

# Recent trends on antibiotic use in Scotland

## SAPG AMT Network May 2022 update

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**ARHAI Scotland**

Antimicrobial Resistance and Healthcare Associated Infection



**Trends in antibiotic use in  
the community in Scotland  
during the COVID-19  
pandemic.**

# Method

## Data Source

- PIS electronic prescription data
- Available two days after Rx generated

## Antibiotic Grouping

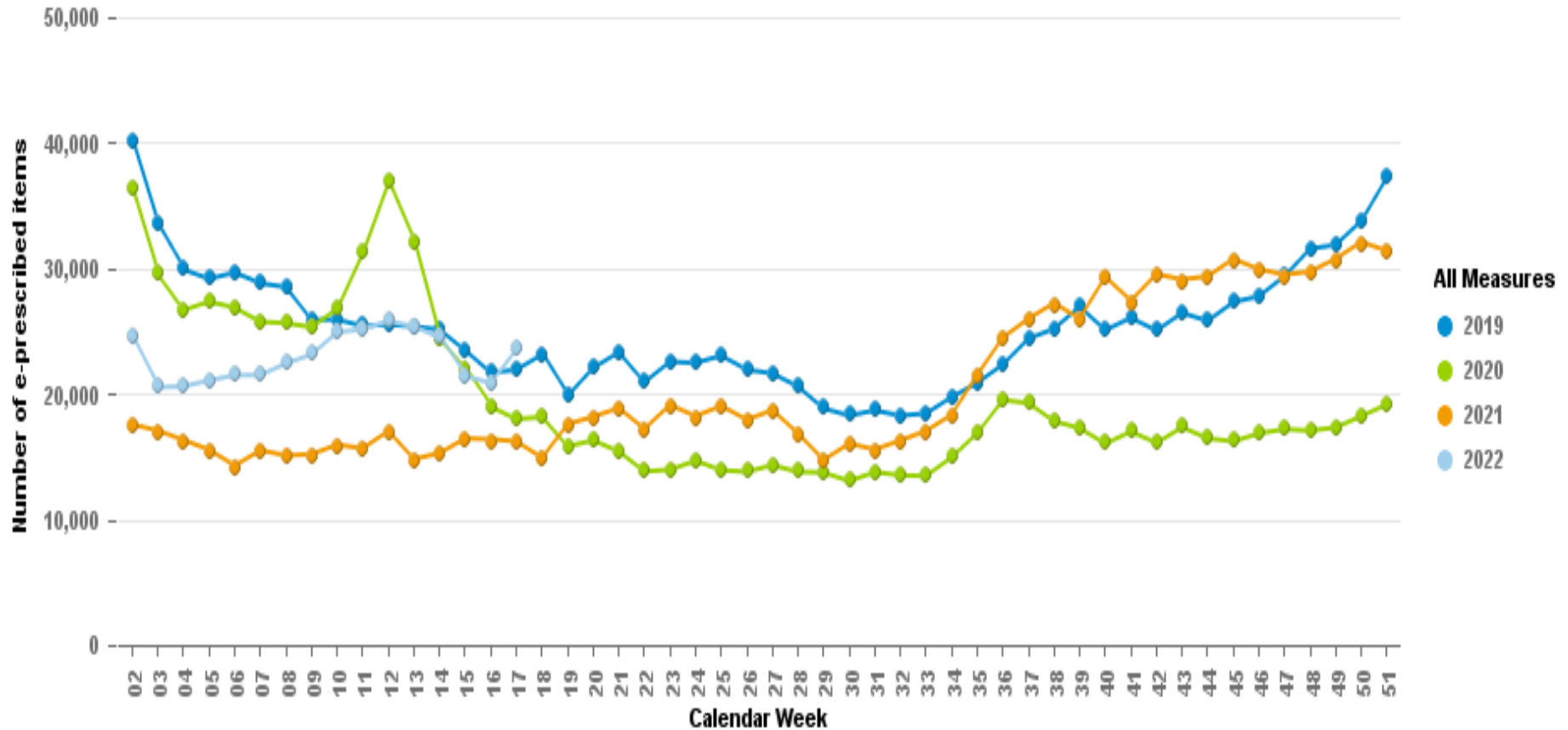
### Respiratory antibiotics

- Amoxicillin
- Azithromycin
- Clarithromycin
- Co-amoxiclav
- Doxycycline

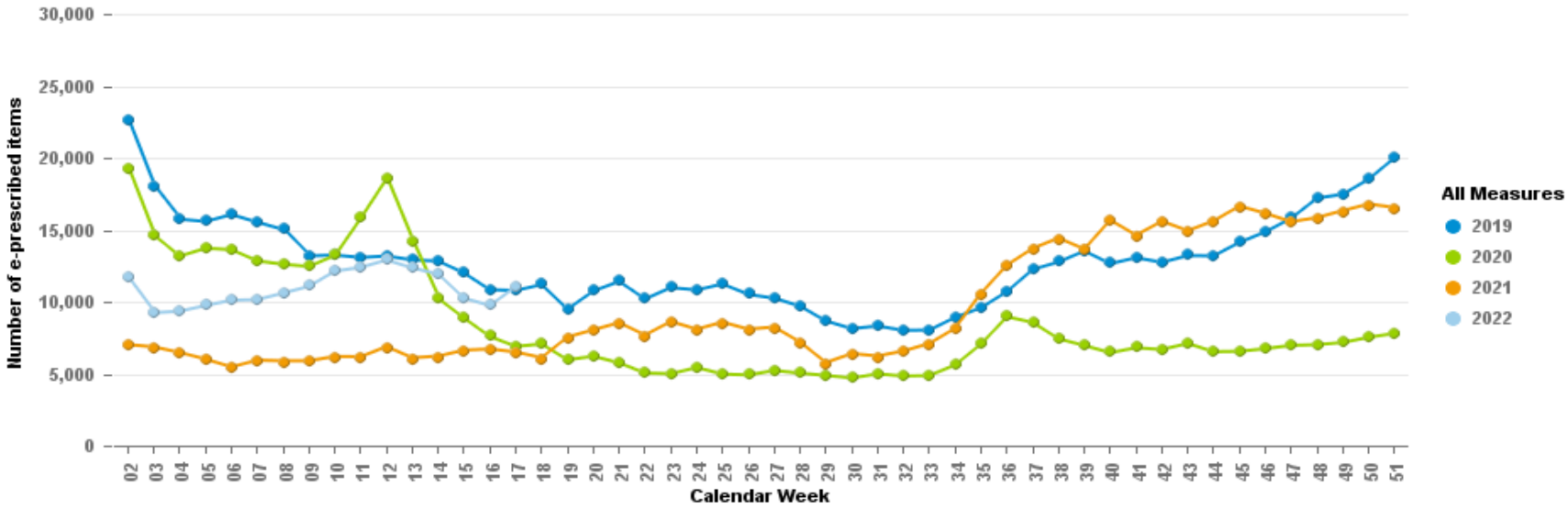
## Key Outcome Measure

- Weekly number of prescriptions for antibiotics in 2022 compared with number in 2019, 2020 and 2021

