

# The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS): results on *Clostridium difficile* infections (CDI)

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## INTRODUCTION AND PURPOSE

The Global-PPS ([www.global-pps.com](http://www.global-pps.com)) assesses antimicrobial prescribing worldwide using a standardized and validated method. *C.difficile* Acute Diarrhea (CDAD) is observed in hospitals (healthcare-associated infection) but also in the community, particularly in nursing homes. All antibiotics can lead to CDAD, but cephalosporins, fluoroquinolones and clindamycin, are considered as important risk factors. We aimed to analyse hospital acquired CDAD prevalence, the prescribed antibiotics for patients with CDAD as well as a set of quality indicators.

## METHODS

We analysed 2015 (53 countries/335 hospitals) and 2017 Global-PPS data (51 countries/391 hospitals) to study antibiotic prescribing for CDAD. CDAD was defined as an healthcare-associated infection if diagnosed >48 hours post-admission or diagnosed <30 days after discharge from previous admission episode. Denominator used are the number of patients with antimicrobials for those hospitals reporting at least 1 CDAD case. Analyses are performed per year of survey (2015 versus 2017). Merged data are used to report antibiotic quality indicators for CDAD.

## RESULTS

Table 1. Prevalence (%) and antibiotic (AB) quality indicators for CDAD by region

	2015 PPS				2017 PPS				Quality indicators - merged data 2015-2017 PPS				
	N patients with CDAD	N AB	N treated patients	% patients with CDAD	N patients with CDAD	N AB	N treated patients	% patients with CDAD	Reason written in notes (%)	Stop/review date written in notes (%)	No guidelines available (%)	Prescribed according guidelines (%)	Targeted prescribing (%)
Africa	4	6	1,365	0.3	9	10	2,975	0.3	56.3	6.3	25.0	83.3	37.5
East & Southern Asia	68	72	5,889	1.2	63	67	10,594	0.4	90.6	49.6	17.3	95.4	67.6
Western Central Asia	20	24	2,323	0.9	15	2	2,736	0.5	67.4	37.2	14.0	62.9	53.5
Northern America	49	54	2,386	2.1	59	64	1,799	3.3	94.9	68.6	5.9	85.6	76.3
Latin America	31	36	1,769	1.8	49	4	4,151	1.2	97.9	63.2	17.9	85.1	75.9
Eastern Europe	1	1	950	0.1	2	59	1,686	0.1	66.7	66.7	/	100	66.7
Northern Europe	31	33	3,438	0.9	4	89	540	0.7	78.4	54.1	/	97.3	70.3
Southern Europe	88	117	6,617	1.3	62	19	4,499	1.4	44.2	18.0	14.1	97.1	85.4
Western Europe	78	89	9,017	0.9	24	24	4,603	0.5	90.3	43.4	6.2	90.3	85.8
Total	372	432	34,646	1.1	288	338	33,852	0.9	76.8	43.4	12.2	90.5	76.0

Targeted treatment (T) = based upon microbiology result with relevant clinical specimen (not screening test)  
N AB=number of antibiotics.

- Overall, CDAD was reported in 126 hospitals of 32 countries in 2015 (n=372 patients) and in 108 hospitals of 28 countries in 2017 (n=288 patients).
- CDAD patients were most often admitted on adult medical wards (50.8%), followed by adult surgical wards (17.9%). Out of all patients with CDAD, 4.5% were admitted on paediatric wards.
- Table 1** provides prevalence of CDAD by region for the 2015 and 2017 PPS separately, number of antibiotics prescribed to treat CDAD and a summary of antibiotic quality indicators by region.
- Top prescribed antibiotics are provided in **Figure 1**.

