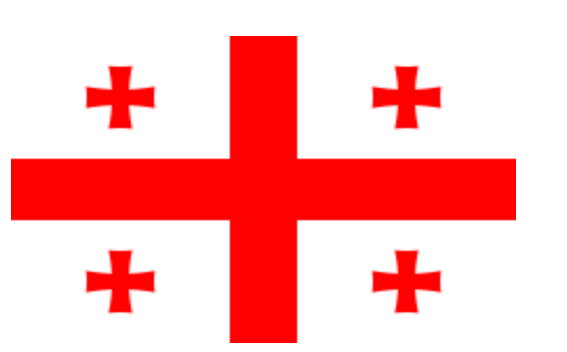




The Global Point Prevalence Survey of use of antibiotics in hospitalized COVID-19 patients in Georgia. What the pandemic has changed?



Georgia



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BACKGROUND & OBJECTIVES

New coronavirus (SARS-CoV-2) infection is a major worldwide challenge. COVID-19 is often complicated with bacterial infection, which requires use of antibiotics. We aimed to study the **use of antibiotics in hospitalized COVID-19 patients in Georgia** and to **compare the data with the pre-pandemic period**.

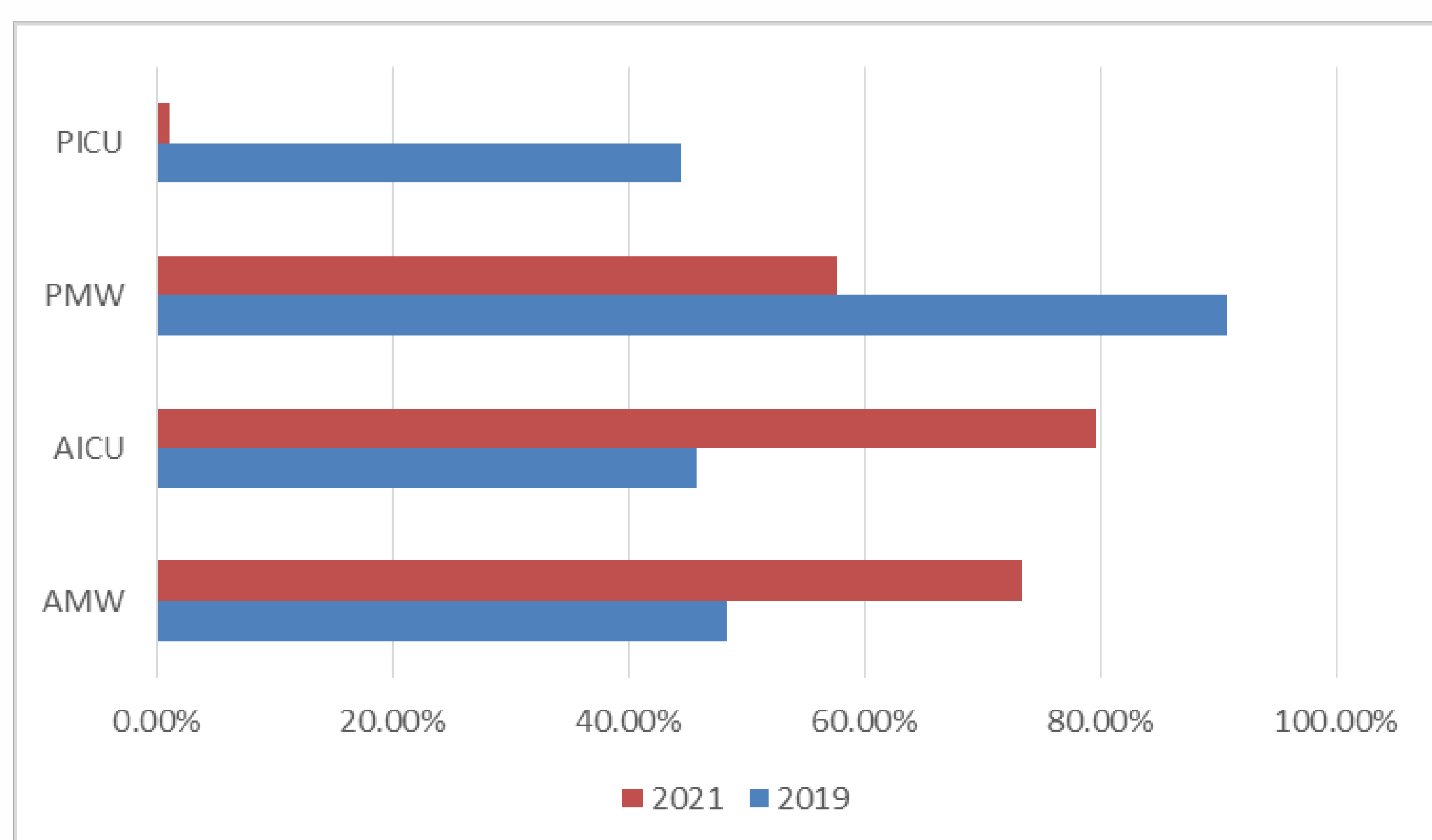
METHODS

The Global-PPS was conducted in 4 Georgian hospitals from January to October, 2021. The survey included 6 COVID-19 wards, representing a total of 113 confirmed COVID-19 inpatients admitted on the day of PPS. Obtained results were compared with the data for hospitalized patients in 2019, collected using the same standardized methodology (www.global-pps.com) in the same hospitals (8 wards; 107 inpatients).