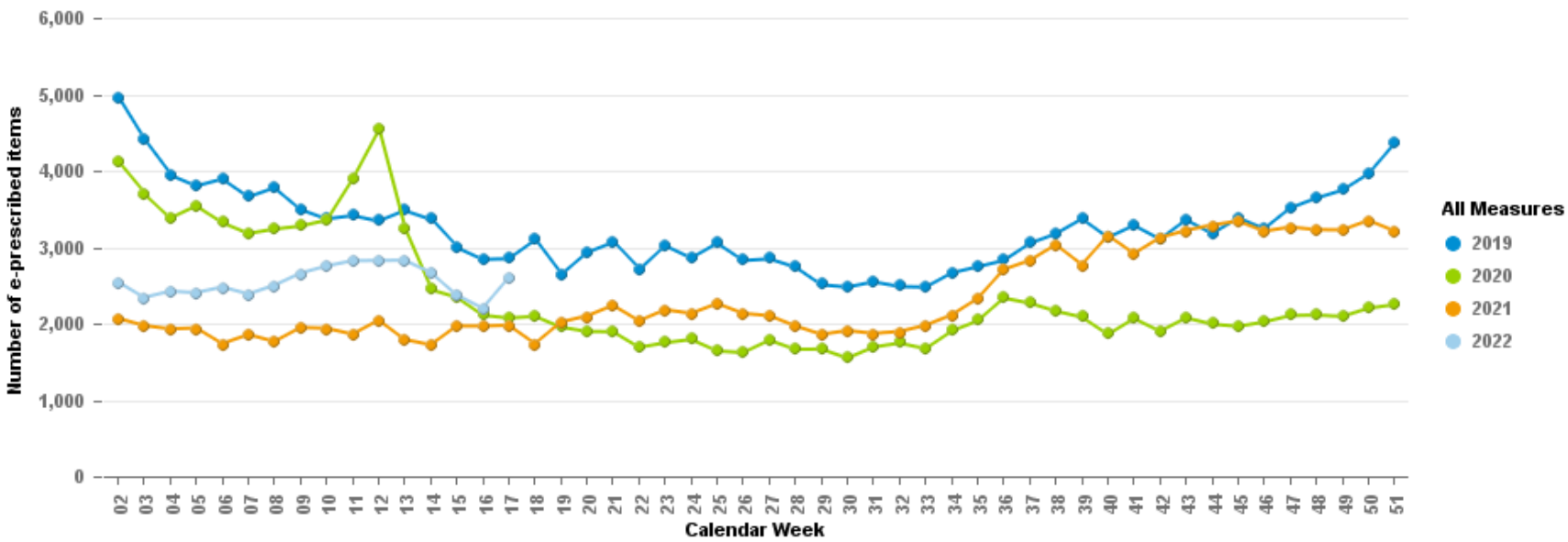
# Results: Respiratory antibiotics



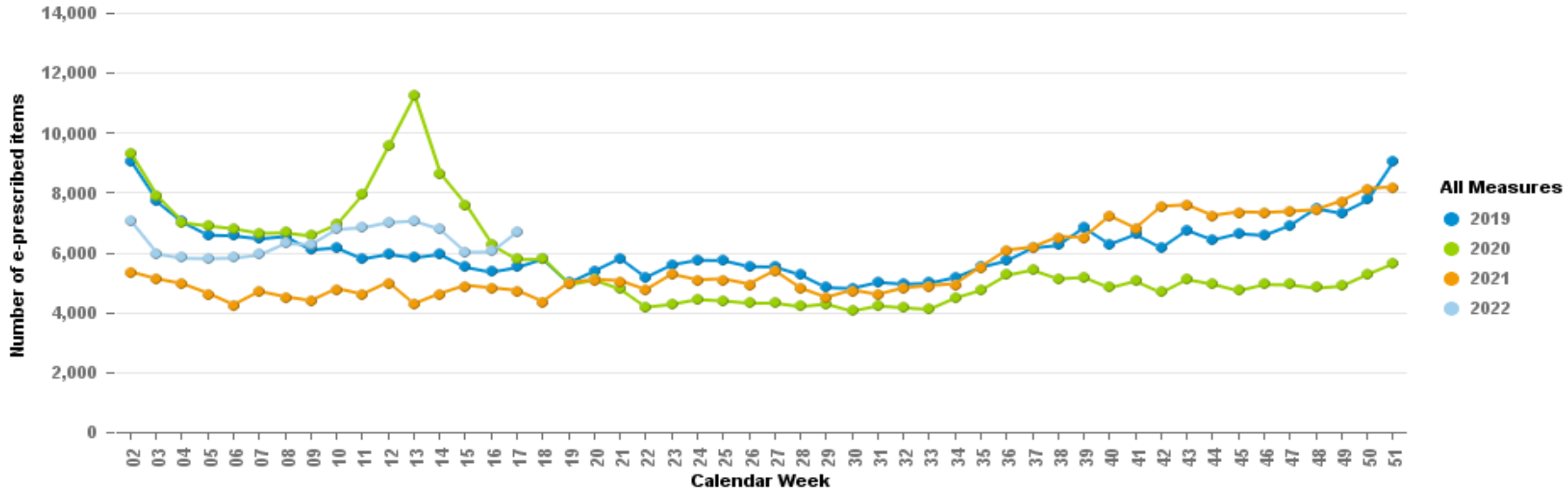
# Results: Amoxicillin



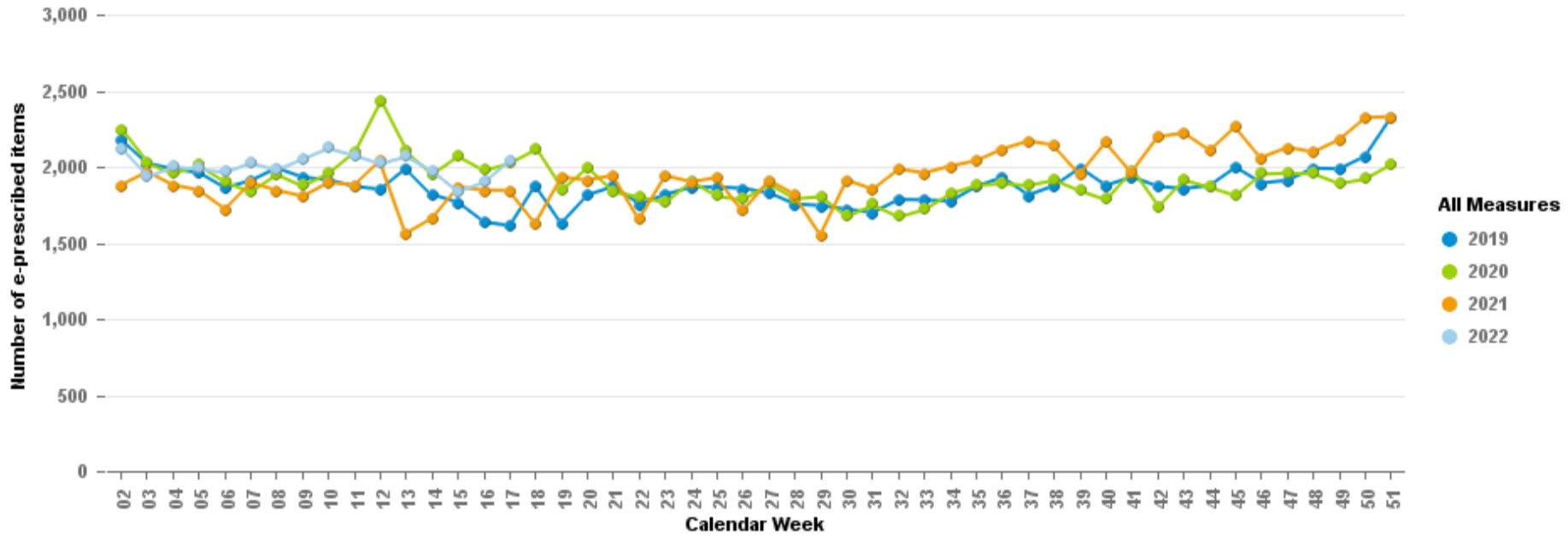
# Results: Clarithromycin



# Results: Doxycycline



# Results: Co-amoxiclav





# Trends in dental antibiotic use in Scotland.

# Method

## Data Source

- PIS data on dispensed (paid) prescriptions (all primary except dental)
- Available 3 months in arrears

