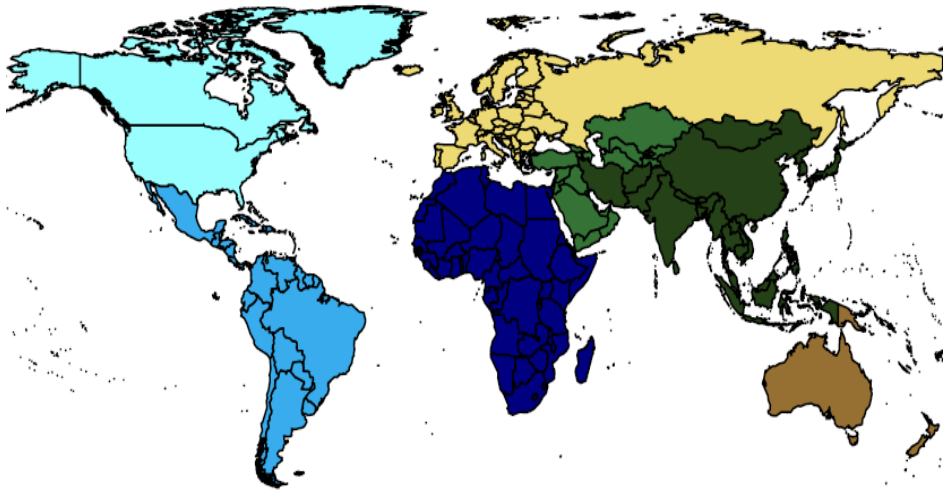
Global Point Prevalence Survey of Antimicrobial Consumption and Resistance

Hospital ID: unknown
Survey: 2020−P3
Reference data: 2019

Participation to Global−PPS by UN macro−geographical regions

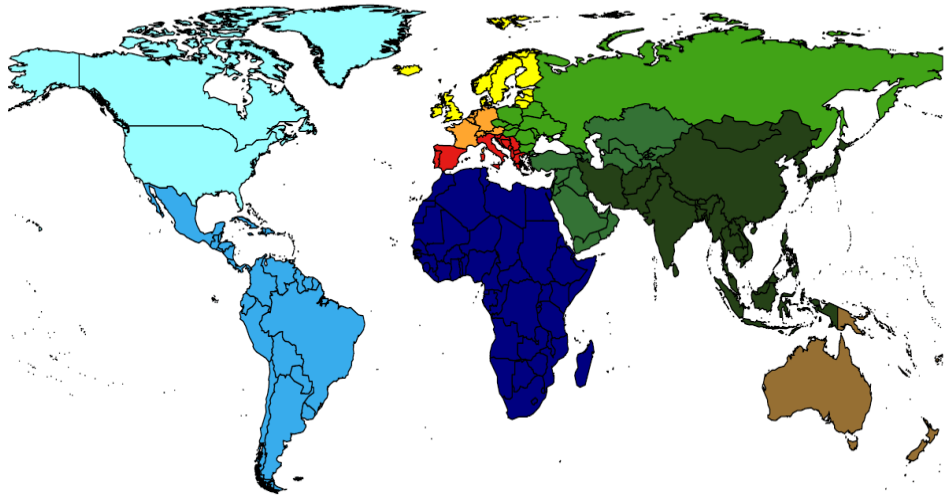
	Number of countries	Number of hospitals
North America	1	18
South America	3	23
Africa	11	53
Europe	8	97
West & Central Asia	6	20
East & South Asia	9	68
Australia & New Zealand	0	0



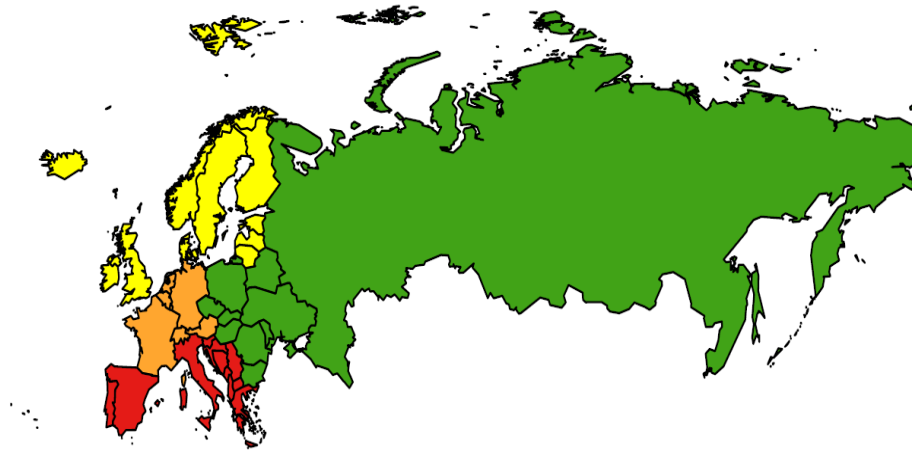
North America
Latin America
Africa
West & Central Asia
East & South Asia
Europe
Australia & New Zealand

Participation to Global−PPS by UN macro−geographical subregion

	Number of countries	Number of hospitals
North America	1	18
South America	3	23
Africa	11	53
North Europe	2	13
West Europe	3	80
South Europe	3	4
East Europe	0	0
West & Central Asia	6	20
East & South Asia	9	68
Australia & New Zealand	0	0