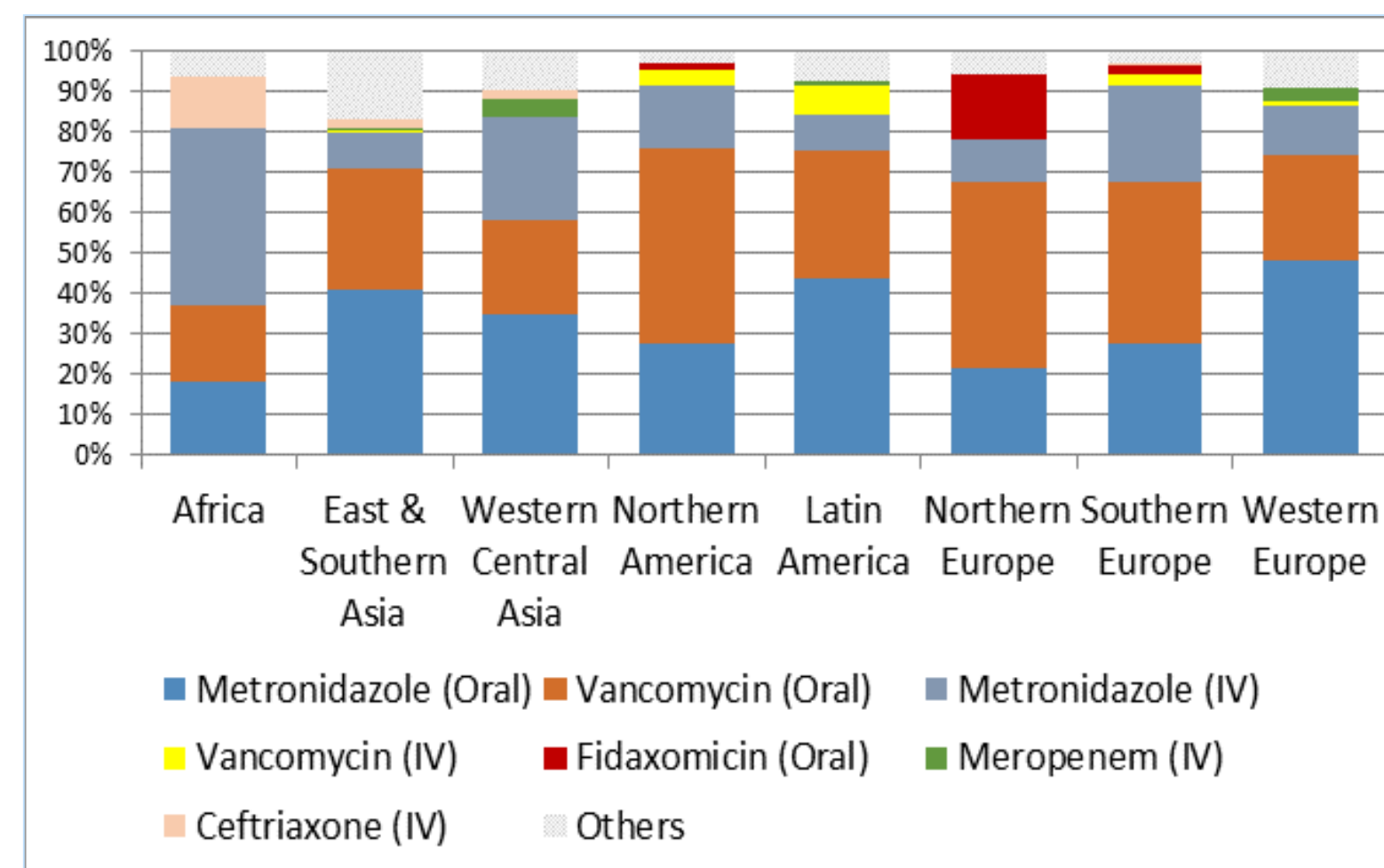


Figure 1. Most prescribed antibiotics for CDAD by region

## CONCLUSION

Reported prevalence of CDAD, antibiotic choice, route of administration, as well as antibiotic quality indicators varied between regions. The use of meropenem, ceftriaxone and parenteral vancomycin were identified as targets for antimicrobial stewardship interventions; these substances are not recommended to treat CDAD.

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