## Total antibiotics

### Specific antibiotics

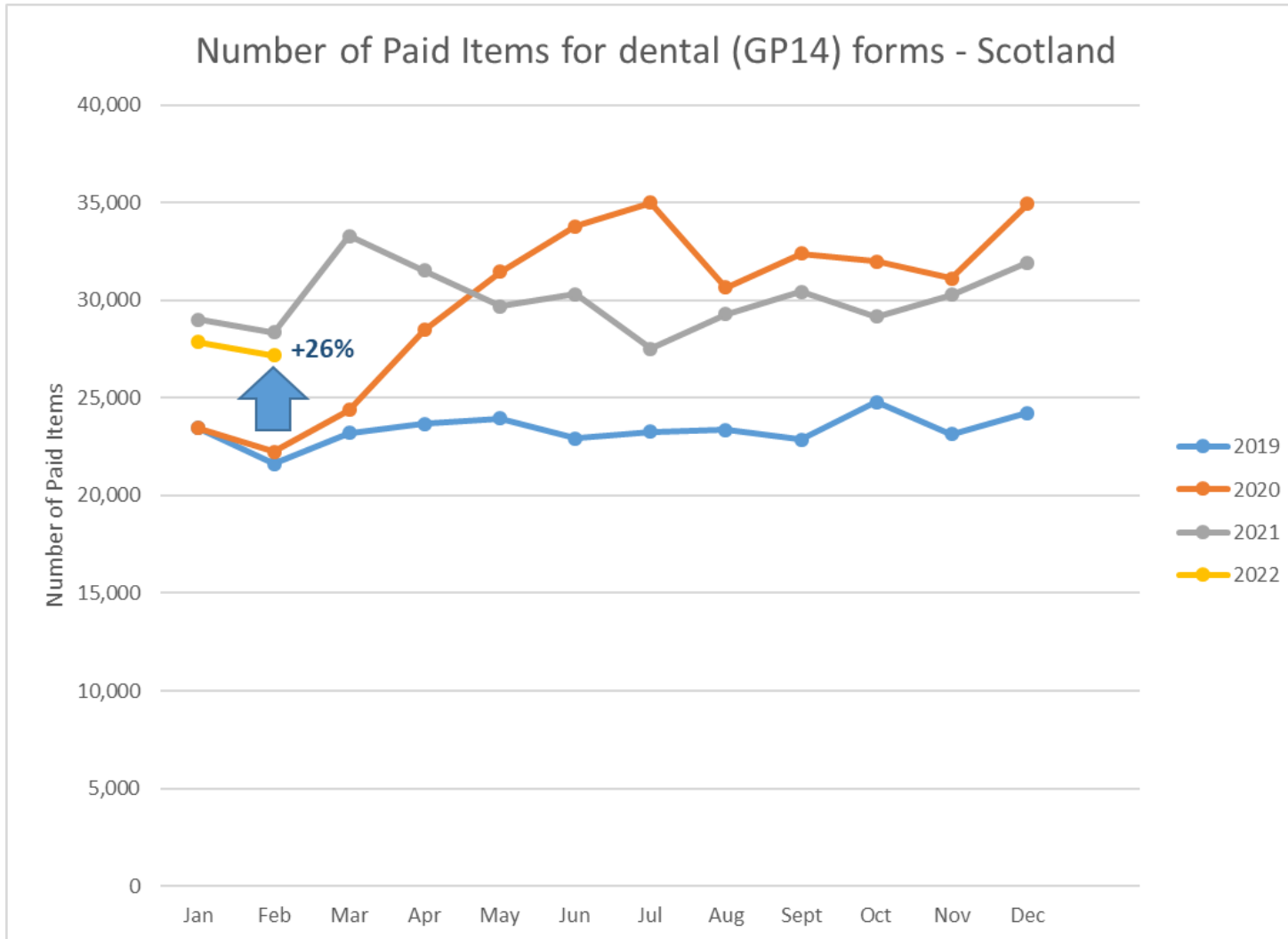
- Amoxicillin
- Metronidazole
- Pen V

## Key Outcome Measure

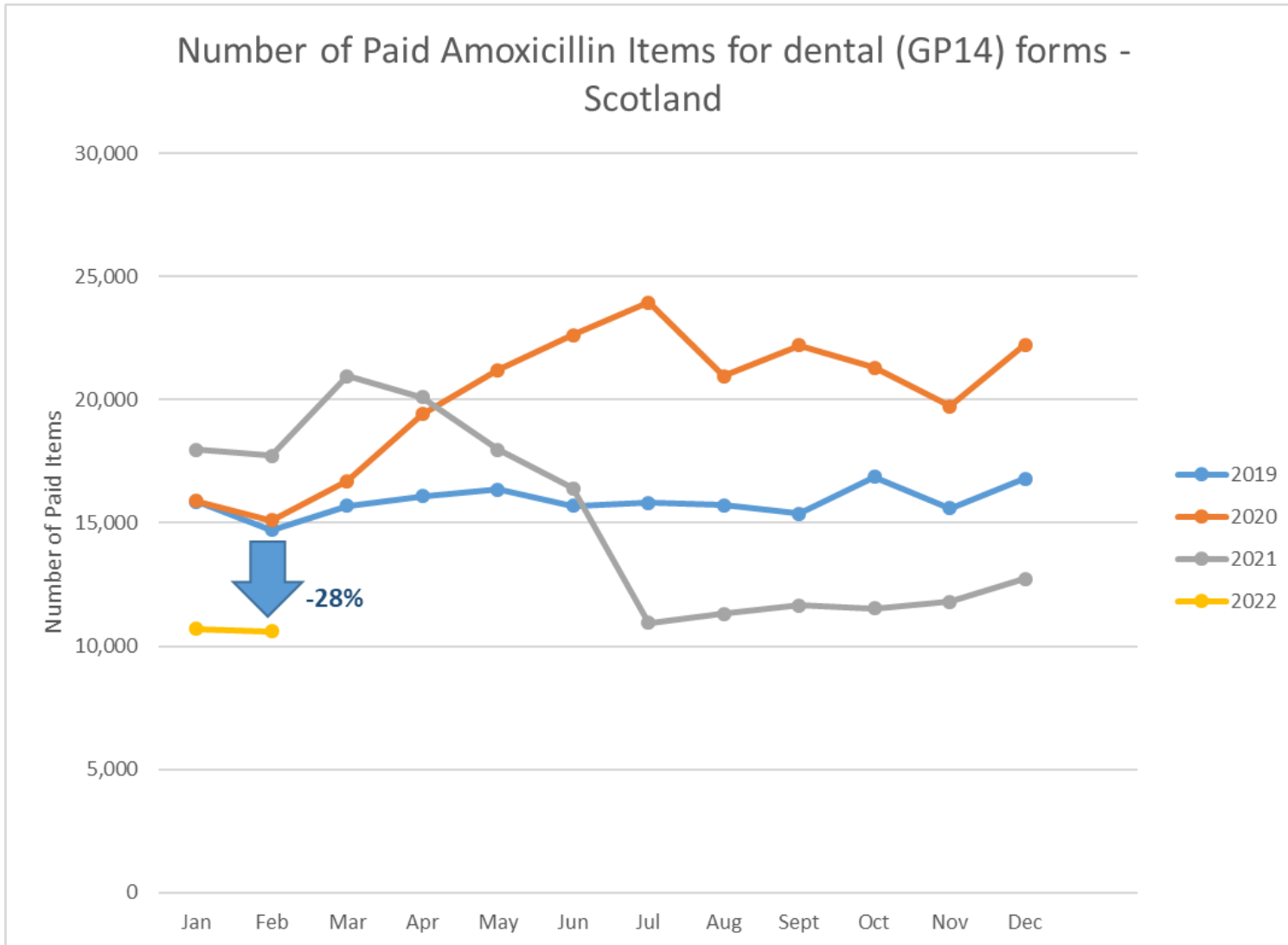
- Monthly number of prescriptions for antibiotics in 2022 compared with number in 2019, 2020 and 2021



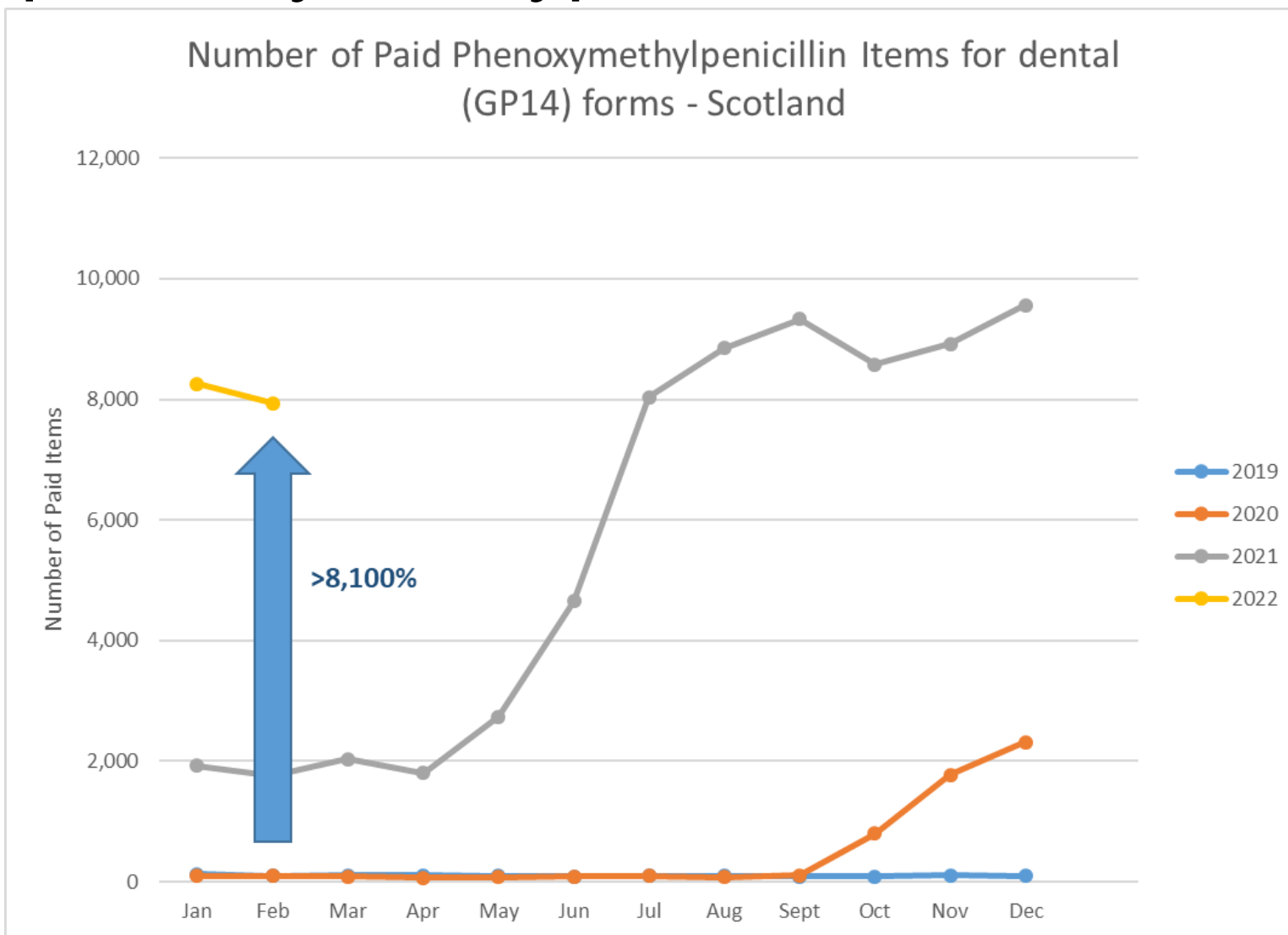
# Results: dental antibiotic use



# Results: dental amoxicillin use

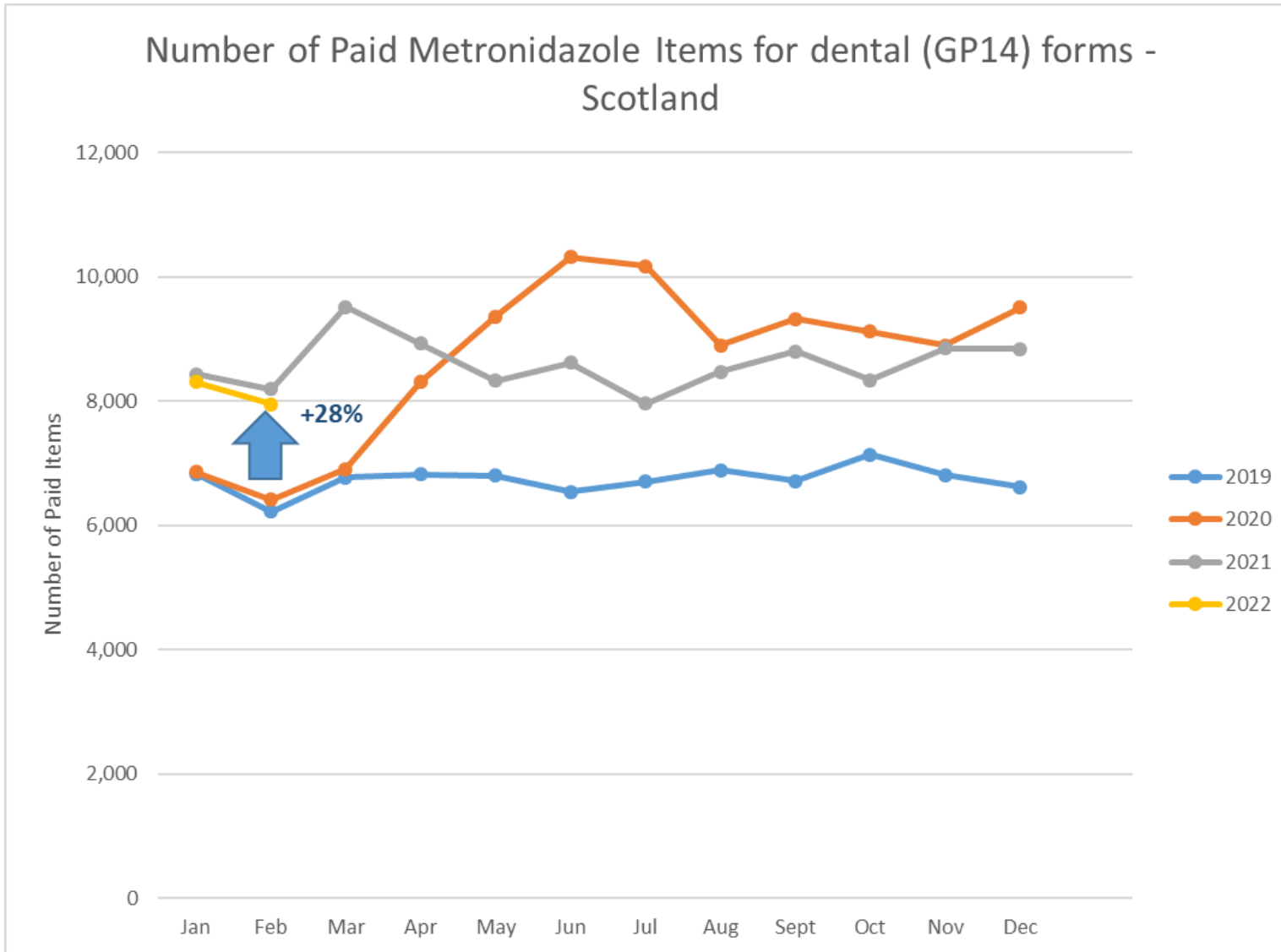


# Results: dental phenoxymethylpenicillin use





# Results: dental metronidazole use



# Method

## Data Source

- PIS data on dispensed (paid) GP14 dental prescriptions
- Available 3 months in arrears
- Dental Claims Data, MIDAS PHS

