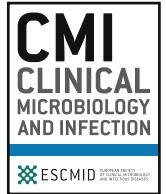




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## Letter to the Editor

## Re: 'Impact of the COVID-19 pandemic on antibiotic prescribing in high-prescribing primary care physicians in Switzerland' by Aghlmandi et al.

Catherine Plüss-Suard <sup>1,\*</sup>, Yolanda Mueller <sup>2</sup>, Andreas Plate <sup>3</sup>, Oliver Senn <sup>3</sup>,  
Andreas Kronenberg <sup>1</sup>

<sup>1</sup> Swiss Centre for Antibiotic Resistance (ANRESIS), Institute for Infectious Diseases, University of Bern, Bern, Switzerland

<sup>2</sup> Department of Family Medicine, Center for Primary Care and Public Health (Unisanté), University of Lausanne, Lausanne, Switzerland

<sup>3</sup> Institute of Primary Care, University of Zurich and University Hospital Zurich, Zurich, Switzerland

## ARTICLE INFO

## Article history:

Received 26 February 2024

Accepted 4 March 2024

Available online xxx

Editor: L. Leibovici

## Keywords:

Ambulatory care  
Anti-Bacterial Agents  
COVID-19  
Prescriptions  
Switzerland

## To the Editor,

We have read with great interest the article published by Aghlmandi et al. [1] regarding the 'Impact of the COVID-19 pandemic on antibiotic prescribing in high-prescribing primary care physicians in Switzerland'. This study presents the findings of a follow-up investigation following a national intervention trial on antibiotic prescription audit and feedback during the initial year of the SARS-CoV-2 pandemic, compared with the pre-pandemic years (2017–2019). The authors utilized claims data from 2945 physicians, representing the upper 75% of antibiotic prescribers, in an interrupted time series analysis.

The study underscores a 43% reduction in consultations in 2020 compared with 2017, alongside a twofold increase in antibiotic

prescription rates per 100 consultations. Specifically, rates rose from 8.44 and 8.35 in the intervention and control groups in 2017 to 15.63 and 16.31 per 100 consultations in 2020.

For context, Switzerland's first SARS-CoV-2 case was diagnosed on 25 February 2020 in Ticino. Subsequently, the Federal Council implemented measures, including a ban on gatherings of more than 1000 people. A lockdown was enforced on 16 March 2020, involving the closure of schools, restaurants and non-essential shops. Non-urgent surgeries and medical consultations had to be postponed, and people were advised to stay home as much as possible [2]. Restrictions were gradually lifted from late April to June 2020, but new measures were introduced on 19 October 2020, however without any further restrictions in treating patients.

It is important to note that this study, which analysed trends in a subset of non-low prescribers, may not fully represent the situation in Switzerland. The analysis of two well-established Swiss sentinel primary care networks, Sentinella [3] and FIRE [4], along with IQVIA data (corresponding to sales data [Sell-in] from pharmaceutical industries to public pharmacies and self-dispensing physicians), offers different insights. Both networks showed a slight drop in consultations between mid-March and the end of May 2020, but afterwards returning to numbers comparable with the pre-pandemic period [5,6]. In the FIRE project, weekly consultation counts of the total general practice population were 17.2% lower than expected during the lockdown period [5], where the consultation counts (corresponding to physician/patient contacts, including remote consultations) in the Sentinella network were less than 5% lower in 2020 than in 2019 (personal communication). These data consistently indicate a less pronounced decrease in consultations compared with Aghlmandi et al.'s [7] findings, and only very restricted to the lockdown period. Aghlmandi et al.'s [7] report lacks monthly consultation numbers, and their observed peak in antibiotic prescriptions from January to February 2020 does neither align with other sources of data nor with the course of the epidemic in Switzerland.

DOIs of original article: <https://doi.org/10.1016/j.cmi.2023.11.010>, <https://doi.org/10.1016/j.cmi.2024.03.030>.

\* Corresponding author. Catherine Plüss-Suard, Institute for Infectious Diseases, University of Bern, Friedbühlstrasse 25, 3001 Bern, Switzerland.

E-mail address: [catherine.pluess@unibe.ch](mailto:catherine.pluess@unibe.ch) (C. Plüss-Suard).

<https://doi.org/10.1016/j.cmi.2024.03.011>

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Concerning antibiotic prescriptions per consultations, data from Sentinella and FIRE networks contrast with the increase described in the report by Aghlmandi et al. [7]. Indeed, the number of antibiotic prescriptions per 100 consultations was lower in 2020 compared with previous years in the Sentinella network (Fig. 1). There was an 11% decrease among general practitioners and a 32% decrease among paediatricians between 2019 and 2020 [8]. Among general practitioners, antibiotic prescriptions decreased by 28% and 47% for upper and lower respiratory tract infections, respectively, whereas prescriptions for lower urinary tract infections increased by 10%. In contrast to Aghlmandi et al. [7], the FIRE network could not observe an increase in macrolide and fluoroquinolone use in early 2020. These results align with data from IQVIA sales data where a decrease in antibiotic use, expressed in defined daily doses per 1000 inhabitants per day, was observed from mid-March 2020 onwards (Fig. 1, manuscript in preparation).

