

Risk of aortic aneurysm or dissection following use of fluoroquinolones: a multinational network cohort study

PRESENTER: **Jack** Janetzki

INTRODUCTION:

- International regulators warned about a rare increased risk of potentially fatal aortic aneurysm (AA) and aortic dissection (AD) with use of fluoroquinolone (FQ) antibiotics.
- Prior studies were poorly designed which generated moderate evidence and conflicting findings.

METHODS

1. We conducted a retrospective cohort study via large scale distributed network analysis on 14 databases from 5 countries.
2. We included patients aged ≥ 35 years of age who were taking FQ or a comparator antibiotic (trimethoprim +/- sulfamethoxazole(TMP) or cephalosporins (CPHs) for treatment of urinary tract infection (UTI) between January 2010 and December 2019. The primary outcome was occurrence of AA/AD within 60 days of exposure.
3. Cox proportional hazards models were used to estimate risk of outcome after 1:1 PS matching.
4. Results were calibrated based on results of negative control outcomes.
5. We employed objective diagnostics to evaluate the analytic method performance.
6. Results were pooled across databases using Bayesian random effects meta-analysis.

**In a study both large and exact,
Fluoroquinolones held to the fact.
No aneurysm woe
For the data did show—
They're a choice we need not retract.**



Take a picture to view the results OHDSI analysis viewer

RESULTS

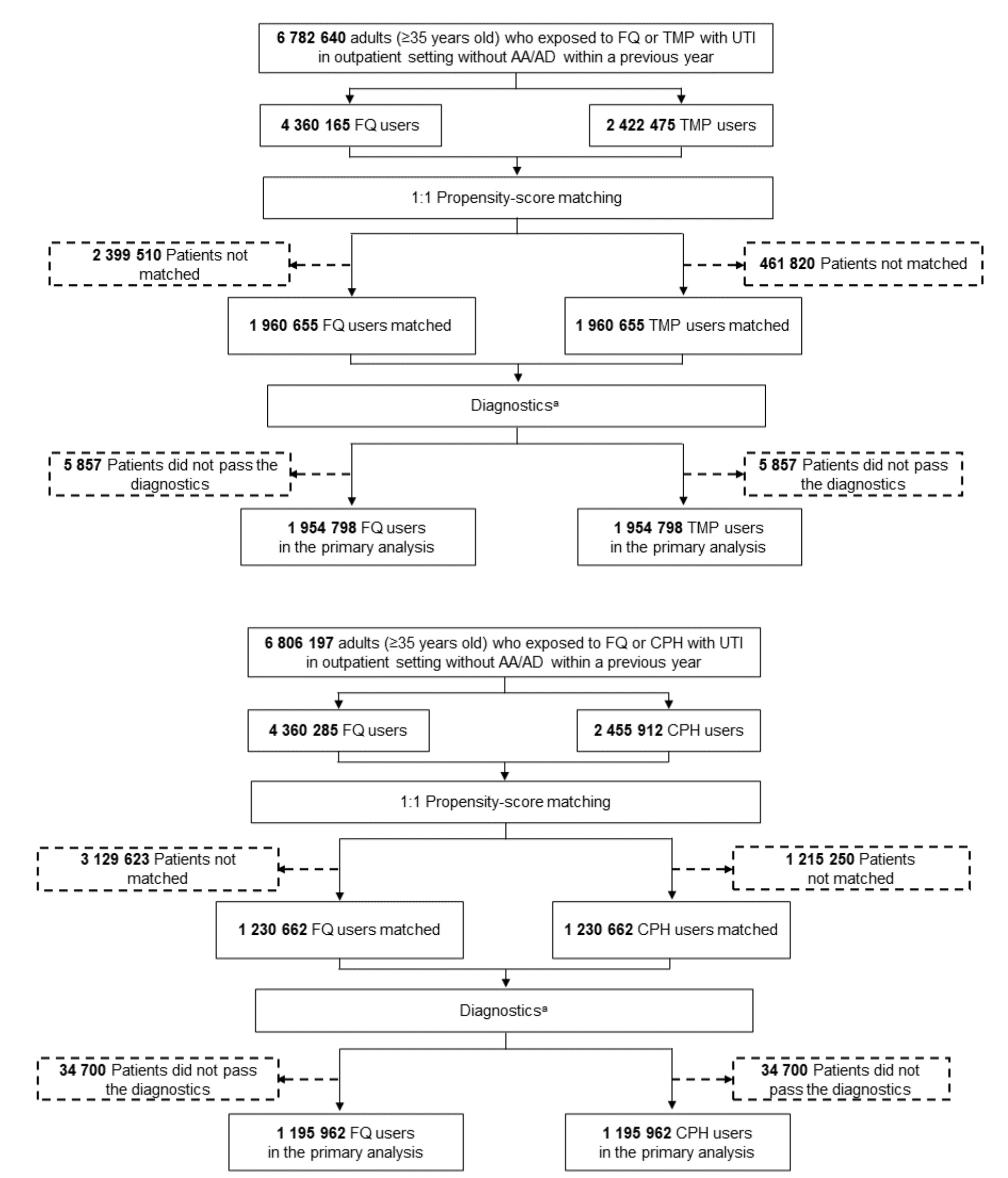


Figure 1: Study Flowchart of Patients Initiating Fluoroquinolones, Trimethoprim with or without Sulfamethoxazole, or Cephalosporins for Urinary Tract Infection

