Interactive Provider Dashboards for Comparison of Outpatient Antimicrobial Prescribing for Respiratory and Otic Conditions in Urgent and Quick Care Clinics

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Background

- Antimicrobial stewardship (AMS) in the outpatient setting is important as it accounts for majority of antimicrobial usage
- Unnecessary use occurs about 30% of the time, usually for respiratory conditions
- Urgent care (UC) and quick care (QC) clinics have high percentage of visits with an antimicrobial prescribed
  - UIHC UC/QC prescribing rate ~30%
- Data tracking and reporting with emphasis on peer-to-peer comparison has been a cornerstone of outpatient AMS
- We aimed to develop an interactive dashboard for provider feedback

Methods

- Antimicrobial prescription (order) data and encounter reason were extracted from the EMR
- ICD10 codes were utilized to identify conditions that never require an antimicrobial based on prior literature[1]
- Only those prescriptions for conditions that never require an antimicrobial for a respiratory or otic condition were included
- Data were uploaded into Tableau® to create interactive dashboards
- Content and layout is created by a multi-disciplinary team
  - Infectious Diseases physicians (adult and pediatric)
  - Urgent and Quick Care providers (MD,ARNP,PA)
  - Infectious Diseases pharmacists
  - Data analysts
- Rx rate is defined as:
  - <u># antimicrobial orders for never events</u>
    # encounters for never events

Results

Figure 1a. Antimicrobial Prescribing Rate for Never Events-All Visits

Top 5 ICD10 Codes

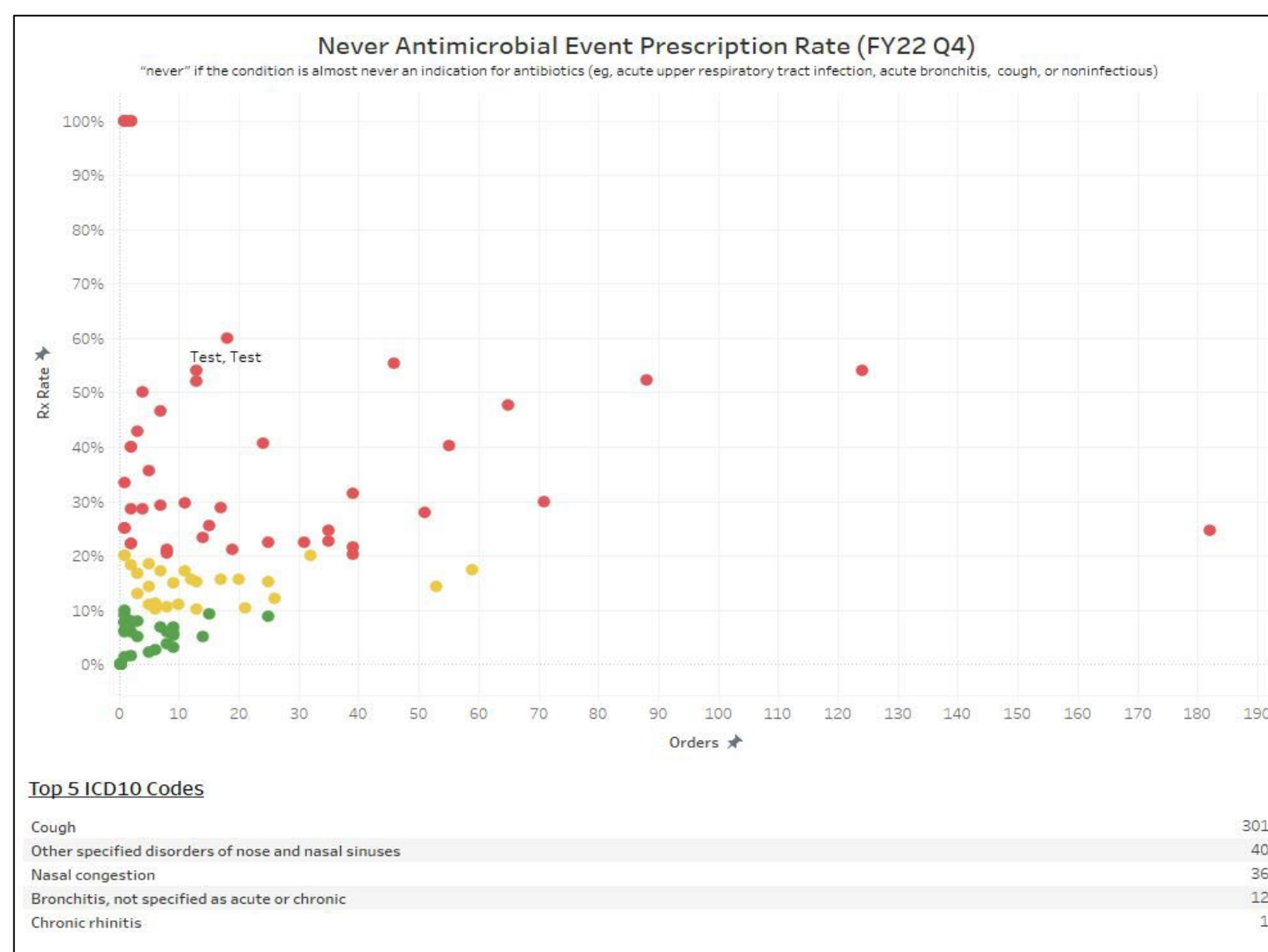|	
Cough	301
Other specified disorders of nose and nasal sinuses	40
Nasal congestion	36
Bronchitis, not specified as acute or chronic	12
Chronic rhinitis	1