- North America
- Latin America
- Africa
- North Europe
- West Europe
- South Europe
- East Europe
- West & Central Asia
- East & South Asia
- Australia & New Zealand



Overall antimicrobial prevalence by region and type of adult ward

	Total	AMW	HO−AMW	T−AMW	P−AMW	ASW	AICU
North America	30.7	25.6	47.5	0.0	48.8	36.8	47.7
South America	46.8	45.6	88.5	48.6	60.0	41.7	55.1
Africa	55.5	54.5	58.8	71.4	76.2	54.5	78.5
North Europe	38.0	33.6	63.9	0.0	61.9	40.4	54.8
West Europe	28.9	23.4	44.8	100.0	46.8	32.5	57.4
South Europe	33.7	37.4	75.0	0.0	15.8	25.7	58.3
East Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West & Central Asia	60.0	55.7	57.1	33.3	0.0	65.0	67.2
East & South Asia	47.7	44.8	42.3	68.3	55.1	50.1	63.7
Australia & New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Our hospital 2020−P3	55.1	51.4	70.5	100.0	51.5	55.5	52.5
Country	46.7	44.3	53.7	89.5	44.2	48.6	66.9

Antimicrobial prevalence (%): 100*(number of treated patients/number of registered patients according to UN macro−geographical subregions).
Total = Overall antimicrobial prevalence in adult wards; AMW = Adult Medical Ward; HO−AMW = Haematology−Oncology AMW;
T−AMW = Transplant (BMT/solid) AMW; P−AMW = Pneumology AMW; ASW = Adult Surgical Ward; AICU = Adult Intensive Care Unit.

If there are less than three participating hospitals, results are not reported.

Overall antimicrobial prevalence by region and type of child or neonatal ward

	Total	PMW	HO−PMW	T−PMW	PSW	PICU	NMW	NICU
North America	26.8	30.9	57.1	0.0	58.8	26.5	7.3	20.3
South America	47.9	40.1	0.0	0.0	85.7	74.6	0.0	39.5
Africa	70.9	70.7	64.9	100.0	74.2	76.7	69.6	69.4
North Europe	31.0	33.7	40.0	50.0	47.6	70.0	9.1	18.6
West Europe	28.6	31.8	80.6	100.0	42.1	48.4	8.9	19.8
South Europe	26.0	22.4	40.6	0.0	23.9	56.2	33.3	15.8
East Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West & Central Asia	15.5	16.6	80.0	0.0	64.1	44.4	6.2	75.4
East & South Asia	57.2	57.9	50.2	71.4	70.7	77.3	32.2	61.4
Australia & New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Our hospital 2020−P3	24.3	35.7	100.0	100.0	0.0	66.7	0.0	11.8
Country	32.6	36.9	77.8	100.0	0.0	62.5	4.4	33.3

Antimicrobial prevalence (%): 100*(number of treated patients/number of registered patients according to UN macro−geographical subregions).
Total = Overall antimicrobial prevalence in wards admitting children and neonates; PMW = Paediatric Medical Ward;
HO−PMW = Haematology−Oncology PMW; T−PMW = Transplant (BMT/solid) PMW; PSW = Paediatric Surgical Ward;
PICU = Paediatric Intensive Care Unit; NMW = Neonatal Medical Ward; NICU = Neonatal Intensive Care Unit.

If there are less than three participating hospitals, results are not reported.

Antimicrobial prevalence in adult wards

	Total	AMW	HO−AMW	T−AMW	P−AMW	ASW	AICU
Our hospital 2020−P3							
patients (N)	809	469	88	14	33	146	59
treated patients (%)	55.1	51.4	70.5	100	51.5	55.5	52.5
Country							
patients (N)	3972	2681	123	19	104	888	157
treated patients (%)	46.7	44.3	53.7	89.5	44.2	48.6	66.9
Continent							
patients (N)	19578	12670	435	41	138	4645	1649
treated patients (%)	47.7	44.8	42.3	68.3	55.1	50.1	63.7
Hospital type							
patients (N)	15119	9236	435	41	129	3947	1331
treated patients (%)	50.4	48.9	42.3	68.3	53.5	49.9	63.5
Europe							
patients (N)	21860	13351	751	6	781	5970	1001
treated patients (%)	29.9	24.8	47.1	100	47.6	32.2	57.4

Patients (N) = number of admitted adults.
Treated patients (%) = 100*(number of adults treated with at least one antimicrobial/number of admitted adults).

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Antimicrobial prevalence in paediatric wards

	Total	PMW	HO−PMW	T−PMW	PSW	PICU
Our hospital 2020−P3						
patients (N)	51	42	2	4	0	3
treated patients (%)	45.1	35.7	100	100	0	66.7
Country						
patients (N)	87	65	9	5	0	8
treated patients (%)	47.1	36.9	77.8	100	0	62.5
Continent						
patients (N)	3033	2316	201	14	321	181
treated patients (%)	60	57.9	50.2	71.4	70.7	77.3
Hospital type						
patients (N)	2050	1654	125	14	100	157
treated patients (%)	62.4	62.2	57.6	71.4	49	77.1
Europe						
patients (N)	1948	1545	144	10	149	100
treated patients (%)	34.8	31.2	60.4	30	34.2	54

Patients (N) = Number of admitted children in the hospital, country, UN macro−geographical region to which the hospital belongs; and the continental results for the hospital type to which the hospital belongs (possible types are primary + seconday level, tertiary level, paediatric and infectious diseases + specialized hospital).
Treated patients (%) = 100*(number of children treated with at least one antimicrobial/number of admitted children).