RESULTS

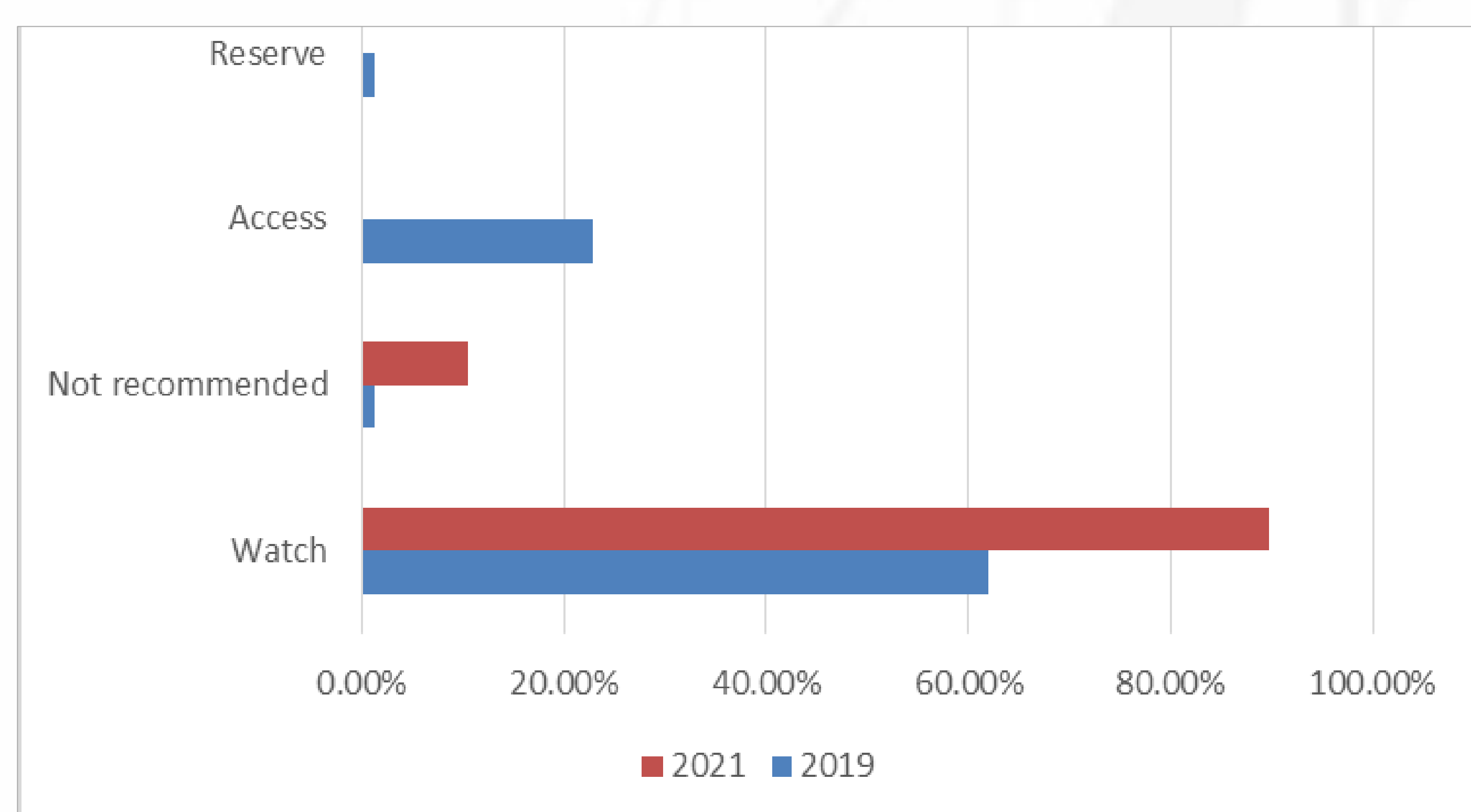
In total 113 COVID-19 patients were surveyed in 2021. Overall, antibiotic prevalence was 76.1%, which was slightly higher than in 2019 (74.8%). Compared to the pre-pandemic period, prevalence increased in adult wards from 68.6% in 2019 to 74.4% in 2021, while it decreased in pediatric patients from 90.8% in 2019 to 57.7% in 2021 (Figure 1).

