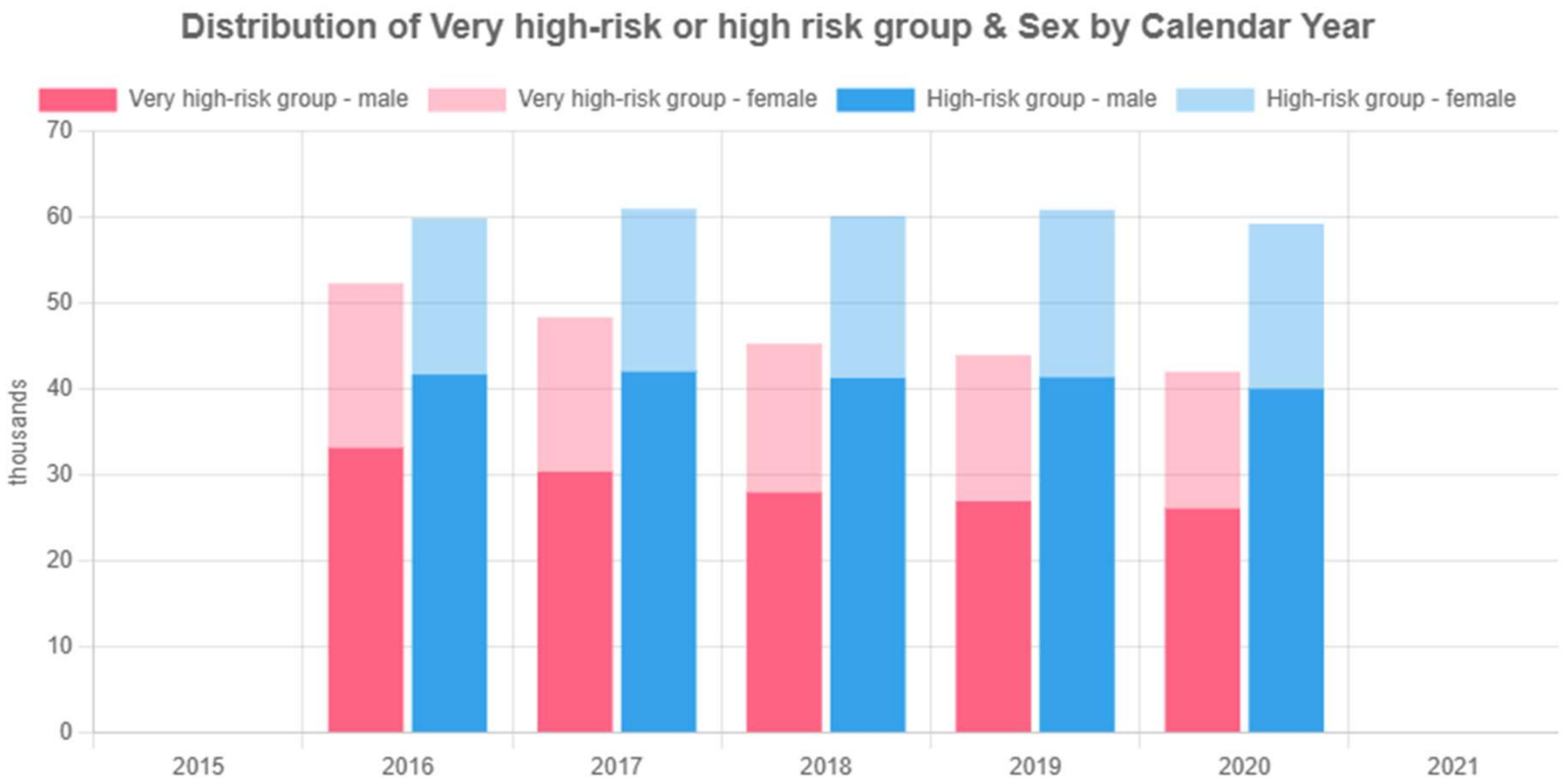
Sex | Age Groups | History of ASCVD | Apply

