Staphylococcus aureus and methicillin resistance in Switzerland: regional differences and trends from 2004 to 2014

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BACKGROUND
The global epidemiology of methicillin-resistant Staphylococcus aureus (MRSA) is heterogeneous. The objective of this study was to evaluate MRSA epidemiology in Switzerland over an 11-year period.

METHODS
We conducted a retrospective study with time series analysis on S. aureus including MRSA and non-multidrug resistant MRSA (NmMRSA). We used NmMRSA as a marker for community-acquired MRSA. NmMRSA was defined as MRSA susceptible to at least three of the following agents: ciprofloxacin, clindamycin, tetracycline and trimethoprim-sulfamethoxazole.

RESULTS
A total of 14 648 MRSA and 115 917 methicillin-susceptible S. aureus (MSSA) isolates were included. Despite an overall decrease of the proportion of MRSA among S. aureus clinical isolates (from 14% in 2004 to 8% in 2014), an increasing trend in NmMRSA was observed. Variations in geographical distribution were noted, with a decrease in the proportion of MRSA in the Italian- and French-speaking regions (from 20-26% in 2004 to 12% in 2014) and low prevalence (3-5%) in the German-speaking region. We noticed an increase in the proportion of MRSA in outpatients (+0.03% per quarter per year) and in the younger population (+0.05% per quarter per year) compared with a decreasing trend in inpatients and the elderly.

CONCLUSION
The proportion of MRSA among S. aureus isolates in Switzerland decreased overall from 2004 to 2014. Worrisome increases of NmMRSA were found in younger persons and outpatients.