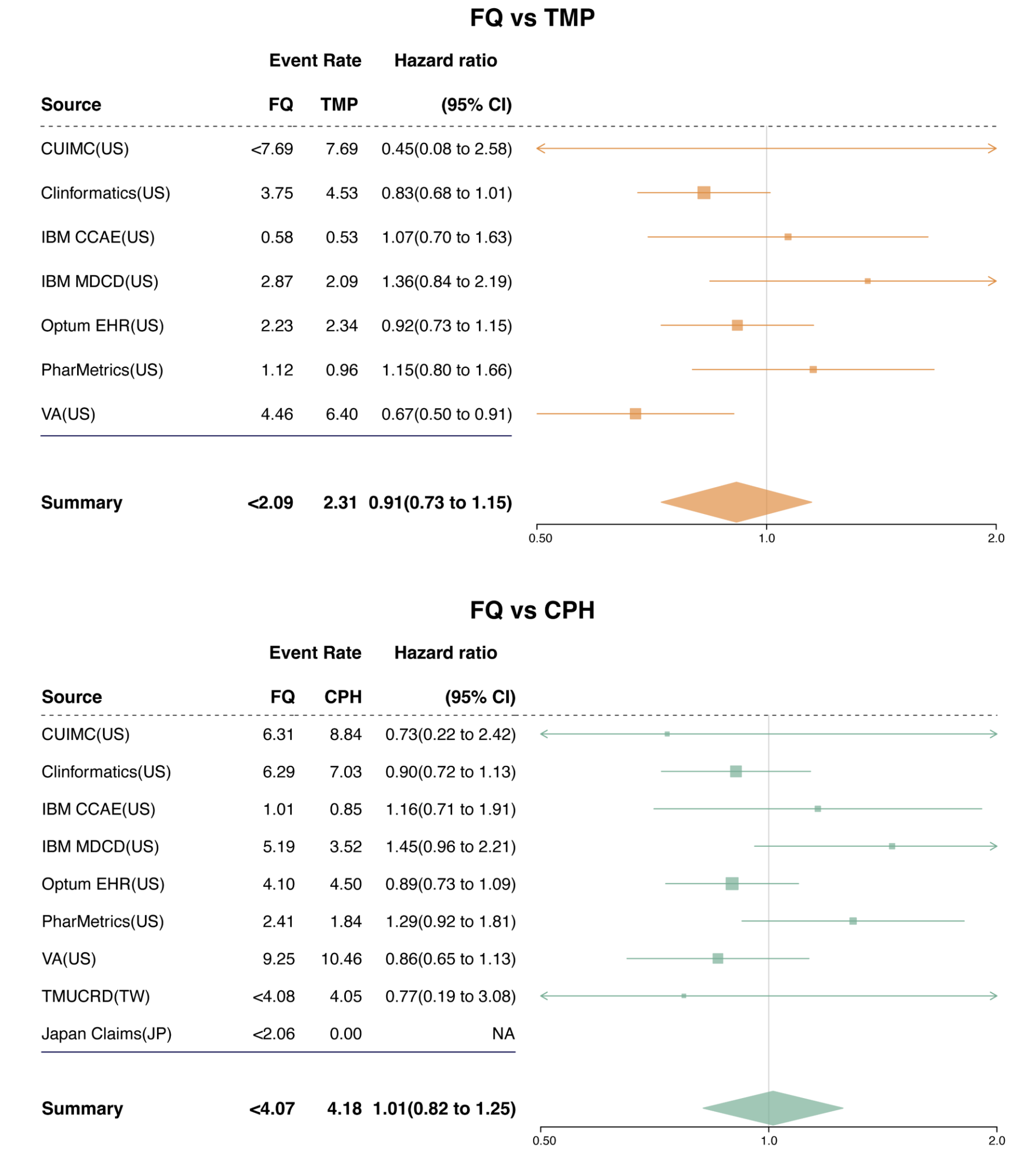


Figure 2: Meta-analytic Comparative Risk of Aortic Aneurysm or Dissection Within 60 Days After Treatment Initiation for Urinary Tract Infection

Jack Janetzki, Jung Ho Kim, Nicole Pratt, and Seng Chan You, on behalf of the 2023 OHDSI SOS Challenge Fluoroquinolone team