Figure 1: Antibiotic prevalence on COVID-19 wards (PICU: paediatric ICU; PMW: paediatric medical ward, AICU: adult ICU, AMW: adult medical ward)



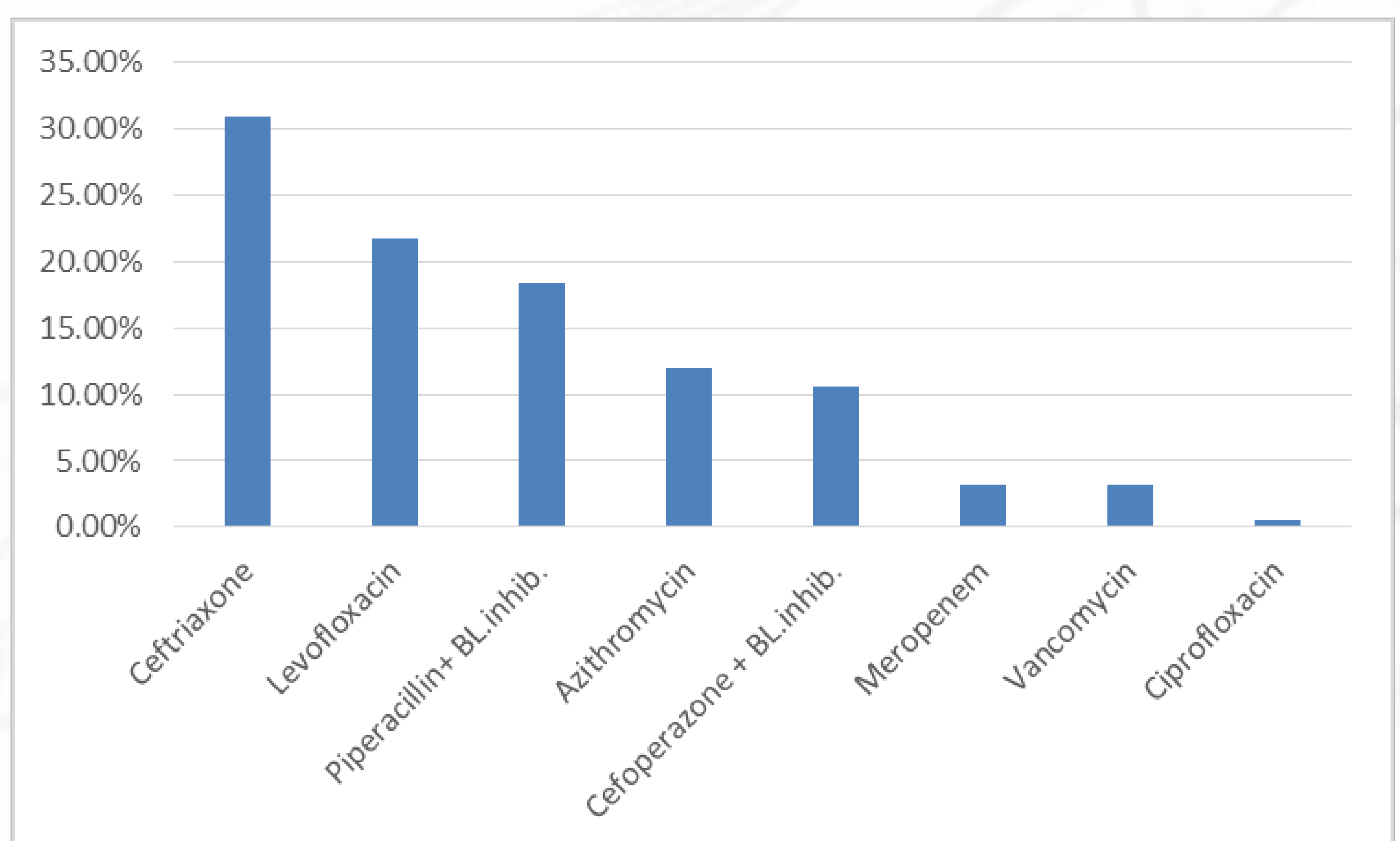
According to the WHO AWaRe classification, use of Watch antibiotics increased from 62.0% in 2019 to 90.0% in 2021. Access antibiotics were rarely prescribed in COVID-19 patients (0.1%) (Figure 2).