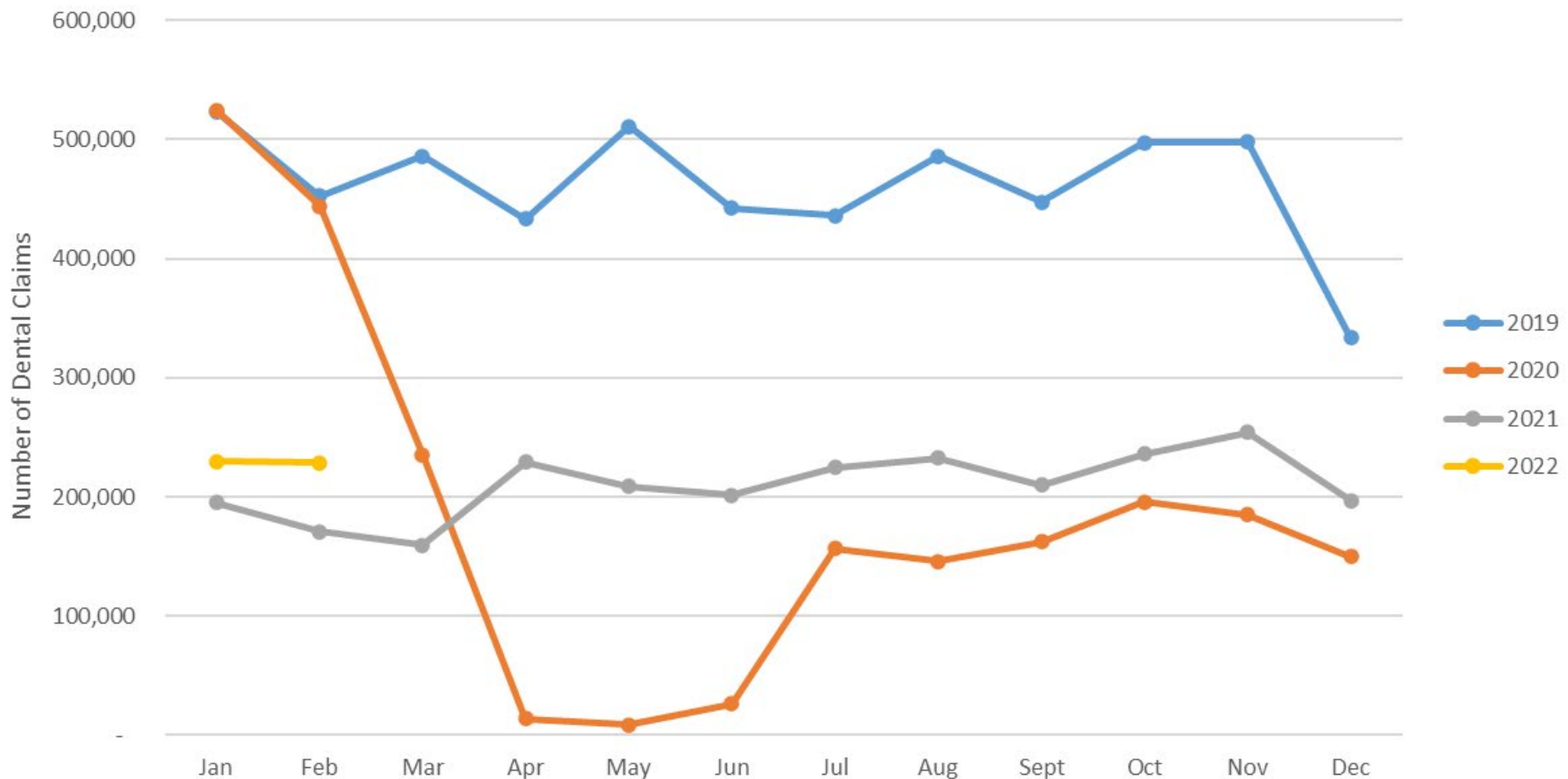
## Total antibiotics

## Key Outcome Measure

- Monthly items per claim for antibiotics in 2022 compared with number in 2019, 2020 and 2021

# Results: Number of Dental Claims

### Number of Dental Claims - Scotland









# Progress Against Antibiotic Use Indicators

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NHS Board Chief Executives  
Copy : NHS Board Chairs

10 October 2019

Dear Colleagues

#### **Standards on Healthcare Associated Infections and Indicators on Antibiotic Use**

On 24 January 2019, the UK government published a 20-year vision for AMR and a 5-year national action plan for tackling AMR (2019-24). These documents were developed collaboratively by a UK High Level Steering Group which included officials from all four UK countries. The UK plan set ambitious targets to reduce inappropriate prescribing of antibiotics and to reduce healthcare associated Gram-negative bacteraemia. The Scottish Government agreed in principle to endorse reductions in prescribing and Gram-negative bacteraemia in line with the UK national action plan, but reserved the right to set standards at levels that were appropriate for Scotland.

The new Standards and Indicators have been approved by the Cabinet Secretary for Health and Sport, and are attached at Annex A. They build on work by expert groups such as Health Protection Scotland and the Scottish Antimicrobial Prescribing Group.

I trust these standards and indicators provide useful benchmarks to support a local quality improvement framework as we take forward our important work to prevent and control healthcare associated infections and to contain antimicrobial resistance. We recognise that Boards may need time to develop and test effective interventions to support implementation of these standards and indicators. I look forward to working with you in this process.

Kind regards



**Fiona McQueen**  
Chief Nursing Officer

#### **ANNEX A: Updated HCAI standards and antibiotic use indicators for Scotland**

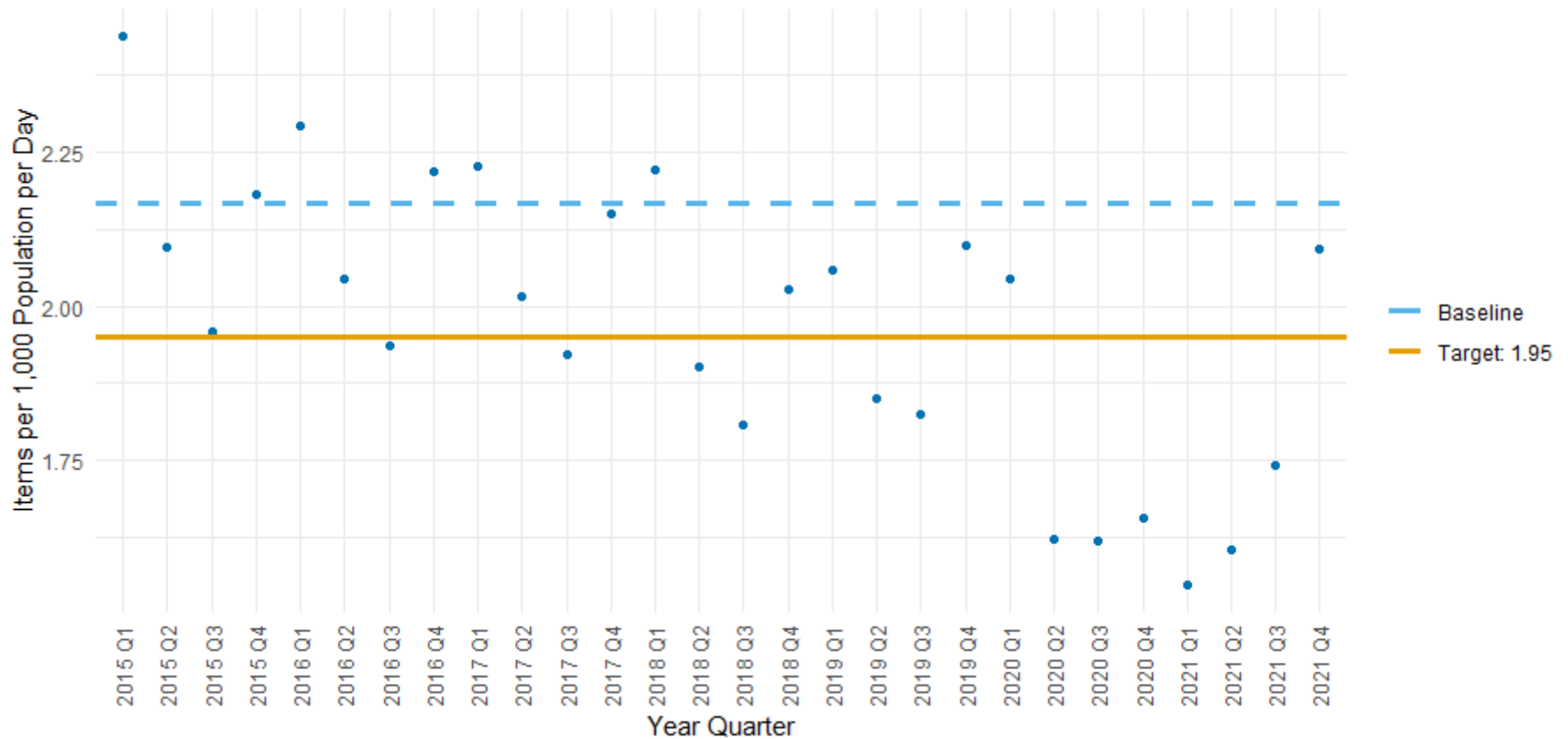
##### Antibiotic use indicators

1. A 10% reduction of antibiotic use in Primary Care (excluding dental) by 2022, using 2015/16 data as the baseline (items/1000/day).
2. Use of intravenous antibiotics in secondary care defined as DDD / 1000 population / day will be no higher in 2022 than it was in 2018.
3. Use of WHO Access antibiotics (NHSE list)  $\geq 60\%$  of total antibiotic use in Acute hospitals by 2022.