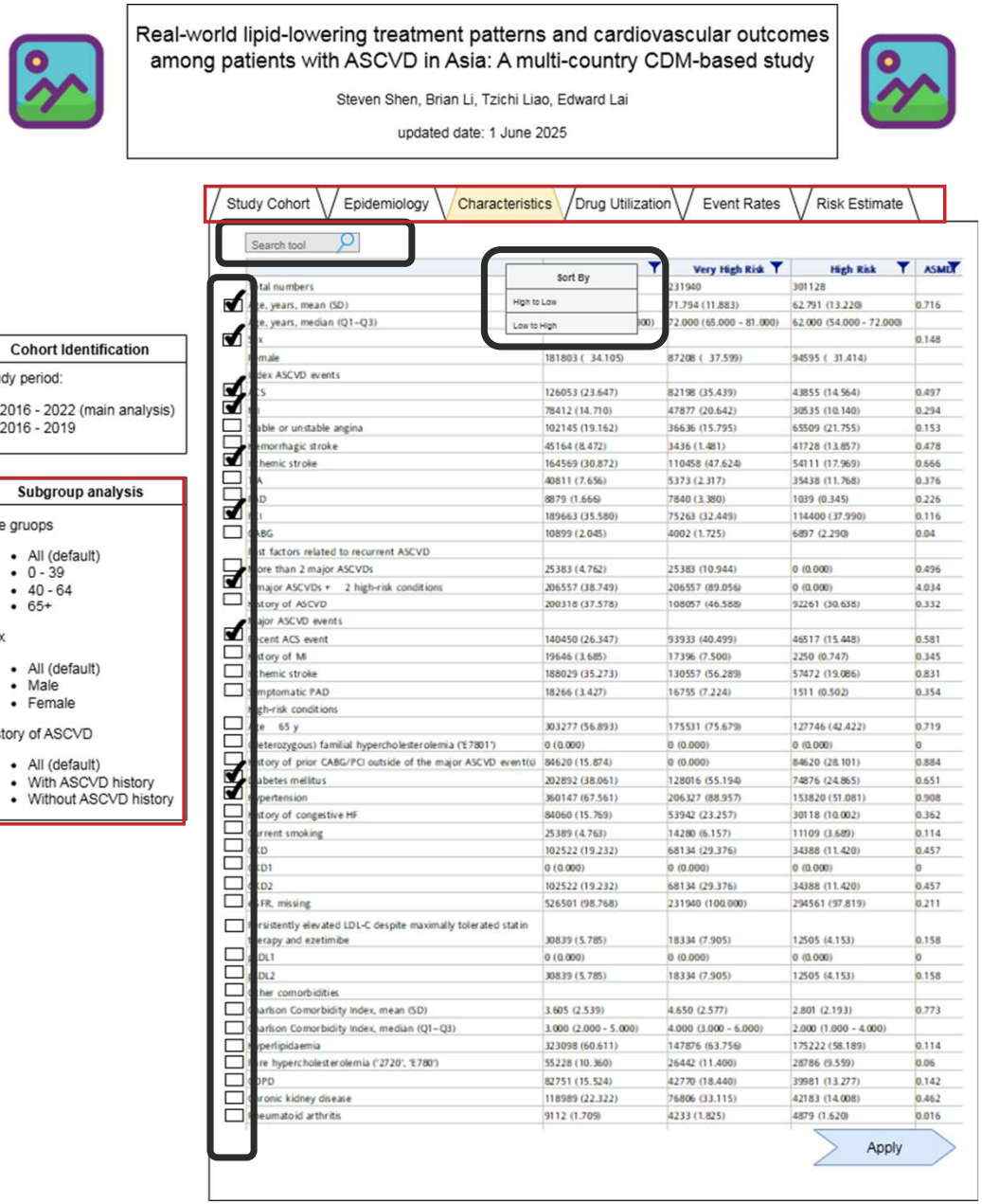


Distribution of cohort by age groups (need to update photo)



Distribution of cohort by calendar years (need to update photo)





Design diagram for characteristic page

Interested characteristics selection:

1. Search tool

2. Apply the filter

Click the box then apply for visualization plot generation

Visualization plot of continuous characteristics

Real-world lipid-lowering treatment patterns and cardiovascular outcomes among patients with ASCVD in Asia: A multi-country CDM-based study

Steven Shen, Brian Li, Tzichi Liao, Edward Lai

updated date: 1 June 2025

Study Cohort | Epidemiology | Characteristics | Drug Utilization | Event Rates | Risk Estimate

Cohort Identification

Study period:

- 2016 - 2022 (main analysis)
- 2016 - 2019

Subgroup analysis

Age gruops

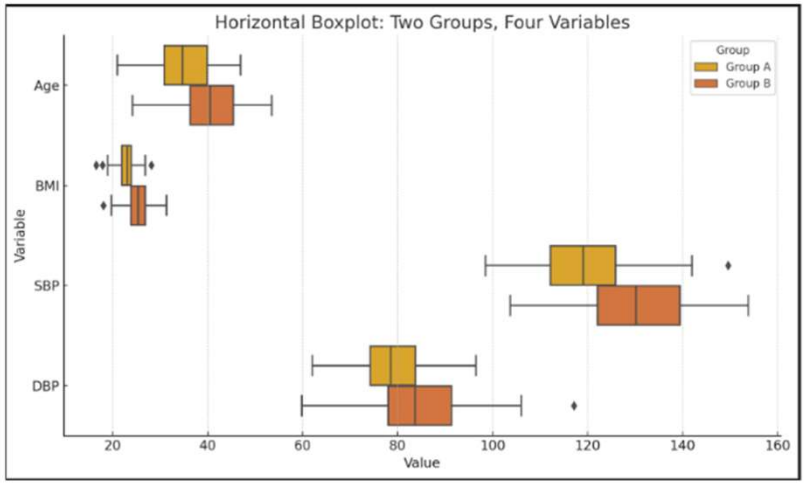
- All (default)
- 0 - 39
- 40 - 64
- 65+

