

Changes in antibiotic prescribing following COVID-19 restrictions: Lessons for post-pandemic antibiotic stewardship

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Disclosures, ethics and funding

In 2020, the Centre for Big Data Research in Health, UNSW Sydney received funding from AbbVie Australia to conduct post-market surveillance research. AbbVie did not have any knowledge of, or involvement in, the current study.

This study was approved by the New South Wales Population and Health Services Research Ethics Committee (no. 2013/11/494). Data access was granted by the Australian Services Australia External Request Evaluation Committee (no. RMS1126).

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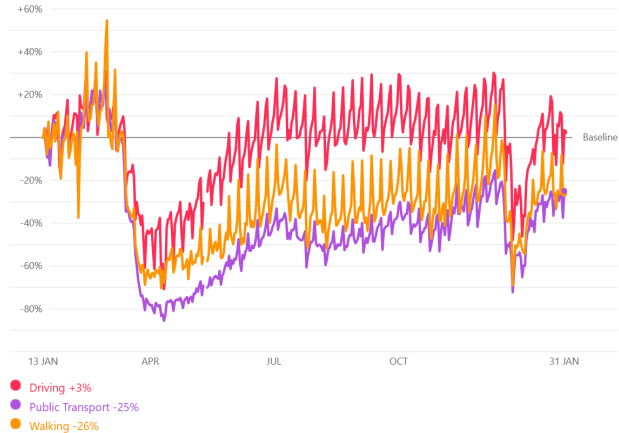
Background: Human behaviour c. March 2020



9 March 2020

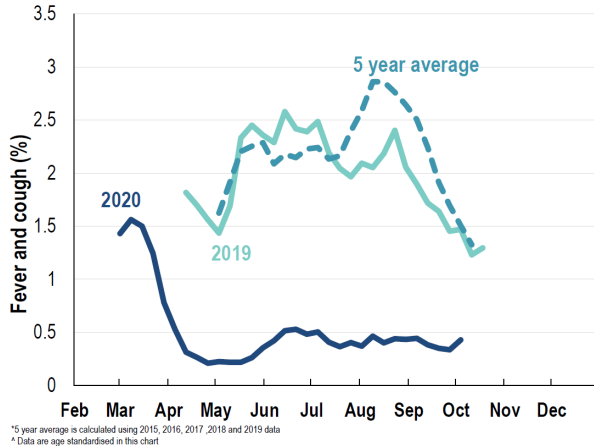
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Background: Google mobility data, Sydney, 2020



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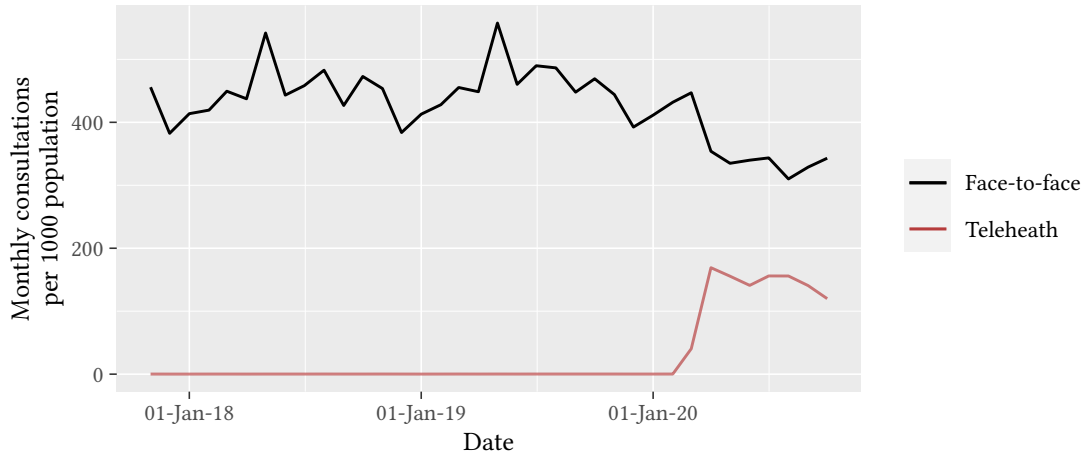
Background: flutracking.net, community influenza-like illness



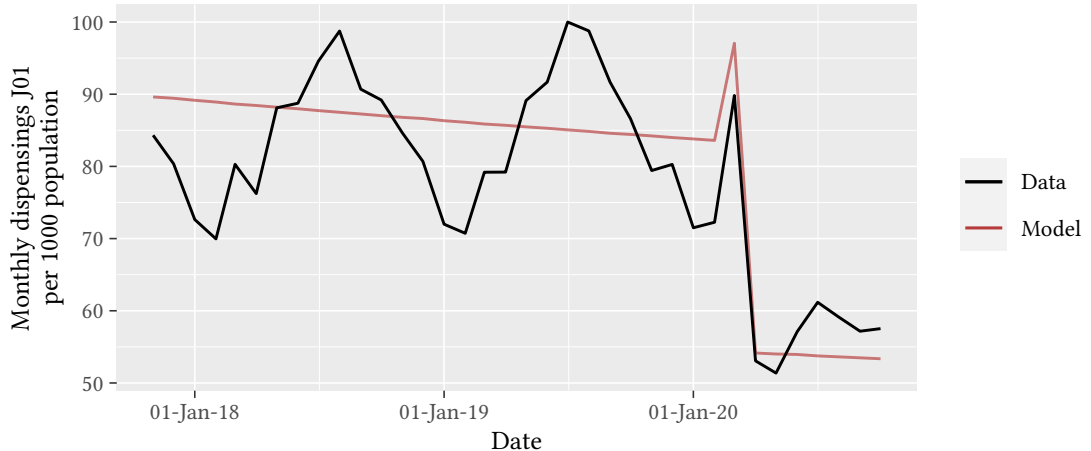
Methods

- Aggregate medical claims data (MBS), Nov 2016 to Oct 2020
- Aggregate dispensing claims data (PBS S85), Nov 2016 to Oct 2020
- 10% sample person-level dispensing claims data, Nov 2016 to Aug 2020
- ATC J01 antibacterials for systemic use
- Autoregressive Moving Average (ARMA) model, automatic selection
- Intercept, trend, month dummies for seasonality
- Pulse term for Mar 2020, Level shift term for Apr 2020 to Oct 2020