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Antimicrobial prevalence in neonatal wards

	Total	NMW	NICU
Our hospital 2020−P3			
patients (N)	52	35	17
treated patients (%)	3.8	0	11.8
Country			
patients (N)	57	45	12
treated patients (%)	10.5	4.4	33.3
Continent			
patients (N)	1045	441	604
treated patients (%)	49.1	32.2	61.4
Hospital type			
patients (N)	916	364	552
treated patients (%)	49.2	31	61.2
Europe			
patients (N)	742	491	251
treated patients (%)	12.7	9.4	19.1

Patients (N) = Number of admitted neonates in the hospital, country, UN macro−geographicl region to which the hospital belongs; and the continental results for the hospital type to which the hospital belongs (possible types are primary + seconday level, tertiary level, paediatric and infectious diseases + specialized hospital).
Treated patients (%) = 100*(number of neonates treated with at least one antimicrobial/number of admitted neonates).

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Antimicrobial prevalence (%) by activity

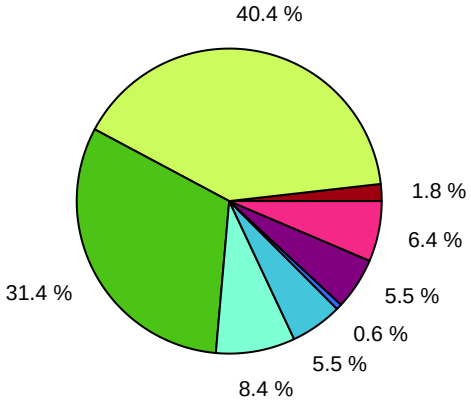
	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Adults					
Medical	53.8	46.3	44.0	48.0	27.8
Surgical	58.2	44.6	51.2	51.3	30.8
ICU	52.5	68.4	62.6	62.4	56.4
Children					
Medical	43.6	42.7	57.5	62.2	34.0
Surgical	44.4	100.0	67.1	50.9	31.0
ICU	66.7	62.5	77.6	77.4	53.9
Neonates					
GNMW	0.0	4.4	32.2	31.0	9.4
NICU	11.8	33.3	61.4	61.2	19.1

Antimicrobial prevalence = 100*(number of treated patients/number of admitted patients)
Antimicrobial prevalence by activity for adults, children and neonates separately for the hospital, country, continent to which the hospital belongs; and the continental results for the hospital type to which the hospital belongs (possible types are primary + seconday level, tertiary level, paediatric and infectious diseases + specialized hospital).

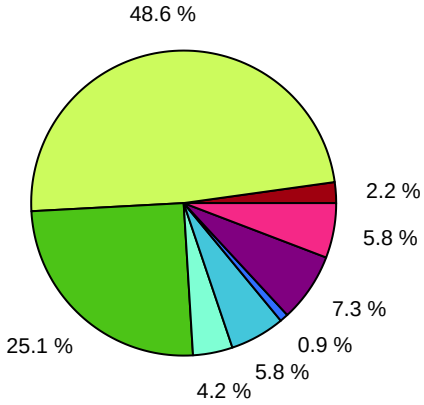
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Overall proportional antibiotic use

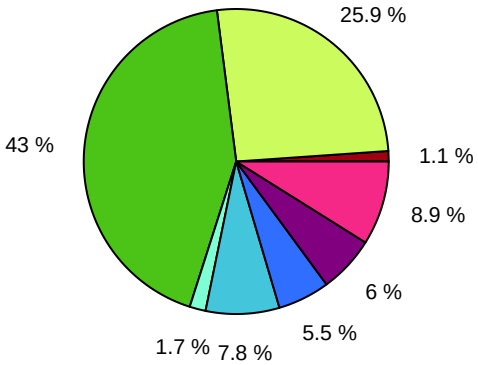
Our hospital 2020−P3
(N= 434 treated patients)



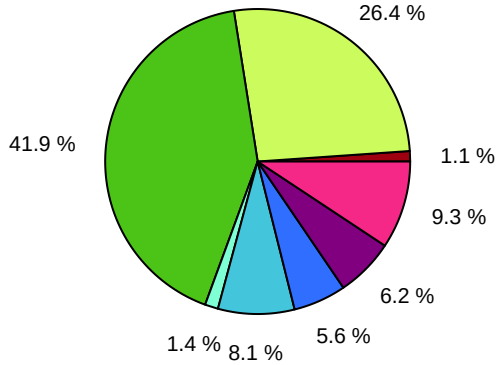
Country
(n= 4 hospitals, n= 5 surveys)



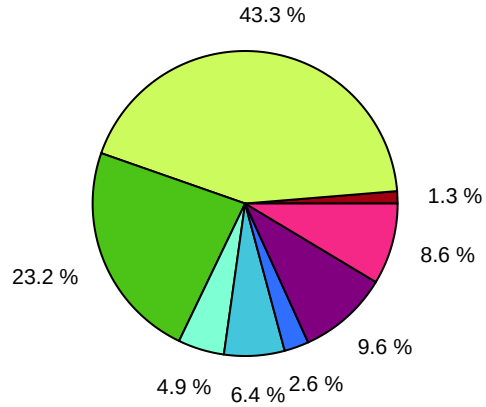
Continent (n= 67 hospitals)



Hospital type (n= 43 hospitals)



