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BACKGROUND

- Respiratory tract infections such as pharyngitis (sore throat), are a common cause of healthcare visits and despite most being self-limiting infections that resolve without antibiotics, high antibiotic use persists.¹
- Inappropriate antibiotic use is a well-established contributor to antimicrobial resistance (AMR), a global health priority.²
- Antibiotic consumption in Italy is above the European average,³ as is the rate of antimicrobial resistance.⁴ In 2022, an updated national action plan was implemented to address this concern.⁵

METHODS

- A multi-centre retrospective observational study analysed Italian primary care prescribing data between November 2018 and October 2021.
- The real-world dataset acquired from IQVIA Ltd® Longitudinal Patient Database (LPD),⁶ was filtered to identify patients with laryngitis, pharyngitis (sore throat), tonsillitis, or glandular fever diagnosis within 14 days of an antibiotic prescription.
- Diagnoses included: sore throat patients (acute pharyngitis) compared to 'other' selected diagnoses (chronic pharyngitis, acute laryngitis, chronic laryngotracheitis, acute laryngotracheitis, Streptococcal pharyngitis, influenza with other respiratory manifestations, influenza with pneumonia, infectious mononucleosis, acute tonsillitis, chronic tonsillitis and adenoiditis).

AIM

- To determine current antibiotic prescribing patterns of Italian general practitioners (GPs) for sore throat and compare with the previous year's prescribing practices.

RESULTS

How many patients prescribed antibiotics have a sore throat diagnosis?

- Antibiotic prescribing, including for sore throat, mirrored the seasonal trend, with winter increases seen in the selected respiratory infections (Figure 1) and was most closely associated with high-prescriber GPs (Table 1&2; Moving Annual Total [MAT] Oct 2021 includes patients from Nov 2020 to Oct 2021 inclusive).
- Of all GPs, 24% (~17,000) were high-prescribers, accounting for 53% of all antibiotic prescriptions (Table 1), of which, 59% were to patients with sore throat (Table 2; Oct 2021). The data is based on the total time period under question and then shows how many prescriptions the GPs wrote in each MAT.

- Over three years, a downward trend in patients diagnosed with sore throat was seen; resulting in a reduction of approximately ~20,000 cases between Nov 2018 and Oct 2021 (patient monthly diagnosed with sore throat decreased from 123,543 to 103,182).

- There was a large drop in prescribing during the COVID pandemic lockdown likely reflecting lower incidence of self-limiting respiratory infections.

- Despite a ~49% decline in the absolute number of antibiotics prescribed to patients diagnosed with sore throat (Figure 2), there was a 6% increase in the proportion of antibiotics prescribed (Figure 3; MAT Oct 2019 vs. MAT Oct 2021).

What are sore throat patients prescribed, if anything, following an antibiotic?

- The majority of second-line prescriptions were a subsequent antibiotic (Table 3), including to patients with sore throat (Table 4).

CONCLUSION

- Despite an overall decline in antibiotic prescribing, data demonstrate an increasing trend in the proportion of antibiotics prescribed for sore throat vs. other respiratory diagnoses.
- Ongoing monitoring of prescribing is needed in the post-pandemic seasons from October 2022 to October 2023 to understand any rebound in prescribing due to surges in respiratory infections.
- These findings highlight a need to facilitate educational campaigns and antimicrobial stewardship, possibly mostly targeting high antibiotic prescribers.