Figure 1b. Antimicrobial Prescribing Rate for Never Events-Pediatrics

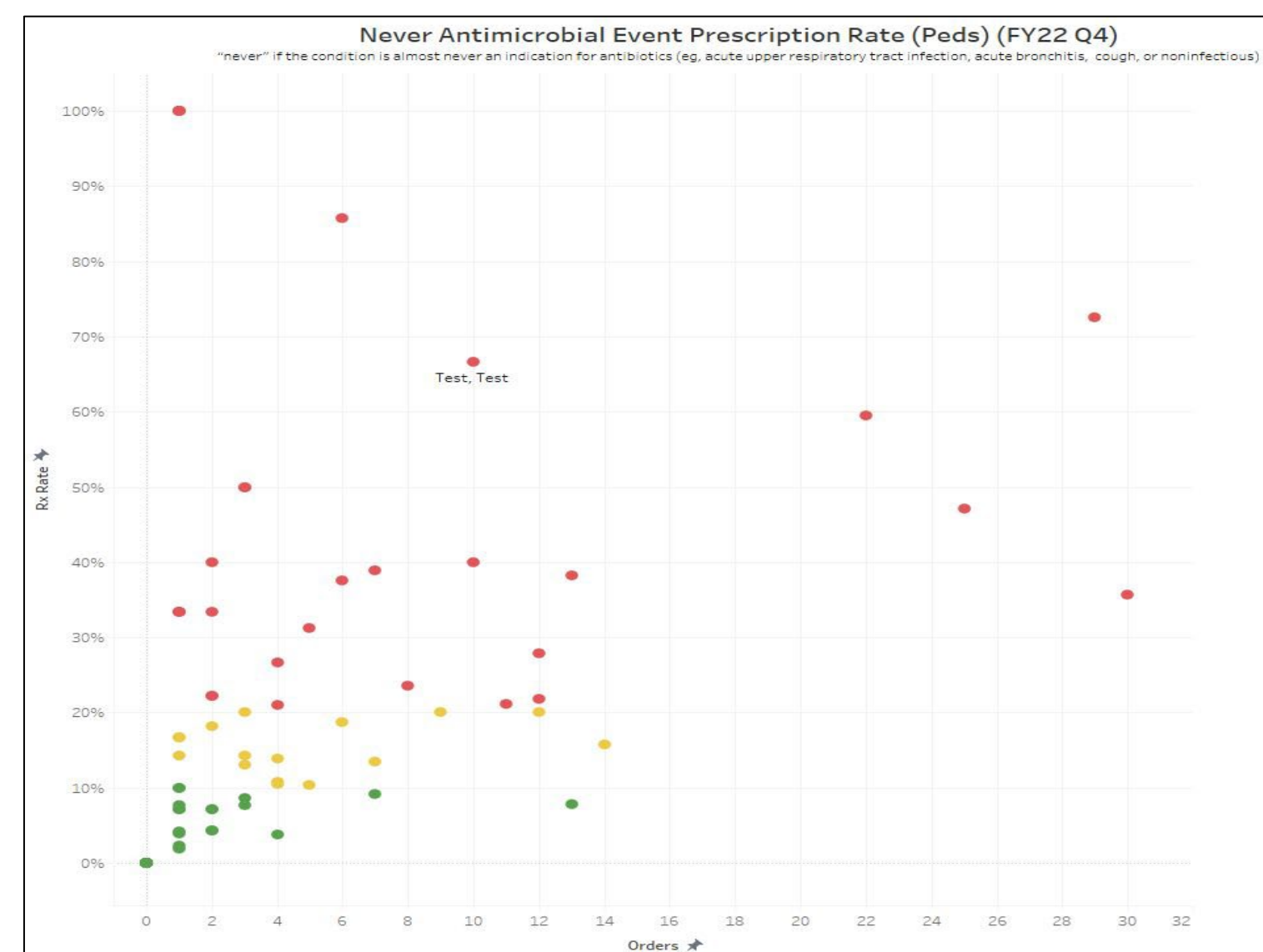