Sex

- All (default)
- Male
- Female

History of ASCVD

- All (default)
- With ASCVD history
- Without ASCVD history



Visualization plot of categorical characteristics

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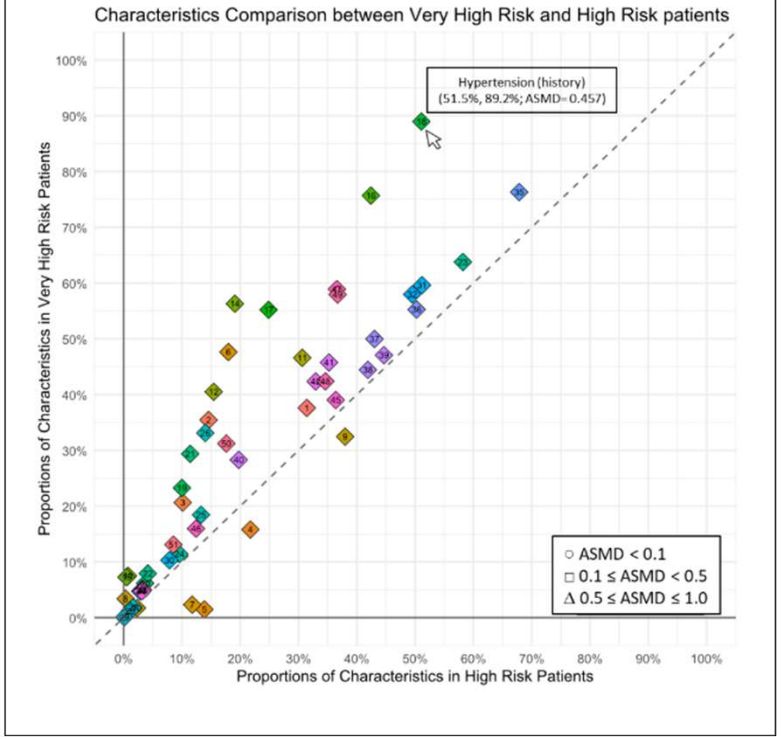

Visualization plot of risk estimate

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updated date: 1 June 2025

Study Cohort | Epidemiology | Charactieristic | Drug Utilization | Event Rates | Risk Estimate

Analysis

- Main analysis (default)
- Subgroup analysis
  - Sex
  - Age
  - History of T2DM
- Sensitivity analysis

Cohort Identification

Study period:

- 2016 - 2022 (main analysis)
- 2016 - 2019

Subgroup analysis

Age gruops

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- 40 - 64
- 65+

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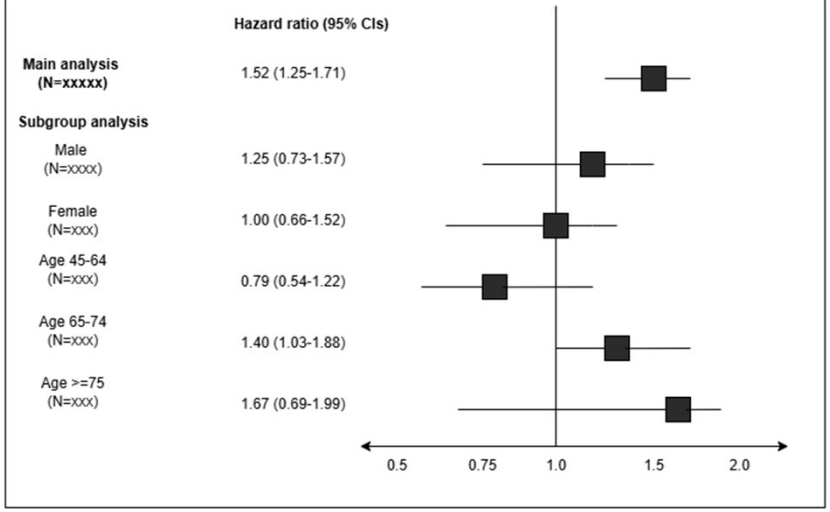

Thank You

Avery Yang

averysh.0523@gmail.com