Europe (n= 96 hospitals)



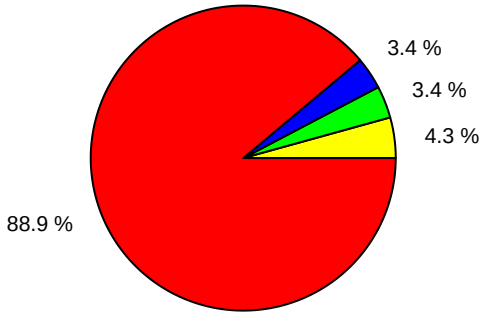
- Tetracyclines
- Penicillins
- Other beta−lactams
- Sulfonamides and Trimethoprim
- Macrolides, Lincosamides and Streptogramins
- Aminoglycosides
- Quinolones
- Other antibacterials

Percentage of antibacterials for systemic use (ATC J01) at ATC3 level (pharmacological subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

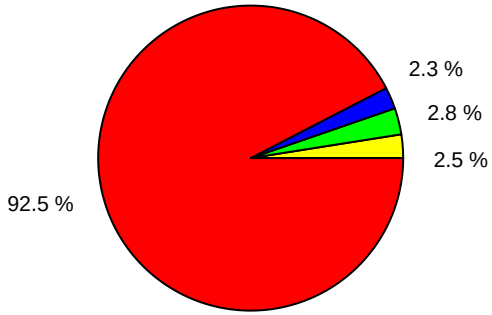
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Proportional use of beta−lactam antibacterials

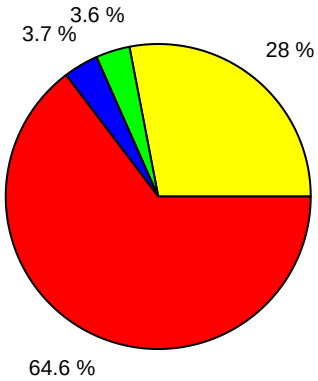
Our hospital 2020−P3
(N= 207 treated patients)



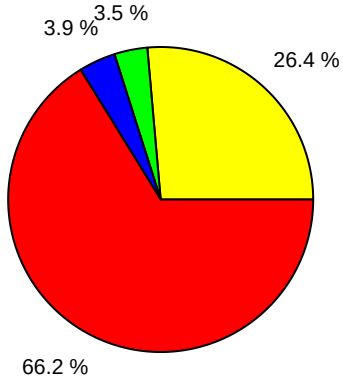
Country
(n= 4 hospitals, n= 5 surveys)



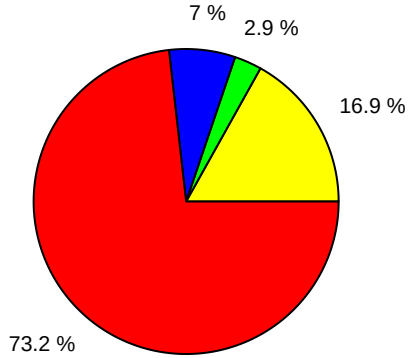
Continent (n= 66 hospitals)



Hospital type (n= 43 hospitals)



Europe (n= 95 hospitals)



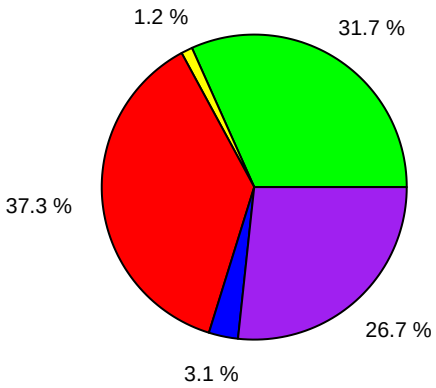
Penicillins with extended spectrum
Beta−lactamase sensitive penicillins
Beta−lactamase resistant penicillins
Combinations of penicillins, incl. beta−lactamase inhibitors

Percentage of beta−lactam antibacterials (ATC J01C) at ATC4 level (chemical subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

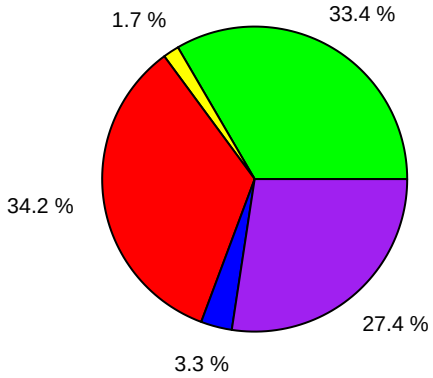
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Proportional use of other beta−lactam antibacterials

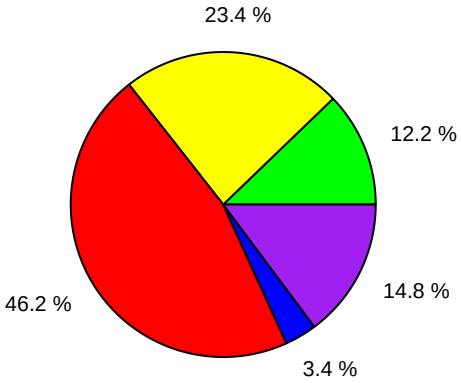
Our hospital 2020−P3
(N= 161 treated patients)



