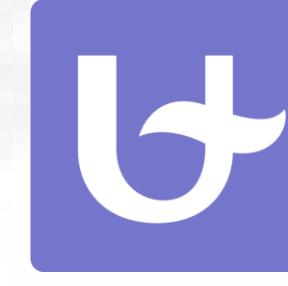


# Antimycotic and antifungal prescribing patterns worldwide. Results from the Global Point Prevalence Survey on Antimicrobial Consumption and Resistance

ECCMID 2023 (P2050)

Read Global-PPS  
selection of  
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## BACKGROUND & OBJECTIVES

### Facts :

- Continuous changes in aetiology and epidemiology of invasive candidiasis (1).
- Emerging threat of antifungal resistance to human health (2).
- Increased need for research on risk mitigation strategies (2).
- Publication of [the WHO fungal priority pathogens list](#) to guide research and public health action (October 2022).

**Aim :** Describe worldwide prescribing patterns of antimycotic and antifungal systemic use in hospitals participating in the Global-PPS ([www.global-pps.com](http://www.global-pps.com)).

## METHODS

- We analyzed validated, merged 2015-2022 Global-PPS data as of November 2022, from 1847 surveys (S) of 997 different hospitals (H) in 91 countries (C): Africa (321S; 228H; 21C), Asia (606S; 283H; 27C), Europe (606S; 299H; 28C), North-America (133S; 82H; 2C), South-America (162S; 96H; 11C).
- Antimicrobial prescriptions included antibacterials, antimycotics, antimycobacterials, antivirals and antifungals for systemic use, intestinal antiinfectives and antimalarials.
- Analysis performed on use of antimycotics (ATC J02; 16 different substances) and antifungals (ATC D01BA; three different substances) for systemic use.
- Prevalence is calculated as N patients prescribed antimycotics/N patients treated with at least one antimicrobial.

## RESULTS

**Table 1. Prevalence (%) of antimycotic use by ward type and region**

Adult wards	Africa		Asia		Europe		North America		South America		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
ICU	1288	4.2	6377	6.8	4469	8.2	1591	9.9	2075	9.7	15895	7.7
AMW	8132	3.7	30440	2.6	20395	2.8	6189	3.8	4737	5.9	70871	3.1
ASW	8245	0.8	18392	1.2	16036	1.5	3496	3.4	3086	2.3	49739	1.5
HO-AMW	210	27.6	2386	23.9	2099	30.4	535	32.9	378	39.7	5673	28.2
ID-AMW	40	7.5	861	3.6	176	1.7	21	4.8	64	25.0	1162	4.7
P-AMW	214	2.3	728	4.0	2529	3.6	196	5.1	43	4.7	3717	3.7
T-AMW	27	63.0	515	65.4	221	49.8	261	51.3	116	37.9	1140	56.3
<b>Total</b>	<b>18156</b>	<b>2.8</b>	<b>59699</b>	<b>4.0</b>	<b>45925</b>	<b>4.4</b>	<b>12289</b>	<b>6.7</b>	<b>10499</b>	<b>7.3</b>	<b>148197</b>	<b>4.5</b>
Paediatric/ Neonatal wards	N	%	N	%	N	%	N	%	N	%	N	%
HO-PMW	109	30.3	505	24	626	37.2	78	47.4	187	42.8	1511	33.5
PICU	255	7.1	1310	8.1	497	17.3	98	12.2	435	14.7	2597	11.0
PMW	3935	1.9	7885	2.7	3268	2.3	363	2.2	770	5.3	16240	2.5
PSW	821	0.5	970	1.3	868	2.0	89	2.3	154	7.8	2914	1.6
T-PMW	15	100	29	51.7	24	41.7	27	55.6	18	72.2	113	60.2
NICU	1082	5.6	2712	11.7	595	11.1	223	12.1	268	9.3	4909	10.1
NMW	948	1.1	942	4.6	359	3.1	16	0	64	4.7	2337	2.9
<b>Total</b>	<b>7165</b>	<b>3.0</b>	<b>14353</b>	<b>5.8</b>	<b>6237</b>	<b>8.0</b>	<b>894</b>	<b>11.3</b>	<b>1896</b>	<b>12.6</b>	<b>30621</b>	<b>6.1</b>