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Figure 1: All diagnoses follow the same profile, with clear seasonal trends in antibiotic prescribing, with little difference in patient numbers between sore throat and "others". All diagnoses - all related diagnoses as defined in the methods, within 14 days of an antibiotic prescription; Other diagnoses - all related diagnoses excluding sore throat, within 14 days of an antibiotic prescription.⁵

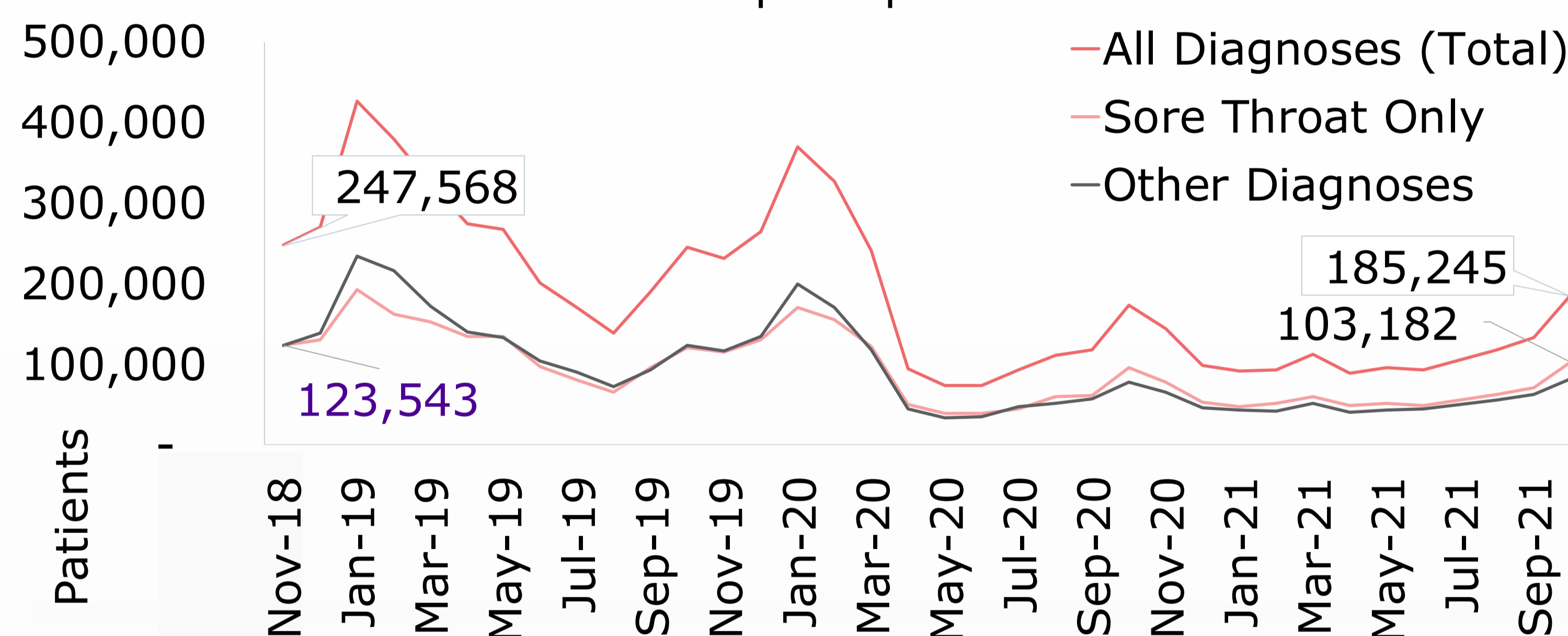


Figure 2: The absolute number of sore throat patients prescribed antibiotics has decreased since October 2019. There are less than half the total number of antibiotic patients with a relevant diagnosis in Italy MAT Oct-21 vs. MAT Oct-19. Other diagnoses = all related diagnoses as defined in the methods, excluding sore throat, within 14 days of an antibiotic prescription.⁶

