TO THE EDITOR—It has been widely noted that social distancing measures during the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic have been associated with decreases in outpatient antibiotic prescribing, such as in the United States by King et al [1] and in Australia by Sluggett et al [2] and Gilles et al [3]. Understanding the drivers of reduced prescribing has important implications for antimicrobial stewardship and determining whether these changes could be sustained after the pandemic. Previous studies have been limited in this regard by short investigation windows and confounded because of having to control for expected seasonal variation.

The reduction in antibiotic prescribing may be driven by reduced transmission of non-SARS-CoV-2 infectious diseases in the setting of social distancing, improved personal hygiene and mask wearing, as well as reduced access to, or avoidance of, healthcare settings in situations where antibiotics might previously have been prescribed.

We used a representative 10% sample of the national Pharmaceutical Benefits Scheme Data [4], accessed by data analytics company Prospection [5], to examine outpatient antibiotics prescribing in Australia. Although previous studies have reported decreases in antibiotic prescribing [2, 3], we analyzed the persistence of these changes over 2 years of the pandemic and exploited the heterogeneity in SARS-CoV-2 case numbers and lockdown policy between Australian states [6] to further interrogate the driving factors.

We demonstrated significant decreases in outpatient antibiotic prescribing in Australia from April 2020 onward, driven by decreases in primary care prescriptions of antibiotics commonly used for community-acquired respiratory tract infections (Figure 1). These findings reproduce those of Sluggett et al [2] and

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**Figure 1.** Comparison of per-capita prescribing of various antibiotics throughout the severe acute respiratory syndrome coronavirus 2 pandemic.
Gilles et al [3]. Average winter-month prescribing in 2020 was 38% lower than previous years. Importantly, amoxicillin-clavulanate prescriptions followed the same trend, suggesting it may be prescribed with inappropriate frequency for community-acquired respiratory infections. In contrast some antibiotics not used for respiratory infections (eg, trimethoprim) had no reductions in usage, suggesting a specific role of reduced prescribing for respiratory syndromes (Figure 1).

We further demonstrated persistence of this decrease throughout winter 2020 into summer 2021. Average summer-month prescribing during 2020–2021 was 23% lower than previous years. These decreases are seen in all Australian states, despite significant differences in case numbers and lockdown policies. For example, South Australia experienced no lockdowns over the study period, whereas in the neighboring state of Victoria, where stay-at-home orders were in place for 208 days in 2020, saw comparable reductions in prescribing. This suggests that reduced prescribing was not solely driven by lockdowns or mandated social distancing interventions to decrease SARS-COV-2 transmission.

These reductions occurred on a background of decreasing rates of antibiotic prescribing per-capita over the period 2014–2021. This suggests that reduced prescribing is multifactorial. Existing community antimicrobial stewardship programs, patient education related to personal hygiene; culture shifts in mask wearing and social distancing and, possibly reduced prescribing for viral syndromes may all play a role. Our observations suggest that antibiotic prescribing for respiratory illnesses remains a valuable target for future antimicrobial stewardship interventions.

Notes

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