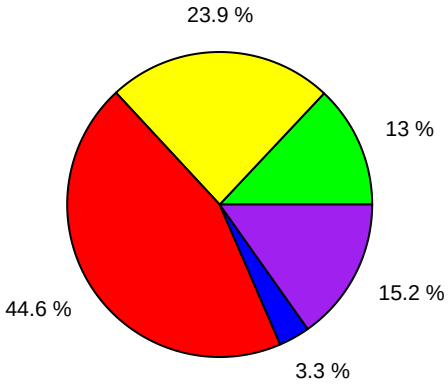
Country
(n= 4 hospitals, n= 5 surveys)



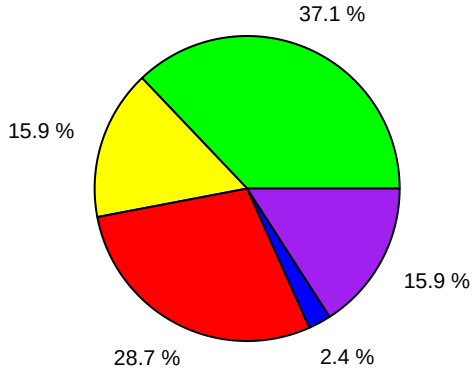
Continent (n= 67 hospitals)



Hospital type (n= 43 hospitals)



Europe (n= 92 hospitals)



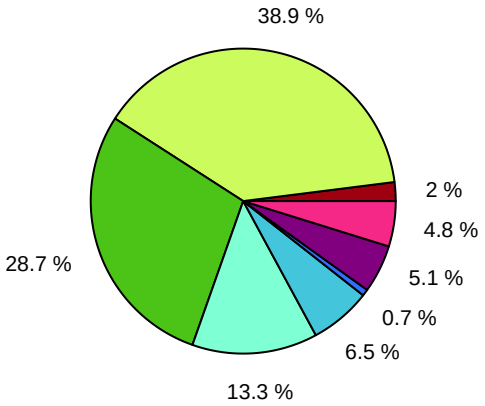
First−generation cephalosporins
Second−generation cephalosporins
Third−generation cephalosporins
Fourth−generation cephalosporins
Carbapenems

Proportional use of other beta−lactam antibacterials (ATC J01D) at ATC4 level (chemical subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

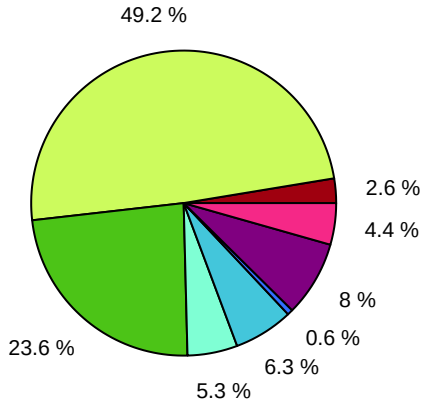
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Overall proportional antibiotic use − medical patients

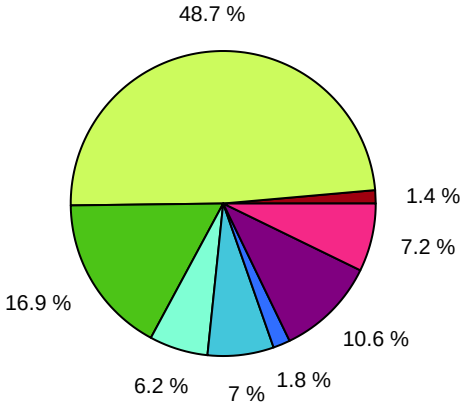
Our hospital 2020−P3
(N= 245 treated patients)



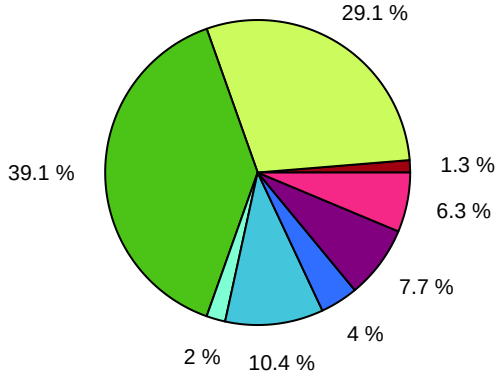
Country
(n= 4 hospitals, n= 5 surveys)



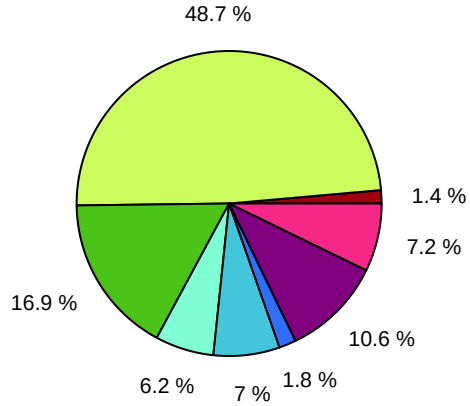
Continent (n= 93 hospitals)



Hospital type (n= 42 hospitals)



Europe (n= 93 hospitals)