**Indicator 1: A 10% reduction of antibiotic use in Primary Care (excluding dental) by 2022, using 2015 as the baseline**

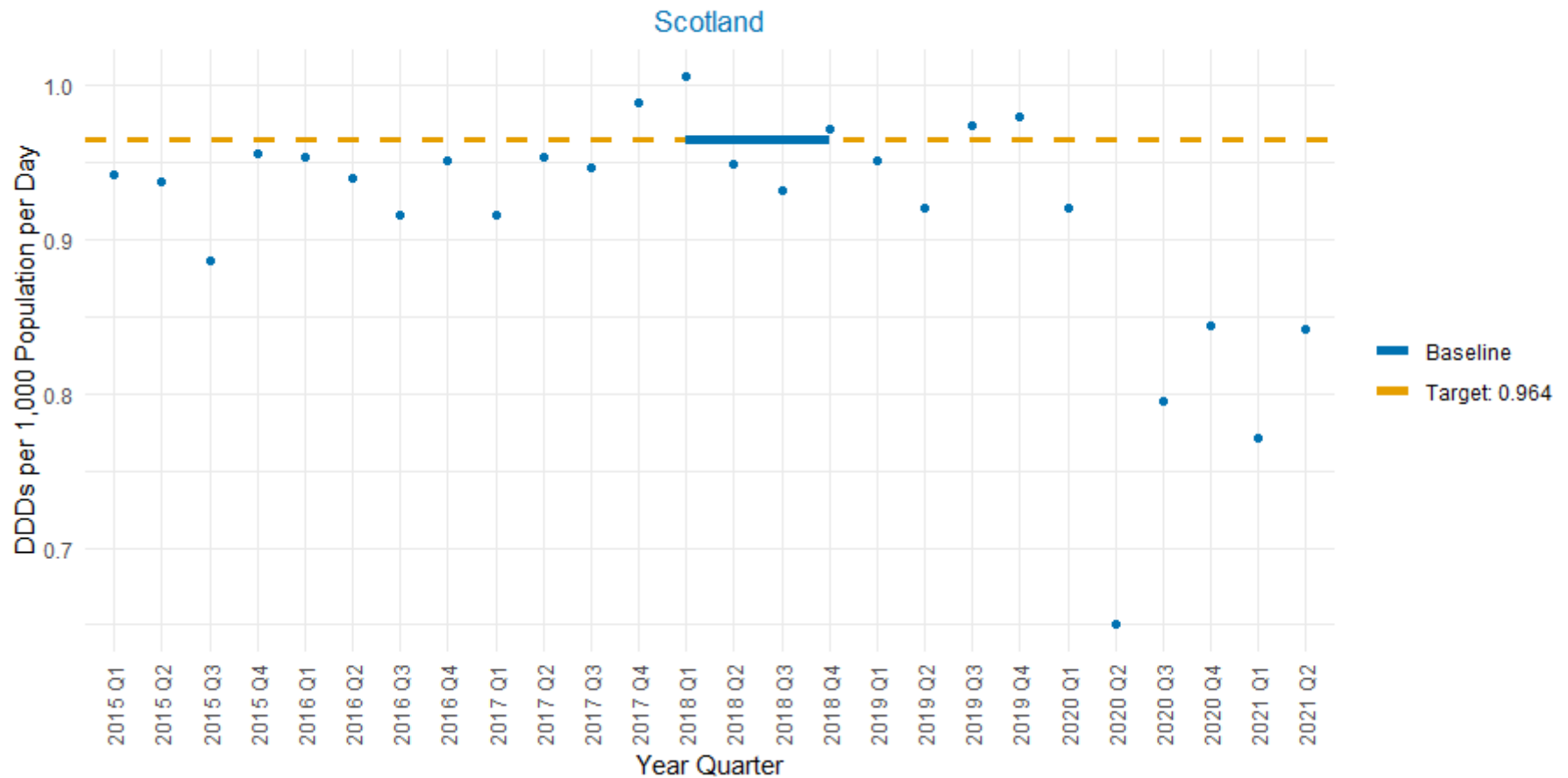
Indicator 1: A 10% reduction of antibiotic use in Primary Care  
(excluding dental) by 2022, using 2015/16 data as the baseline

Scotland



**Indicator 2: Use of intravenous antibiotics in secondary care will be no higher in 2022 than it was in 2018**

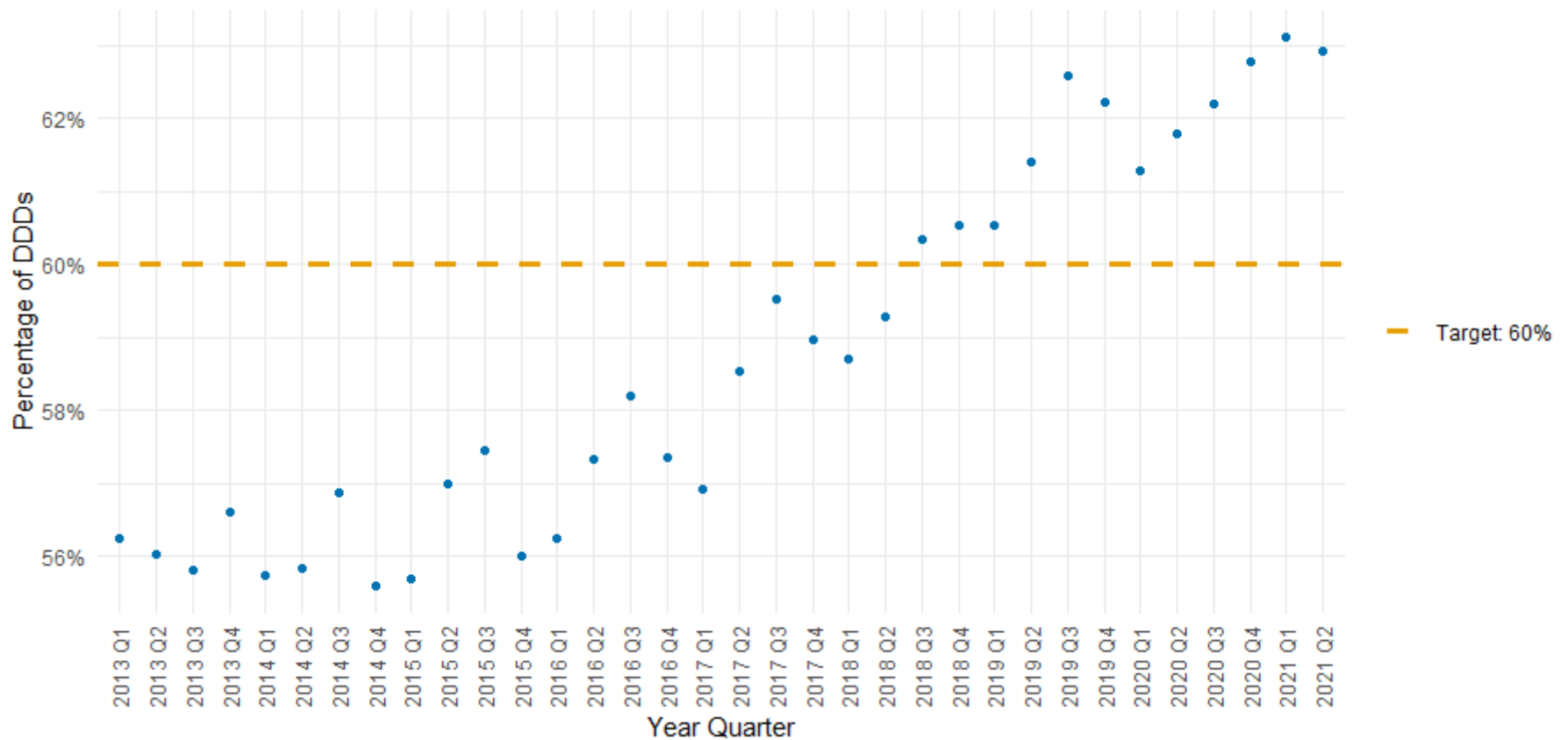
Indicator 2: Use of intravenous antibiotics in secondary care  
will be no higher in 2022 than it was in 2018



**Indicator 3: Use of WHO Access  
antibiotics greater than or equal to 60%  
of total antibiotic use in Acute hospitals  
by 2022**

Indicator 3: Use of WHO Access antibiotics greater than or equal to 60% of total antibiotic use in Acute hospitals by 2022

Scotland







# Acute Hospital Antibiotic Use by NHS Health Board Funnel Plot Analysis

# Method

## Data Source

- Hospital Medicines Utilisation Database (HMUD)
- Information Services Division ISD(S)1 (Bed Days)