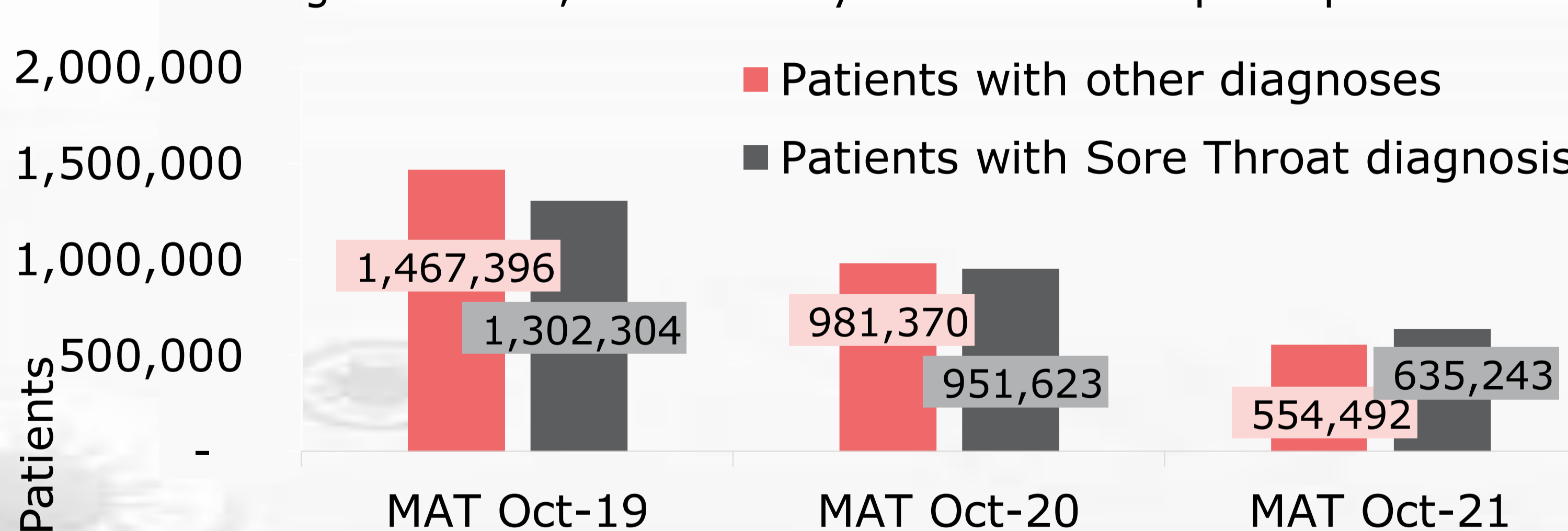


Figure 3: The share of sore throat patients prescribed antibiotics compared with other diagnoses has grown by 6% since MAT Oct 2019. Other diagnoses - all related diagnoses as defined in the methods, excluding sore throat, within 14 days of an antibiotic prescription.⁵