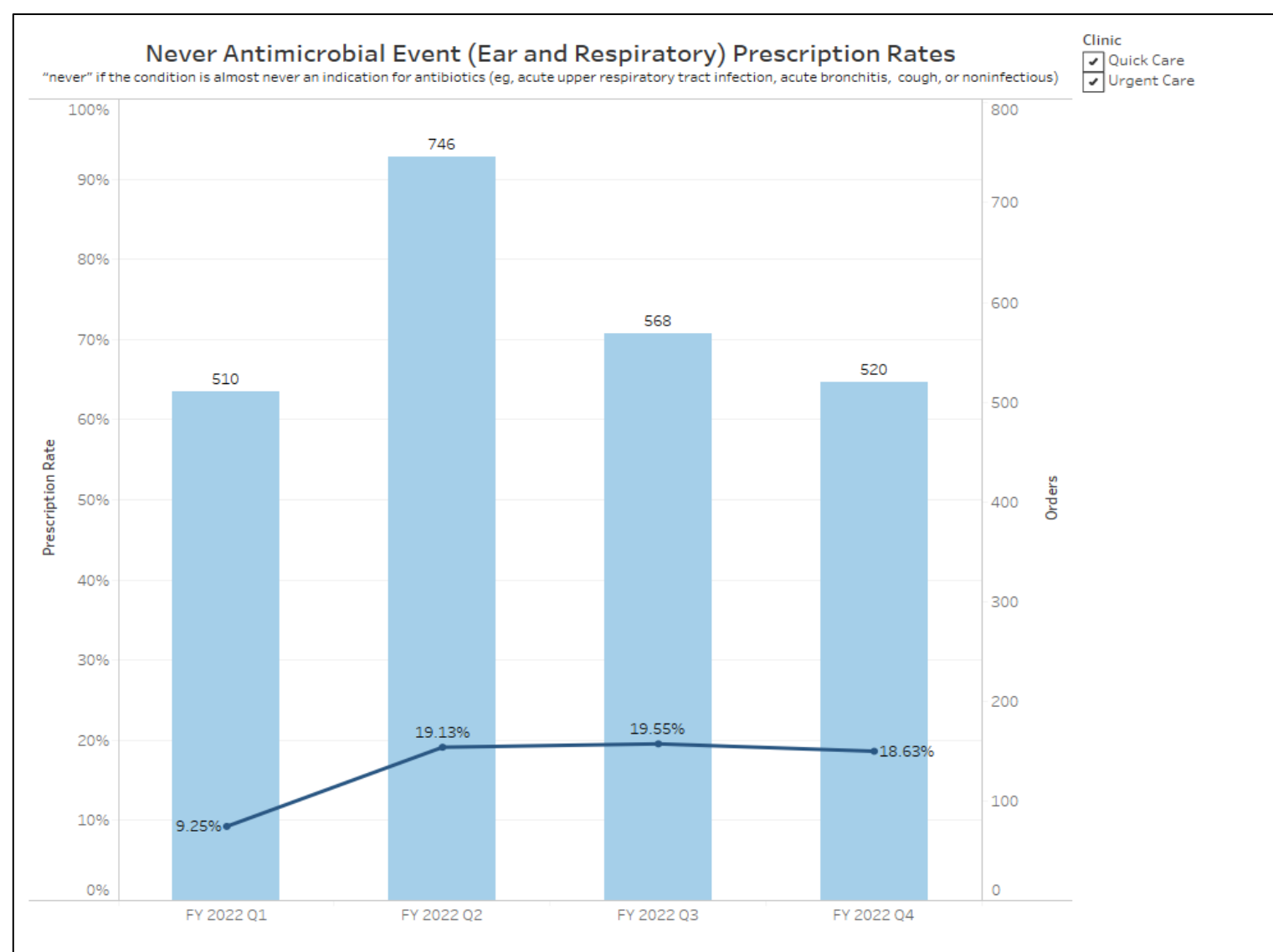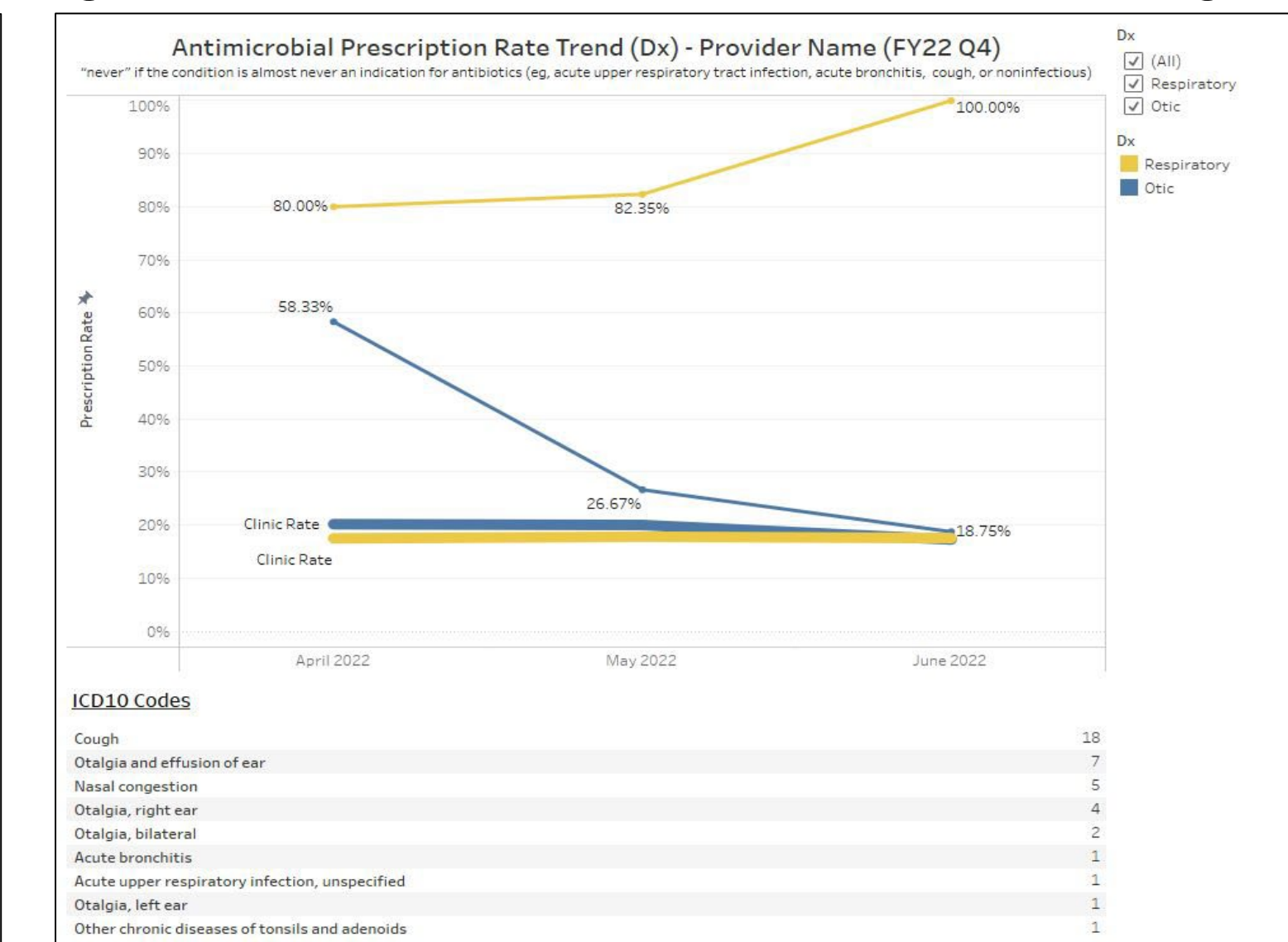### Figure 2. Clinic Antimicrobial Prescribing Rate Trend