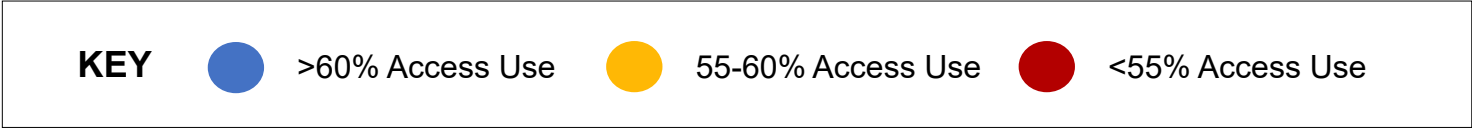
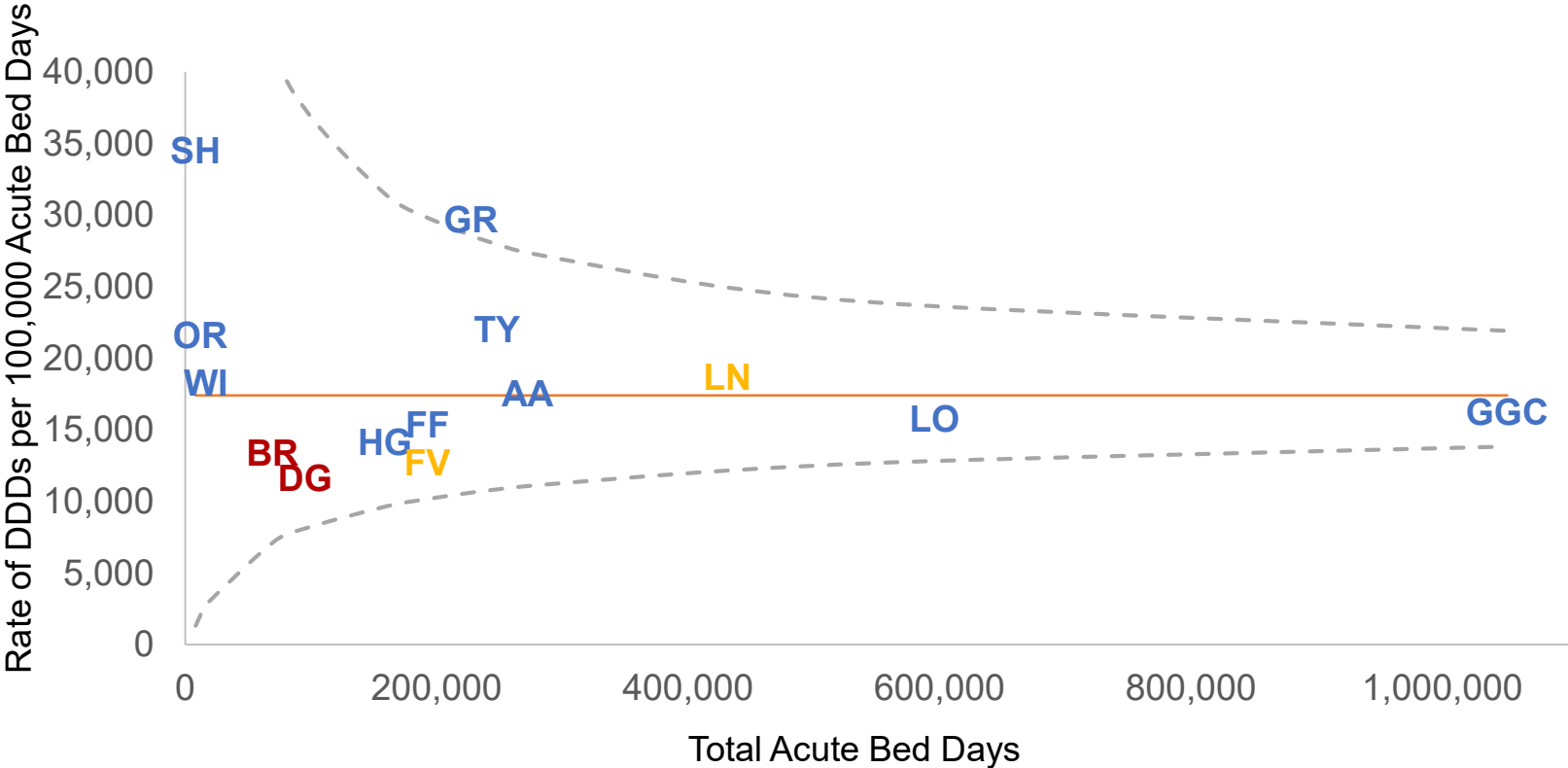
## Key Outcome Measure