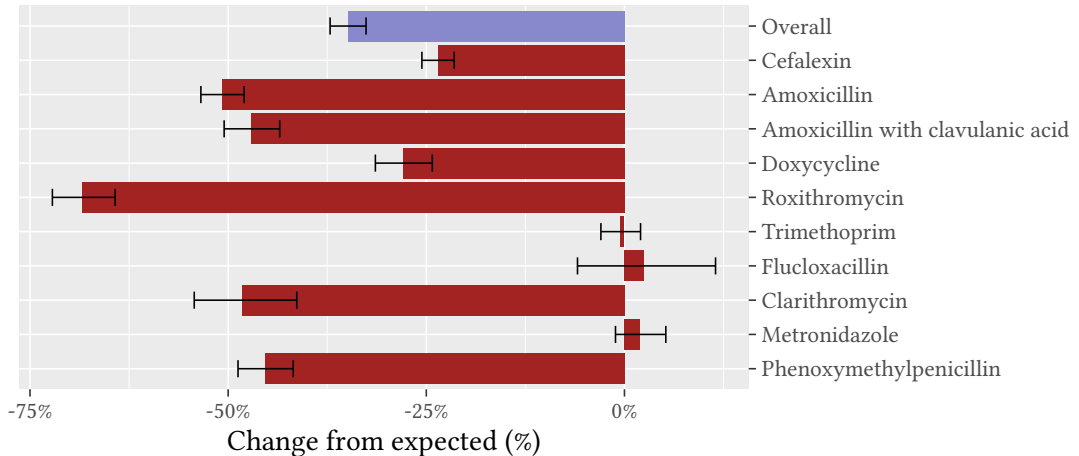
Results: Changes in primary care consultation rates



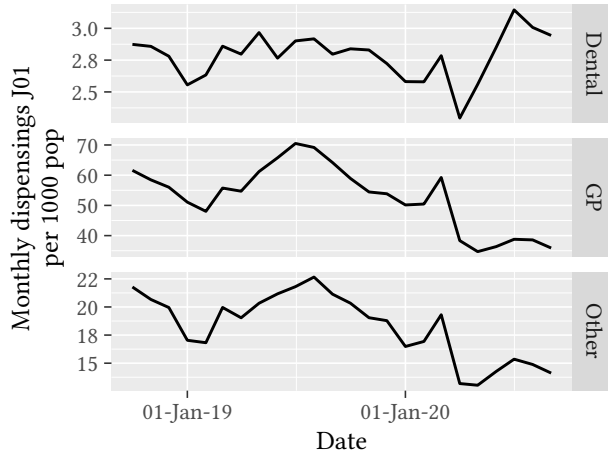
Results: Changes in antibiotic dispensing



Results: Top 10 antibiotics step changes



Results: Antibiotic changes by prescriber specialty



Discussion: Guideline concordance in Australian primary care

Condition	Prescribed antibiotics (%)	
	Guideline	Observed
Acute bronchitis	0	92
Acute tonsillitis	<40	94
Influenza	0	52
Sinusitis	<8	91

Data from NPS MedicineInsight practices, 2017 (AURA 2019: Third Australian report on antimicrobial use and resistance)

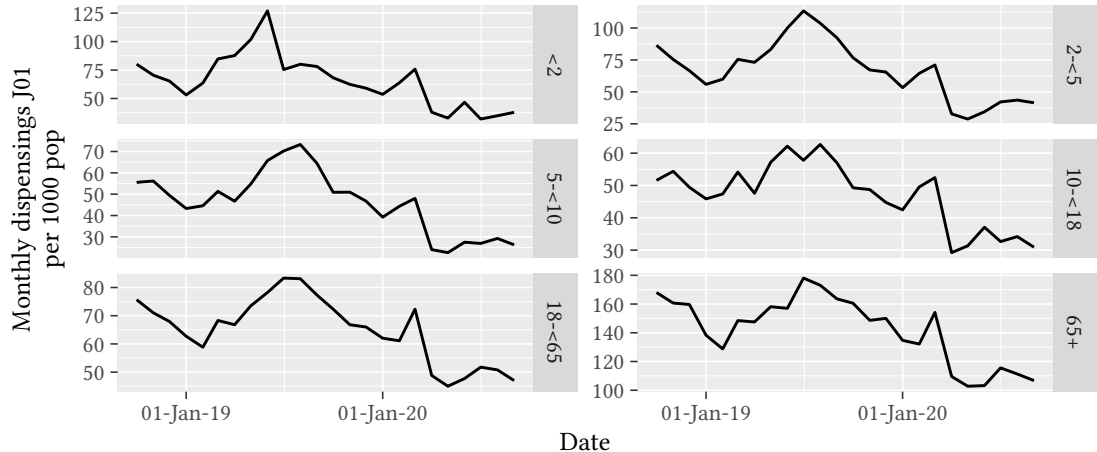
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Additional results: Antibiotics changes by age



Additional results: Antibiotics changes by State