N=number of treated patients with at least one antimicrobial; AMW=adult medical ward; ASW=adult surgical ward; P=pneumology; HO=haematology-oncology; ID=infectious diseases; T=transplant; PMW=paediatric medical ward; NMW=neonatal medical ward

**Table 2. Proportional use (%) antifungals & antimycotics among adult & paediatric wards**

- 266,218 antimicrobial prescriptions, 8475 (3.18%) antimycotics & 53 (0.02%) antifungals for systemic use.
- Out of 8475 antimycotics, 77.8% prescribed for adults, 22.2% in children.

### Main reasons for therapeutic prescribing:

- Adults:**
  - LRTI - 21.5% (fluconazole (36.8%) & voriconazole (33.1%))
  - gastro-intestinal/intra-abdominal infections -17.7% (fluconazole (68.5%) and caspofungin (10.8%))
  - ear/nose/throat infections -10.3%, fluconazole (83.3%)
- Children:** sepsis (30.5%), LRTI (17.2%), febrile neutropenia (9.5%).

### Quality indicators adults and children:

- parenteral use : 42.2% and 65.7%
- targeted prescribing : 26.8% and 19.1%

Adults wards	Antimicrobial	Africa		Asia		Europe		North America		South Americ		Total
		Africa	Asia	Europe	North America	South Americ	Total	Africa	Asia	Europe	North Americ	Total
Total N antifungals & antimycotics		506	2,420	2,039	836	767	6,568					
Prophylactic prescribing (%)		27.3	44.4	32.7	37.2	29.9	36.8					
Antifungals (D01BA) Terbinafine		0.2	0.5	1.0	1.0	0.1	0.7					
Antibiotics (J02AA) Amphotericin b		5.9	5.0	4.8	4.7	9.4	5.6					
Imidazole derivatives (J02AB) Ketoconazole		0.8	0.3	0.4	0.2		0.3					0.3
Miconazole				0.0	0.3		0.1					0.1
Triazole derivatives (J02AC) Fluconazole		80.6	53.3	64.1	54.1	62.7	59.6					
Isavuconazole				0.1	0.2	0.2	0.1					0.1
Itraconazole		1.4	7.4	3.6	1.6	3.5	4.5					
Posaconazole				3.1	6.4	8.3	1.2					4.5
Voriconazole		8.9	14.2	8.7	9.4	6.5	10.6					
Other antimycotics (J02AX) Anidulafungin		0.2	4.7	2.7	1.4	5.9	3.4					
Caspofungin		0.4	3.8	6.5	8.4	6.1	5.2					
Flucytosine		0.8	0.2	0.4	0.3	0.2	0.2					0.2
Micafungin		0.8	7.8	1.0	10.4	4.0	5.0					5.0
Paediatric/neonatal wards												
Total N antifungals & antimycotics		221	826	499	101	238	1,885					
Prophylactic prescribing (%)		31.2	42.1	62.5	56.4	30.7	45.6					
Antifungals (D01BA) Griseofulvin		2.3					0.3					
Terbinafine					0.2		0.1					
Antibiotics (J02AA) Amphotericin b		9.5	17.9	23.0	4.0	16.0	17.3					
Imidazole derivatives (J02AB) Miconazole		0.5	1.2				0.4					
Triazole derivatives (J02AC) Fluconazole		74.7	69.1	54.1	57.4	41.2	61.6					
Itraconazole		0.5	2.4	3.8			2.6					
Posaconazole			0.5	4.0	1.0	1.3	1.5					
Voriconazole		10.0	4.2	5.8	12.9	23.9	8.3					
Other antimycotics (J02AX) Anidulafungin			0.1				0.2					
Caspofungin			1.6	5.4	19.8	8.0	4.2					
Micafungin		2.7	4.1	2.4	5.0	4.6	3.6					