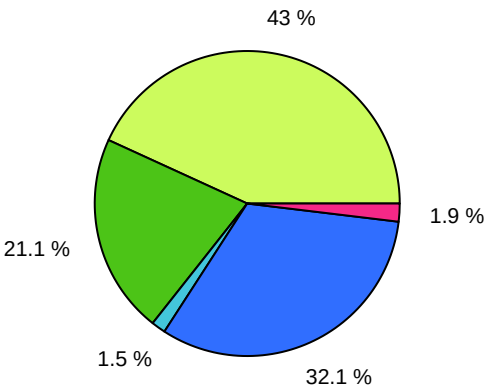
- Tetracyclines
- Penicillins
- Other beta−lactams
- Sulfonamides and Trimethoprim
- Macrolides, Lincosamides and Streptogramins
- Aminoglycosides
- Quinolones
- Other antibacterials

Percentage of antibacterials for systemic use (ATC J01) at ATC3 level (pharmacological subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

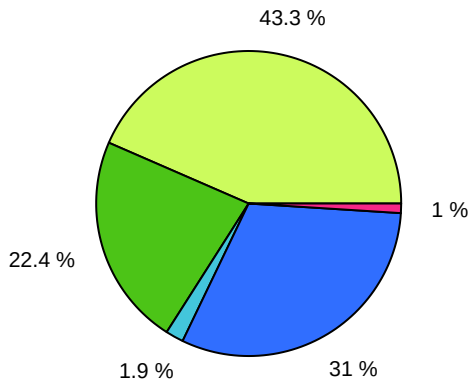
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Overall proportional antibiotic use − medical patients (neonates)

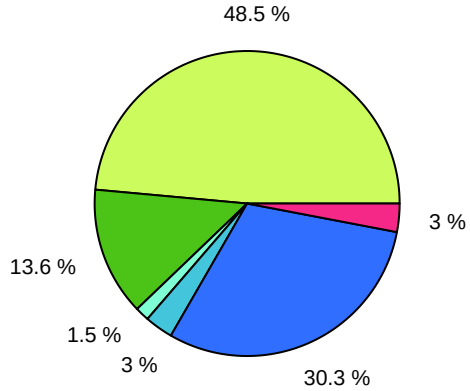
Continent (n= 16 hospitals)



Hospital type (n= 13 hospitals)



Europe (n= 21 hospitals)



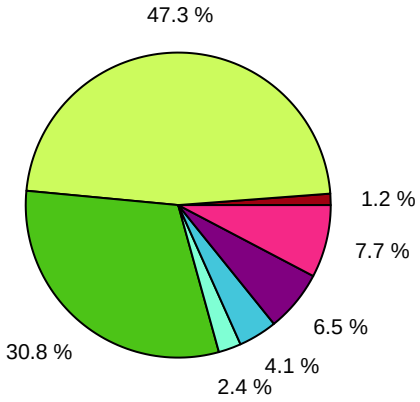
- Penicillins
- Other beta−lactams
- Sulfonamides and Trimethoprim
- Macrolides, Lincosamides and Streptogramins
- Aminoglycosides
- Other antibacterials

Percentage of antibacterials for systemic use (ATC J01) at ATC3 level (pharmacological subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

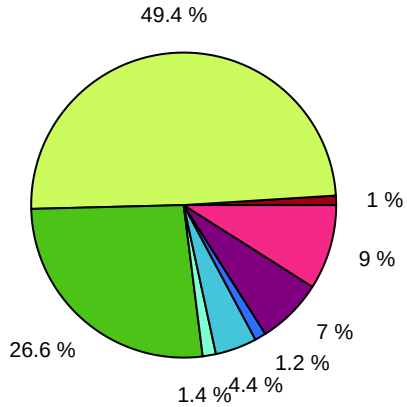
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Overall proportional antibiotic use − surgery patients

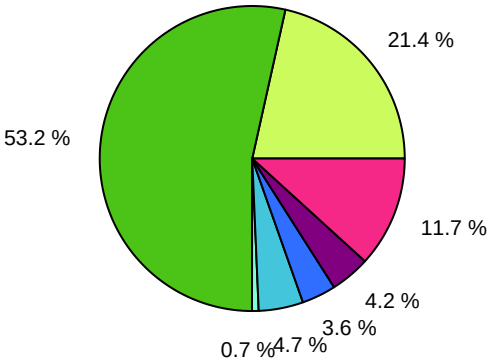
Our hospital 2020−P3
(N= 154 treated patients)



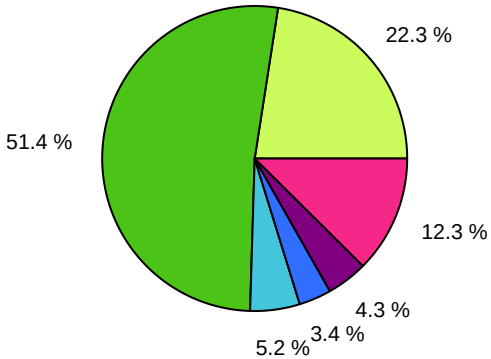
Country
(n= 4 hospitals, n= 5 surveys)



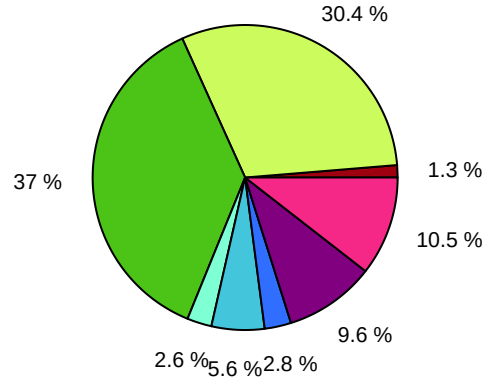
Continent (n= 58 hospitals)