- Total DDDs in Acute Hospitals per 100,000 Bed Days

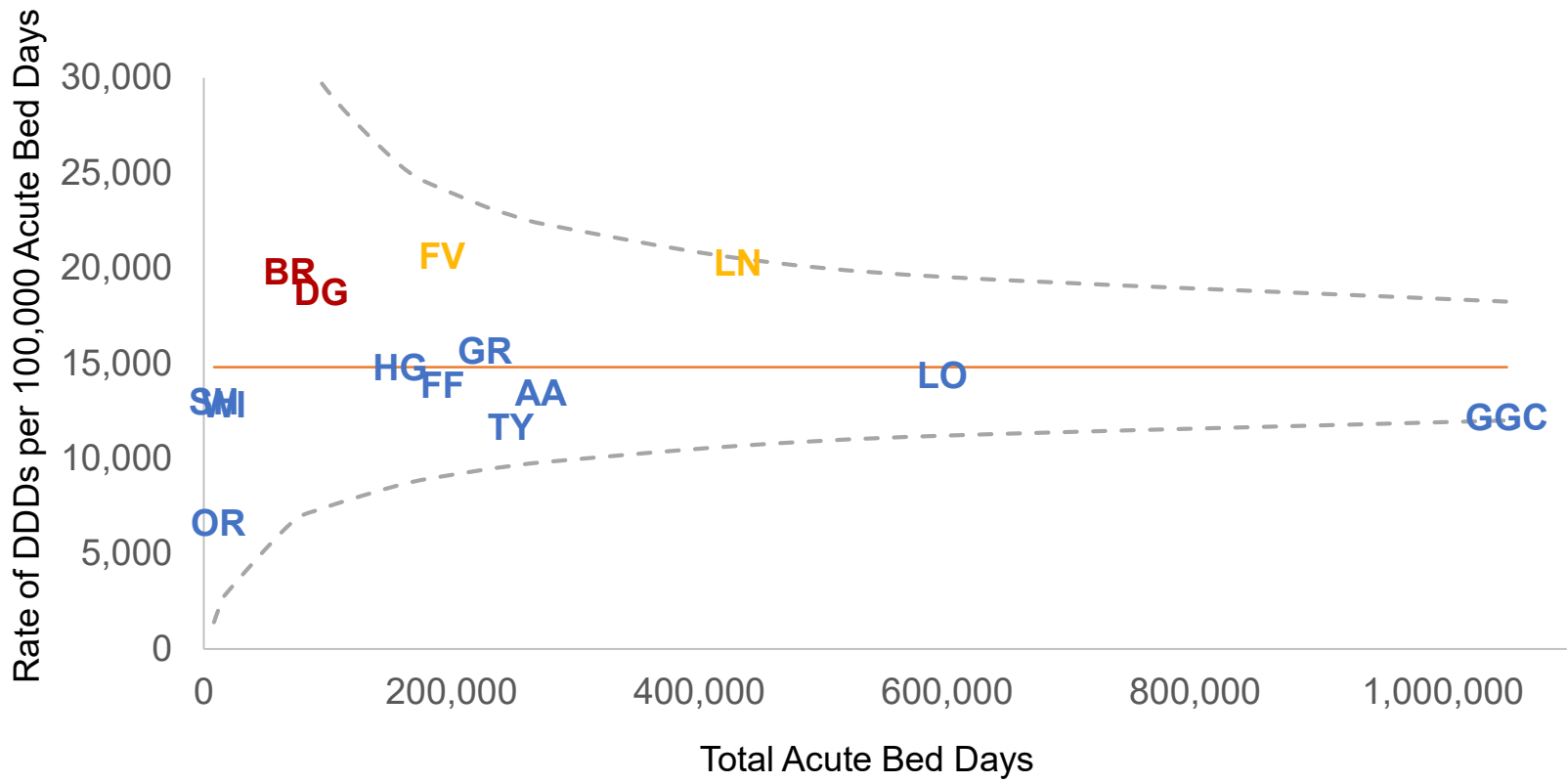
## Time period

- June 2020-July 2021

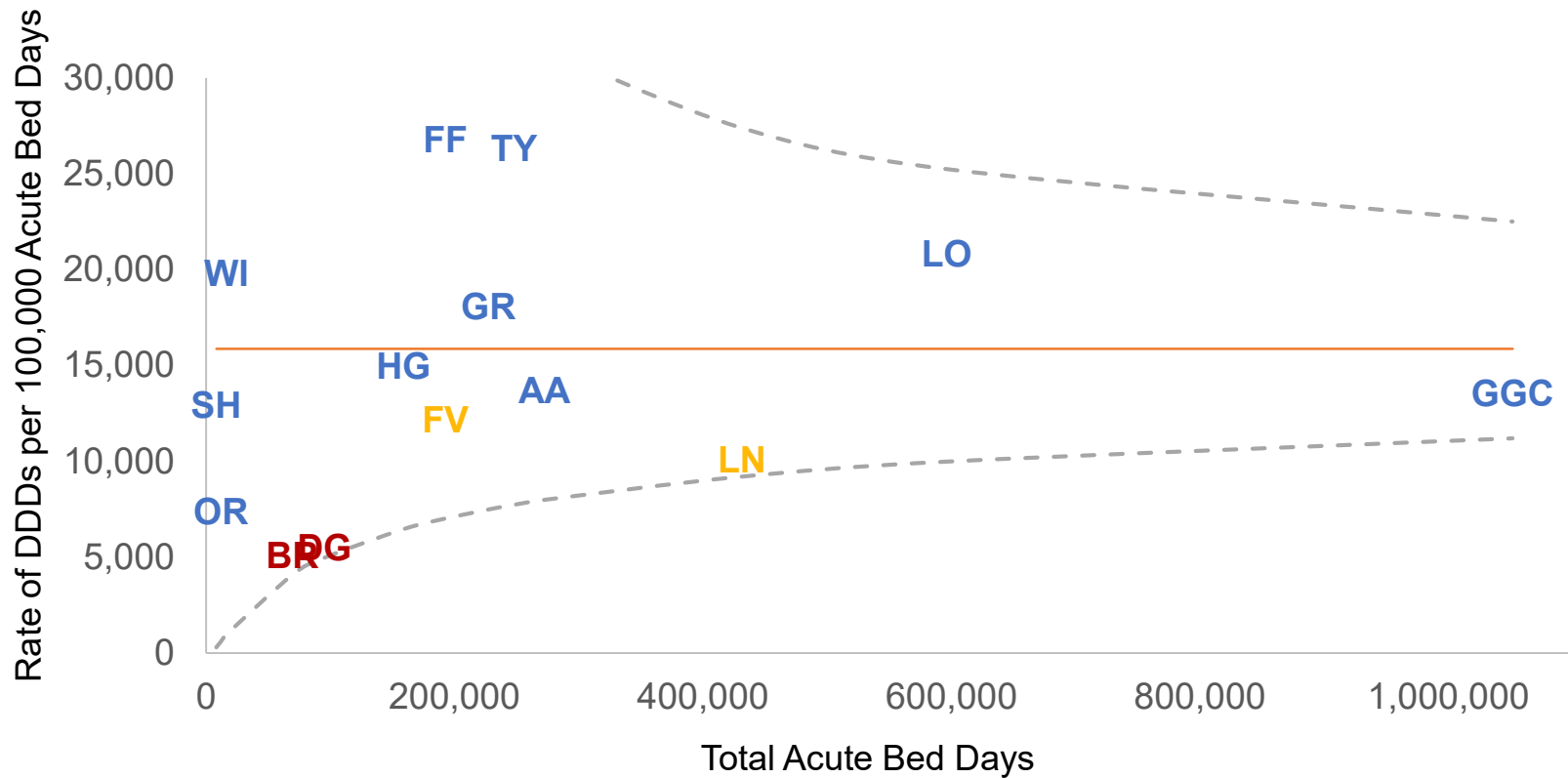
# Amoxicillin



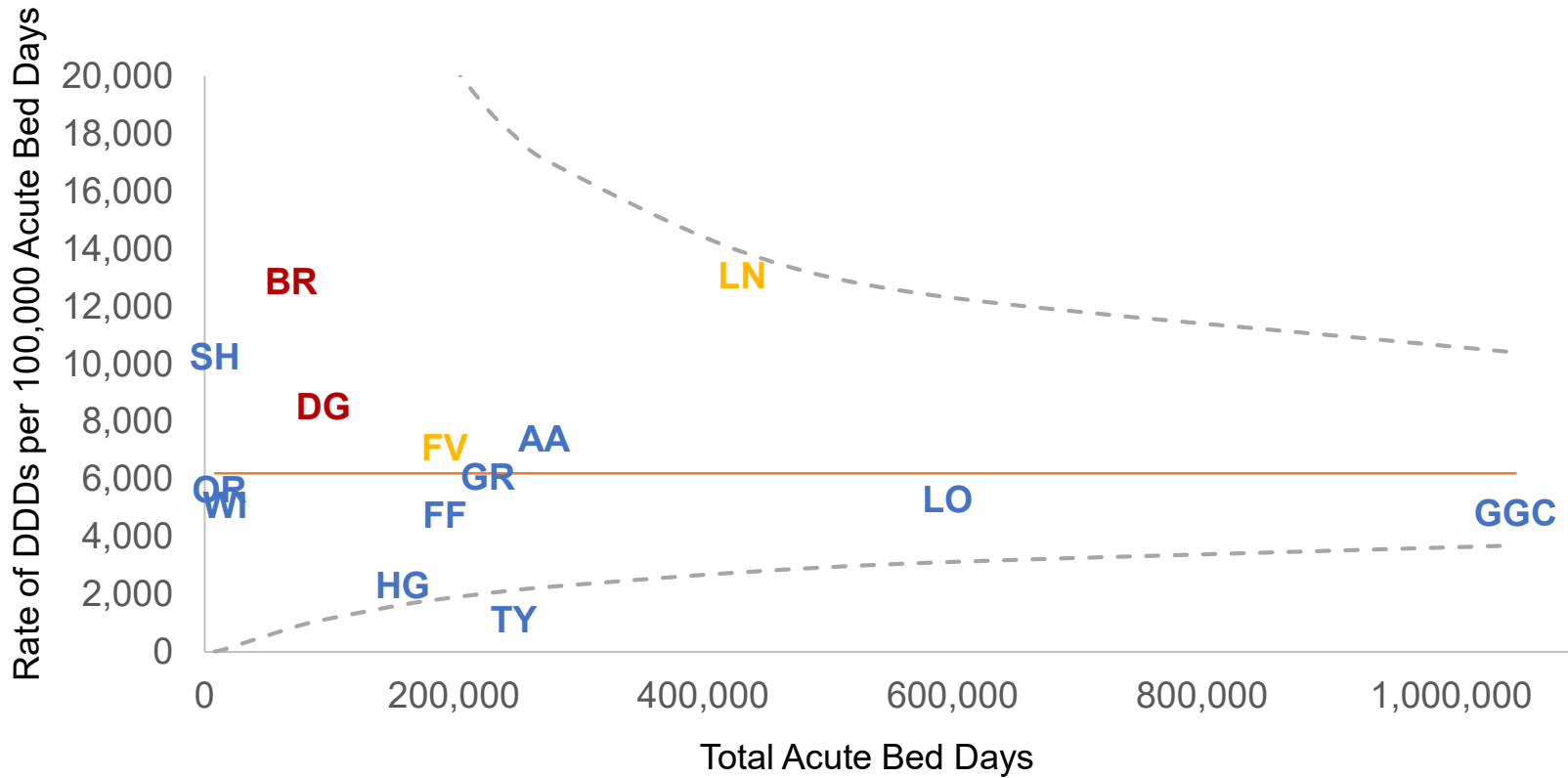
# Co-amoxiclav



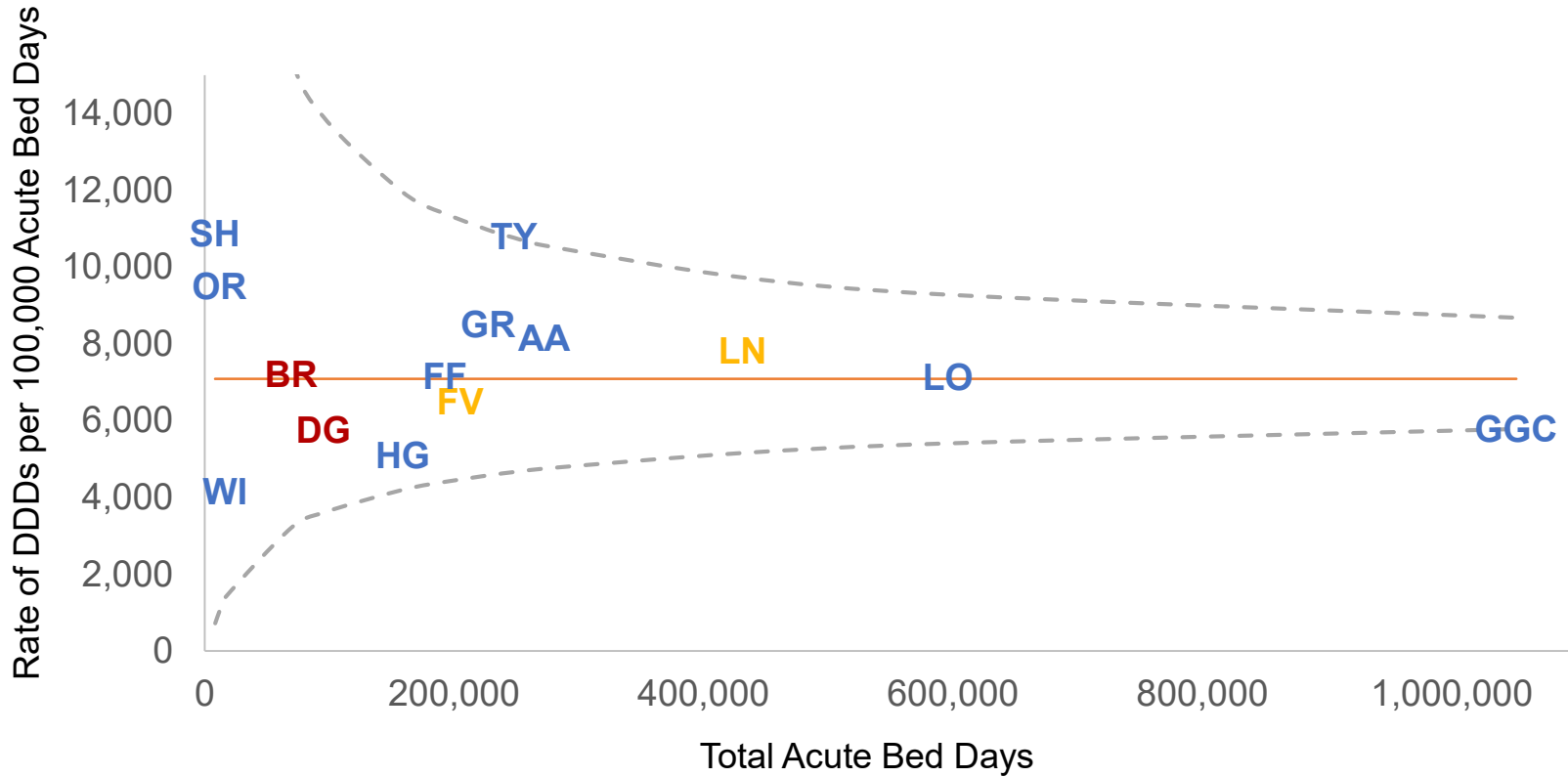