Figure 2: Antibiotic use according to the WHO AWaRe classification



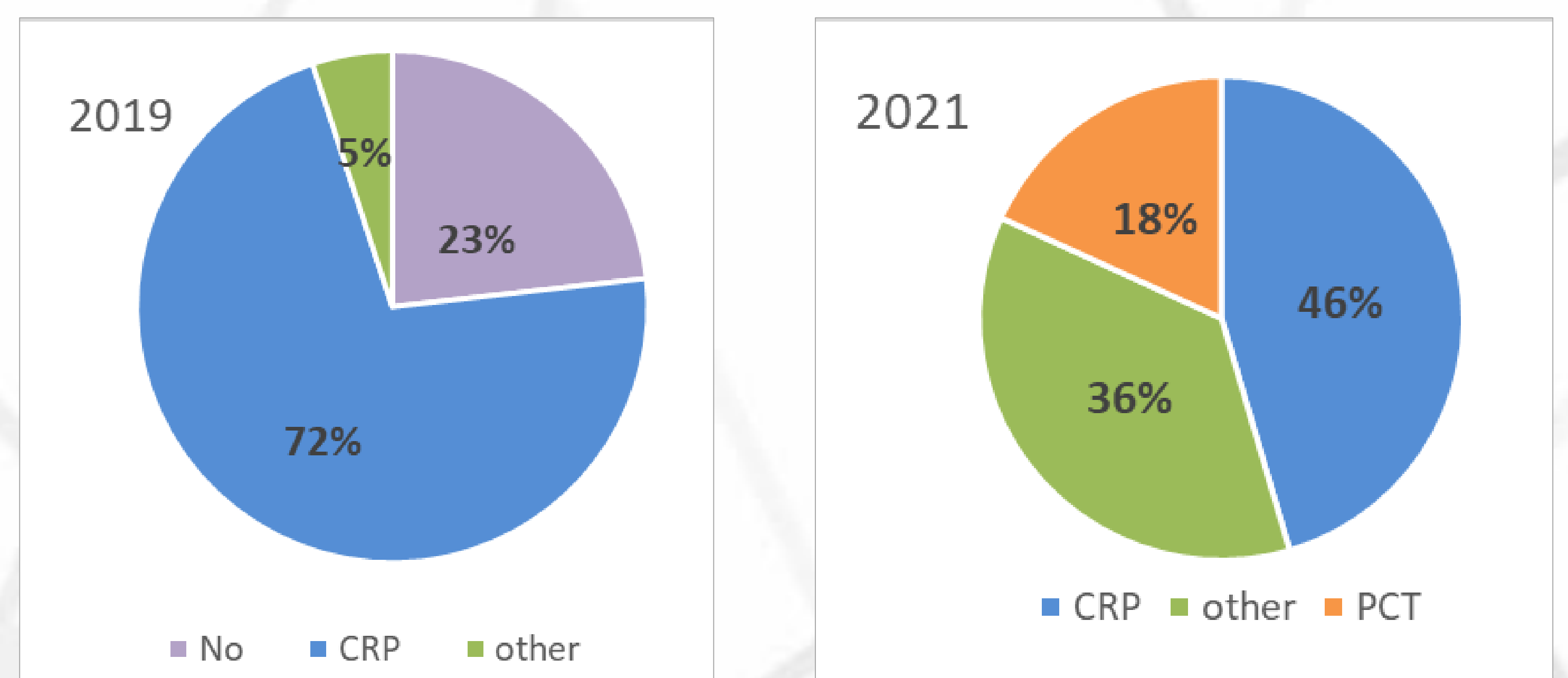
Top 5 prescribed antibiotics in COVID-19 patients were ceftriaxone (31.2%), levofloxacin (20.6%), piperacillin and enzyme inhibitor (17.5%), azithromycin (12.5%) and meropenem (3.1%) (Figure 3).

Figure 3: Antibiotics used in COVID 19 patients (% of prescriptions)



Antibiotic quality indicators improved on COVID-19 wards: reason in notes (89.6% in 2019 to 94.0% in 2021), guidelines compliance (68.1% in 2019 to 92.0% in 2021) and stop/review date (from 24.7% in 2019 to 39.0% in 2021). Compared to the pre-pandemic period the empiric use of antibiotics increased (72.9% in 2019 to 97.5% in 2021). In 2021, 100% COVID 19 patients antibiotic treatment were based on various biomarkers. In the pre-pandemic period 23.1% of antibiotic treatment was not based on biomarkers. (figure 4).

Figure 4: Treatment based on various infection biomarkers (% of patients)



CONCLUSION

The prevalence of antibiotic prescribing was higher among confirmed COVID-19 patients, and they also received more broad-spectrum antibiotics belonging to the highest-priority critically important antibiotics (Watch group) as compared to the pre-pandemic period. On the other hand, we recorded an improvement of antibiotic quality indicators and an increased use of biomarkers to guide antibiotic treatment. A permanent update and monitoring of COVID-19 treatment guidelines is required to prevent increased bacterial resistance.

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