Hospital type (n= 40 hospitals)



Europe (n= 84 hospitals)



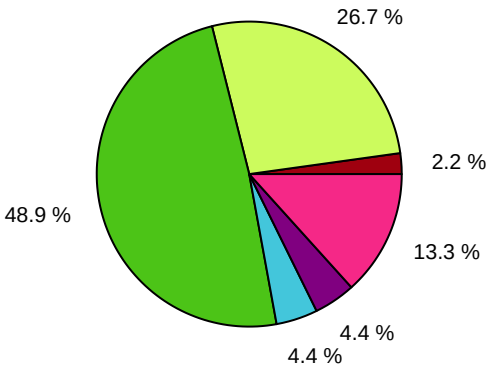
- Tetracyclines
- Penicillins
- Other beta−lactams
- Sulfonamides and Trimethoprim
- Macrolides, Lincosamides and Streptogramins
- Aminoglycosides
- Quinolones
- Other antibacterials

Percentage of antibacterials for systemic use (ATC J01) at ATC3 level (pharmacological subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

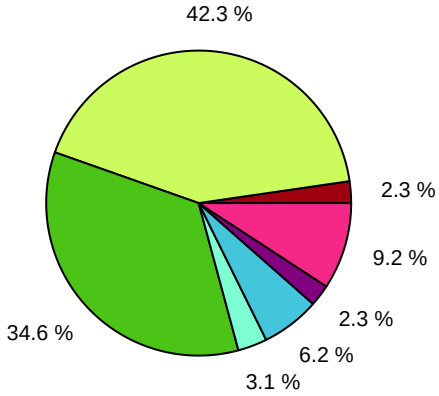
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Overall proportional antibiotic use − adult ICU patients

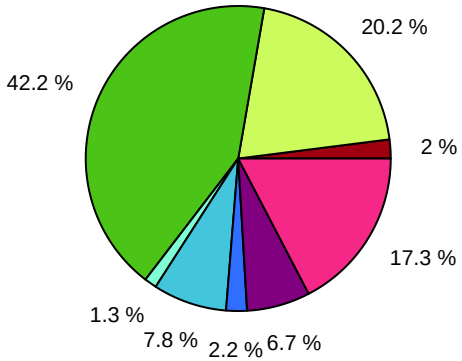
Our hospital 2020−P3
(N= 31 treated patients)



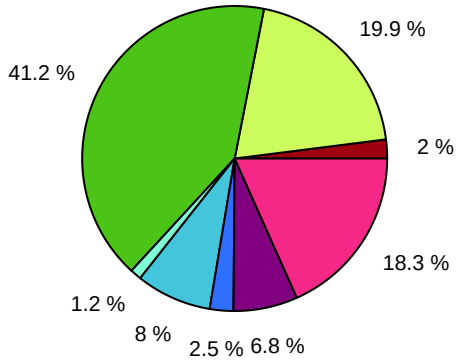
Country
(n= 4 hospitals, n= 5 surveys)



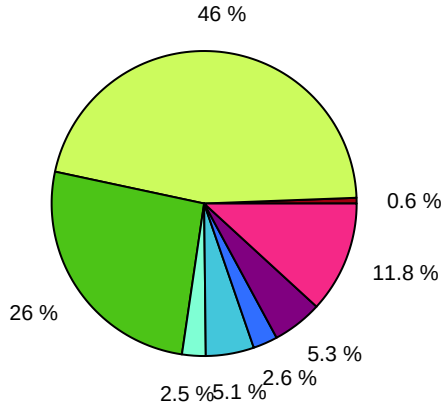
Continent (n= 55 hospitals)



Hospital type (n= 37 hospitals)



Europe (n= 69 hospitals)



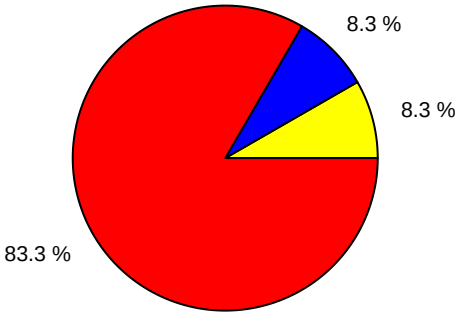
- Tetracyclines
- Penicillins
- Other beta−lactams
- Sulfonamides and Trimethoprim
- Macrolides, Lincosamides and Streptogramins
- Aminoglycosides
- Quinolones
- Other antibacterials

Percentage of antibacterials for systemic use (ATC J01) at ATC3 level (pharmacological subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

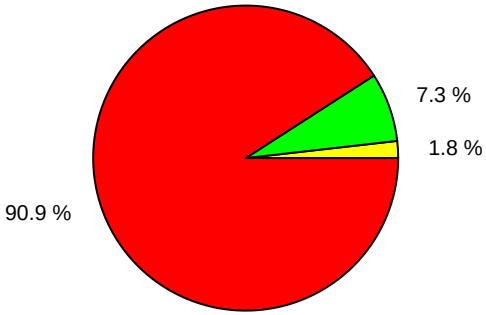
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Proportional use of beta−lactam antibacterials − adult ICU patients

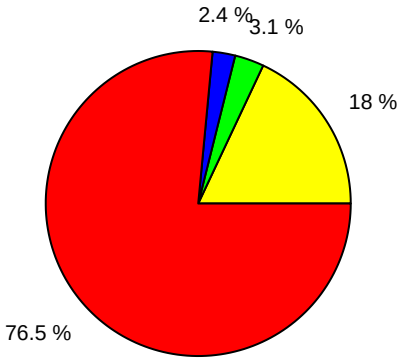
Our hospital 2020−P3
(N= 12 treated patients)