# Doxycycline



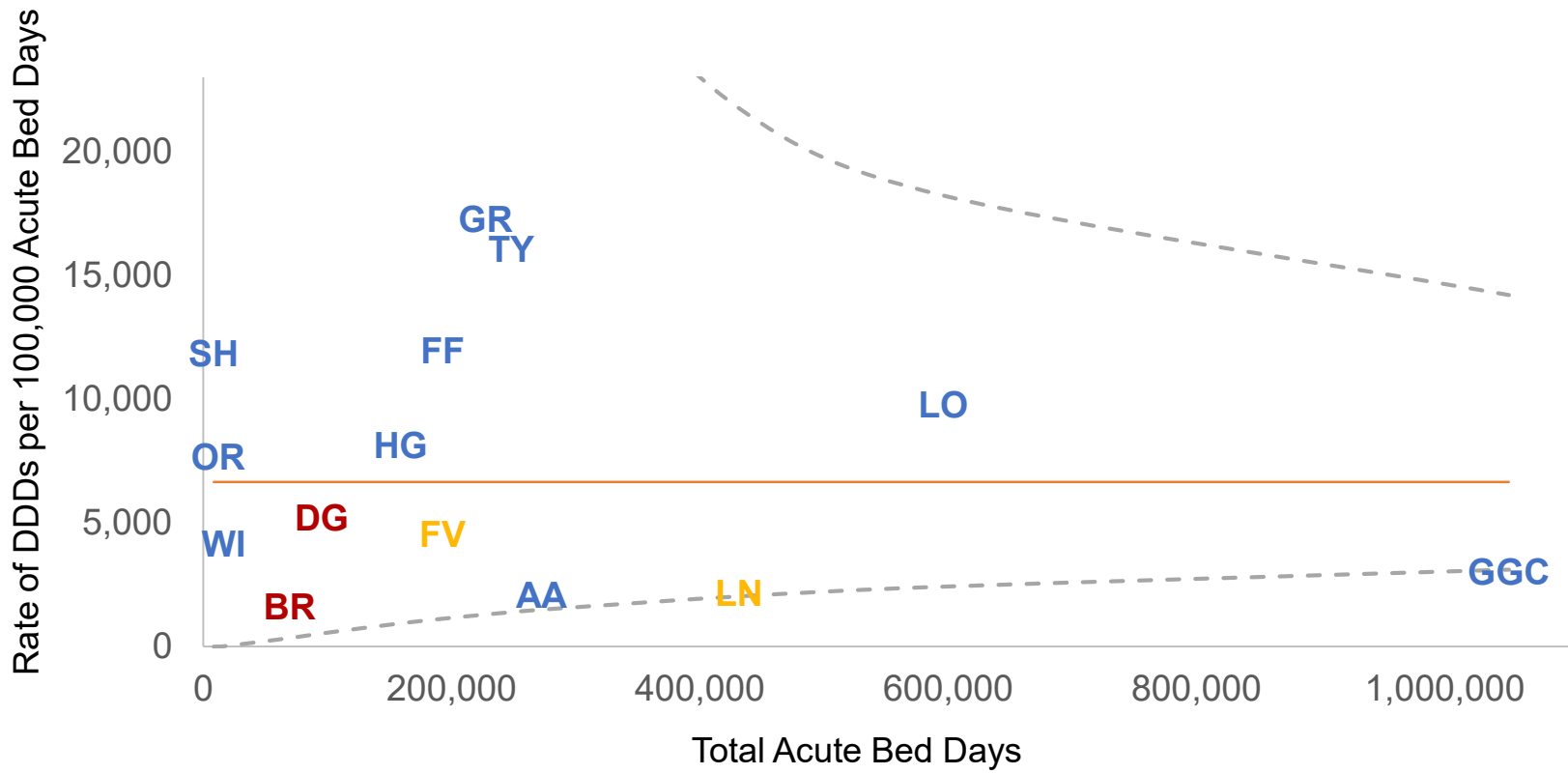
# Clarithromycin



# Gentamicin

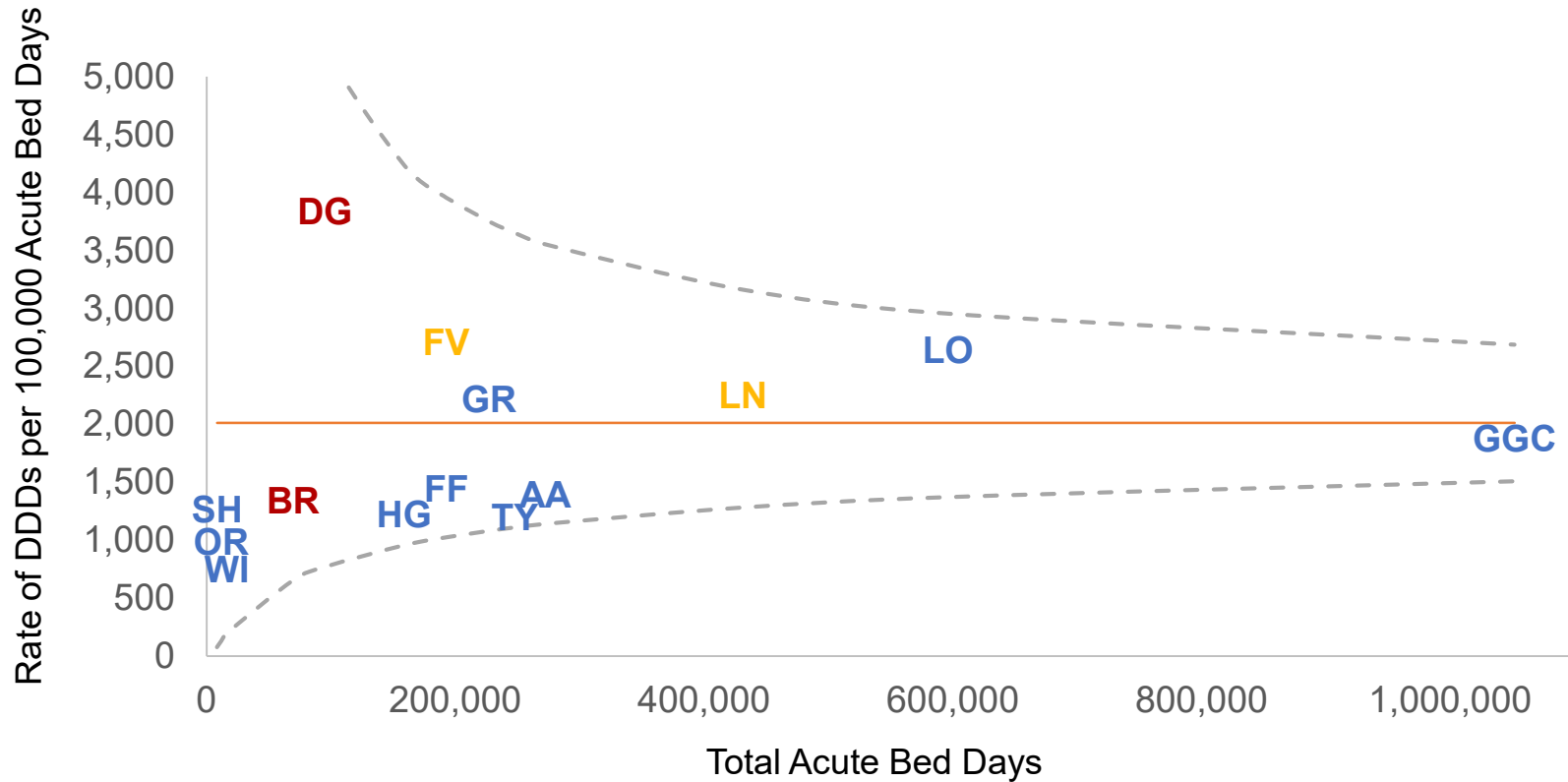


# Co-trimoxazole

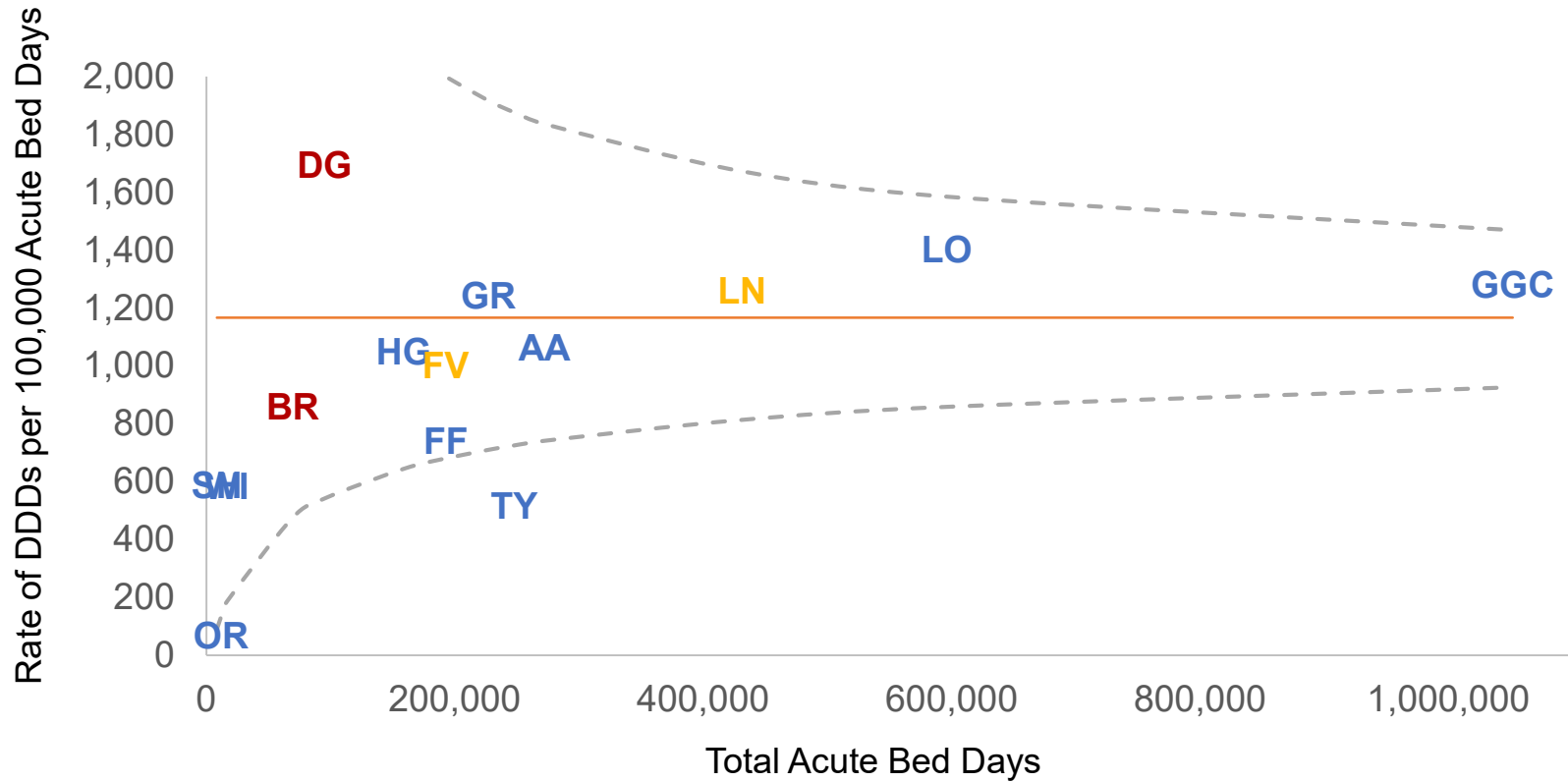




# Piperacillin + Tazobactam



# Meropenem



# Acknowledgements

Thanks to Karen Gronkowski, Aidan Morrison and Polly Russell