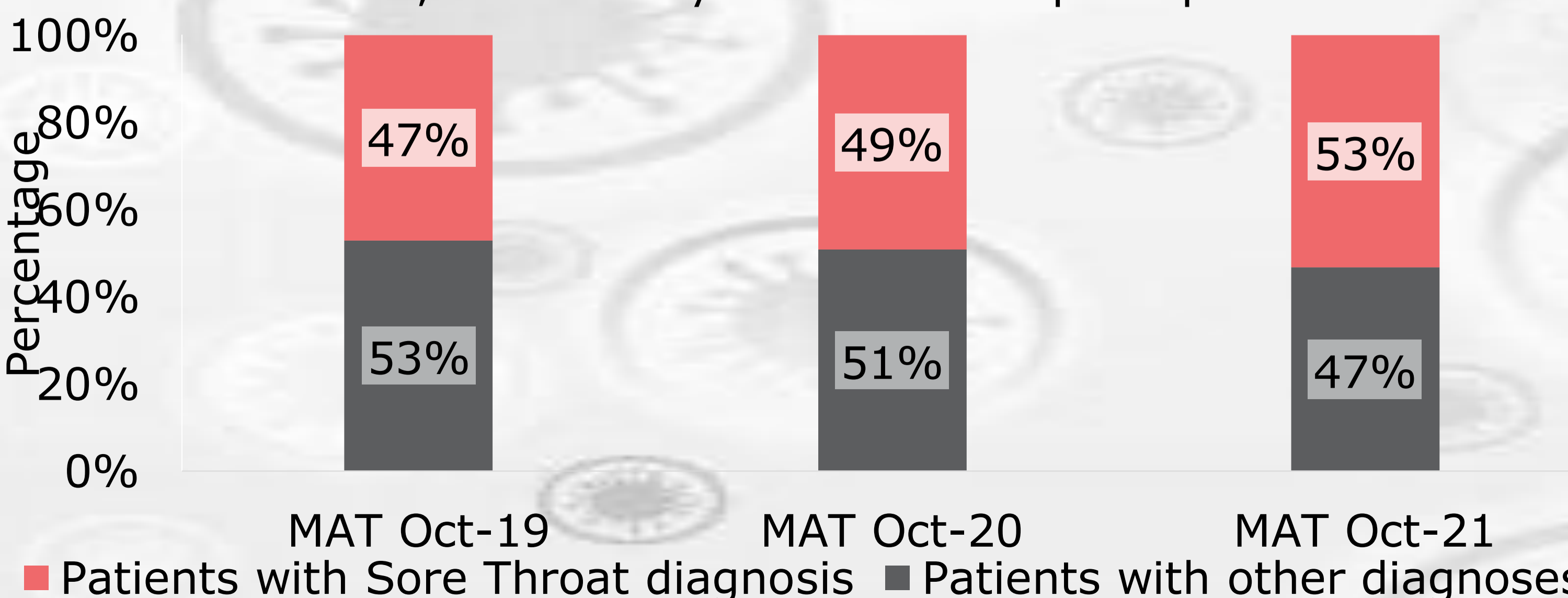


Table 1: In the MAT Oct 21, ~17k GPs were high prescribers of antibiotics to patients with a relevant diagnosis, accounting for 24% of GPs.⁵

Prescriber Type	Number of GPs	Number of Rx's
High	17,117	760,304
Medium	21,327	388,296
Low	32,301	272,415

Prescriber Type	% of GPs	% of Rx's
High	24%	53%
Medium	30%	28%
Low	46%	19%

Table 2: In the MAT Oct 21, ~8.5k GPs were high prescribers of antibiotics to patients with a sore throat diagnosis, accounting for 25% of GPs.⁵

Prescriber Type	Number of GPs	Number of Rx's
High	8,558	452,690
Medium	10,629	188,558
Low	15,598	120,782

Prescriber Type	% of GPs	% of Rx's
High	25%	59%
Medium	30%	25%
Low	45%	16%

HIGH: GPs covering 50% of the total prescriptions, MEDIUM: GPs covering additional 30% of the total prescriptions, LOW: remaining 20%. Based on the total time period i.e., three MATS.⁵

Table 3: When patients are prescribed a subsequent therapy, the majority, around 85% are prescribed another antibiotic. Whilst the absolute numbers have reduced over time, the % prescribed each therapy type has largely remained consistent. All diagnoses = all relevant diagnoses, as defined in the methods, within 14 days of an antibiotic prescription.⁶

Previous therapy	Current therapy		
	Antibiotics	Painkiller	Throat Spray
MAT Oct-19	Antibiotics 29,471	Painkiller 4,348	Throat Spray 966
MAT Oct-20	Antibiotics 20,843	Painkiller 3,244	Throat Spray 897
MAT Oct-21	Antibiotics 17,117	Painkiller 2,692	Throat Spray 345

Table 4: When sore throat patients are prescribed a subsequent therapy, the majority, are prescribed another antibiotic. %s based only on those with a subsequent prescription. Sore throat patients only, diagnosis within 14 days of an antibiotic prescription.⁶

Previous therapy	Current therapy		
	Antibiotics	Painkiller	Throat Spray
MAT Oct-19	Antibiotics 85%	Painkiller 13%	Throat Spray 3%
MAT Oct-20	Antibiotics 83%	Painkiller 13%	Throat Spray 4%
MAT Oct-21	Antibiotics 85%	Painkiller 13%	Throat Spray 2%

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