In conclusion, Aghlmandi et al. [7] described a twofold increase in antibiotic prescription rates per 100 consultations in a subset of non-low prescribers, which could not be confirmed by other Swiss networks and sales data. This subset appears to be different not only in their prescribing behaviour but also in their reduction in

consultations, especially from offering health care access during the initial pandemic.

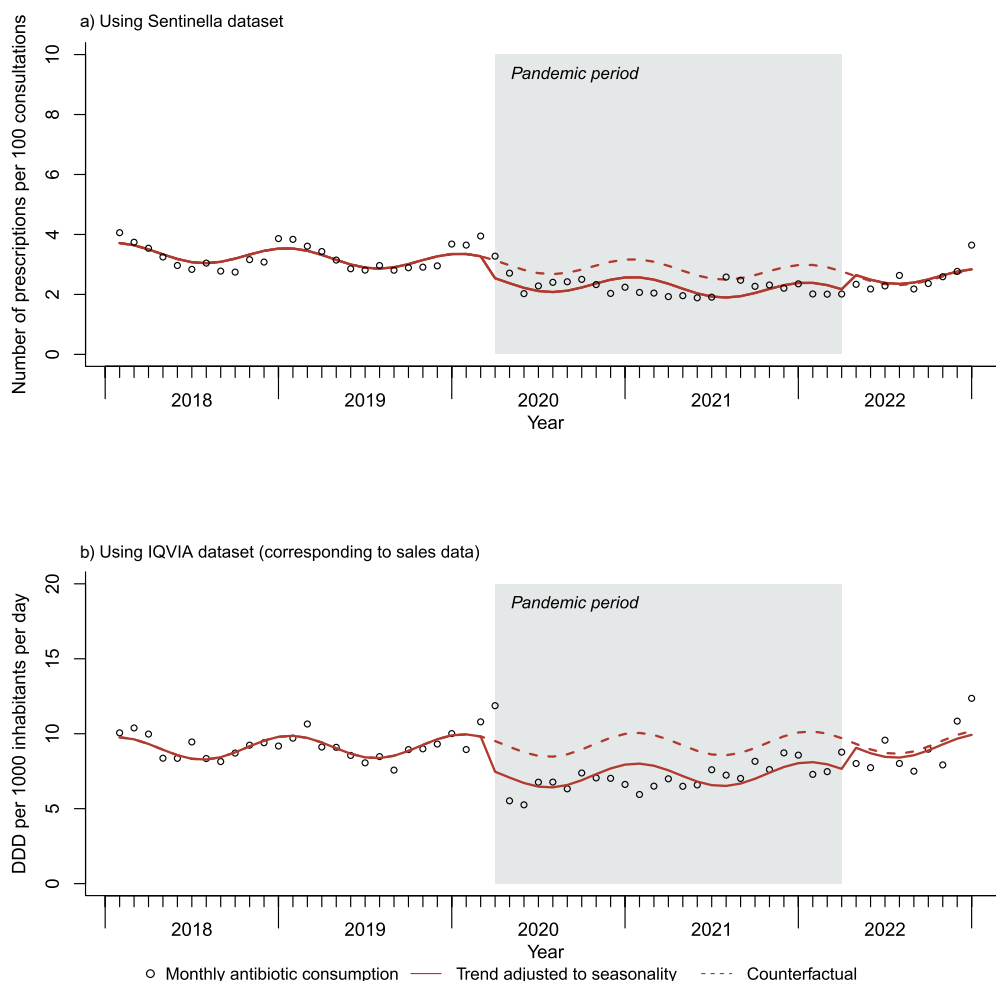
#### Author contributions

C.P-S. and A.K. wrote the original draft and designed the methodology for Sentinella and IQVIA™ data. Y.M., A.P., and O.S. reviewed the draft. C.P-S. and A.K. conducted the formal analysis and visualization. C.P-S. and Y.M. is a member of the Sentinella Programme Commission. A.P. and O.S. are members of the FIRE project.

#### Transparency declaration

#### Conflict of interest

ANRESIS is partially financed by the Federal Office of Public Health and the University of Berne, Switzerland. C.P-S. and A.K. received fees for lecturing at the University of Bern. Y.M. received grants from the Swiss National Fund (grant no. 212429) and the Faculty of Biology and Medicine (transition grant), University of



**Fig. 1.** Outpatient antibiotic use (a) per general practitioners and paediatricians expressed in number of prescriptions per 100 consultations using monthly prescription data from Sentinella network (where consultations correspond to physician/patient contacts, including remote consultations), and (b) for the Swiss outpatient setting using sales data expressed in defined daily doses per 1000 inhabitants per day, Switzerland. Pre-pandemic period: January 2018–February 2020; pandemic period: March 2020–March 2022; post-pandemic period: April 2022–December 2022.

Lausanne, Switzerland. YM is a member of Cantonal Parliament of the Canton of Vaud, Switzerland, and holds stock options in Swiss Alternative Bank. A.K. has received fees for consulting to the Federal Office of Public Health in the framework of the Strategy Antibiotic Resistance (StAR), Switzerland and payment for lecture on data presentation within ANRESIS for Abbott in January 2024. A.P. and O.S. have no conflicts of interest and no external funding to declare.

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