Figure 3. Prescriber and Clinic Antimicrobial Prescribing Rate

ICD10 Codes

Cough	18
Otalgia and effusion of ear	7
Nasal congestion	5
Otalgia, right ear	4
Otalgia, bilateral	2
Acute bronchitis	1
Acute upper respiratory infection, unspecified	1
Otalgia, left ear	1
Other chronic diseases of tonsils and adenoids	1

Legend

- **Figure 1.**
  - Green is ≤10%
  - Yellow is >10% to 20%
  - Red is >20%
  - Orders is number of antimicrobial orders in the data time frame for never event
  - Top 5 ICD10 codes for all providers combined contributing to the data are listed
- **Figure 2.**
  - Blue line is the Rx rate for the entire clinic(s)
  - Bars are the number of orders
- **Figure 3.**
  - Bolded line = Clinic rate
  - Narrow line = Provider specific rate
  - Top 5 ICD10s are provider specific

Conclusions

- Dashboard allows providers to compare their prescribing trends to others
- AMS and clinic leadership can use to determine areas of focused intervention
- Future directions include:
  - Evaluating the impact of dashboards on prescribing rates
  - Monitoring for shifts in ICD10 coding and overall prescription quantity

Reference

1. Chua KP, et al. BMJ. 2019 Jan 16;364:k5092

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