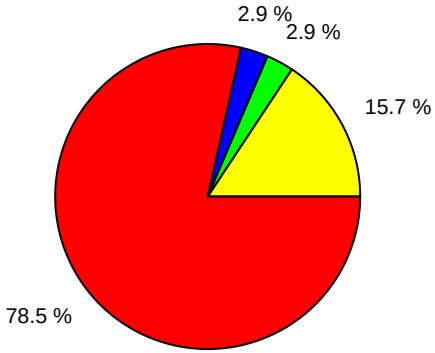
Country
(n= 4 hospitals, n= 5 surveys)



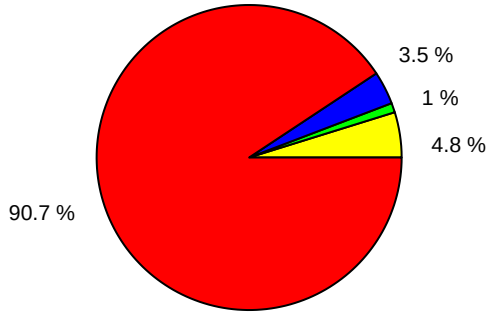
Continent (n= 47 hospitals)



Hospital type (n= 31 hospitals)



Europe (n= 66 hospitals)



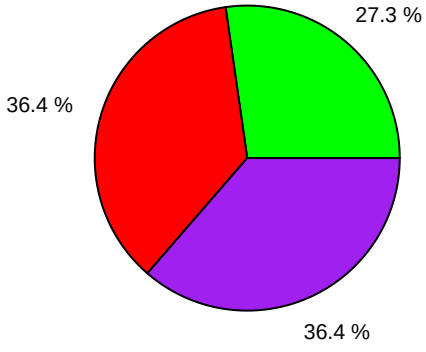
Penicillins with extended spectrum
Beta−lactamase sensitive penicillins
Beta−lactamase resistant penicillins
Combinations of penicillins, incl. beta−lactamase inhibitors

Percentage of beta−lactam antibacterials (ATC J01C) at ATC4 level (chemical subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

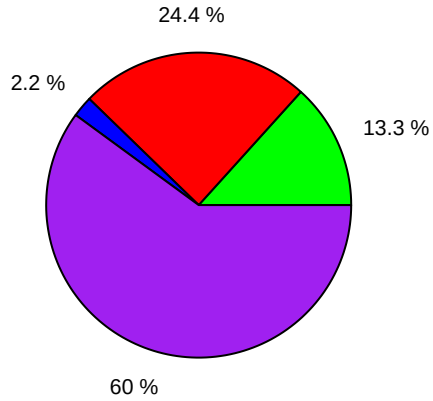
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Proportional use of other beta−lactams − adult ICU patients

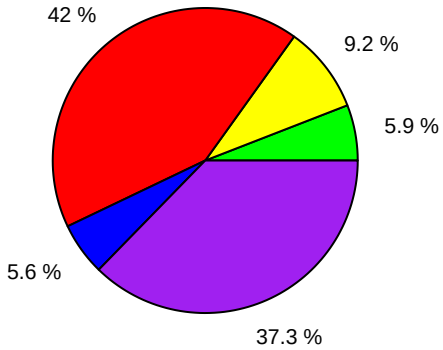
Our hospital 2020−P3
(N= 22 treated patients)



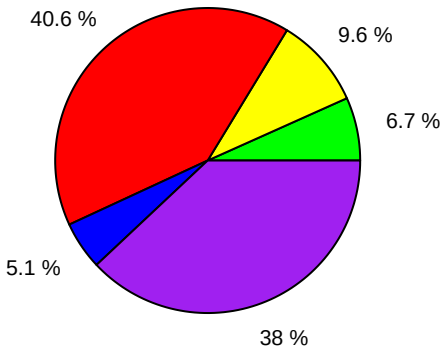
Country
(n= 4 hospitals, n= 5 surveys)



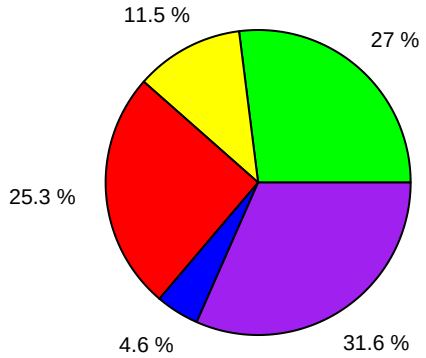
Continent (n= 53 hospitals)



Hospital type (n= 37 hospitals)



Europe (n= 49 hospitals)



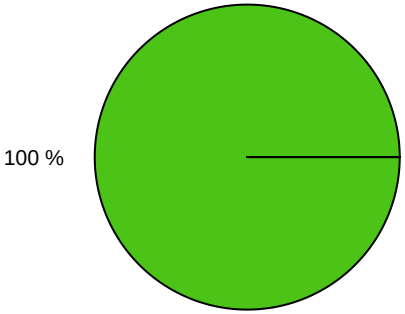
First−generation cephalosporins
Second−generation cephalosporins
Third−generation cephalosporins
Fourth−generation cephalosporins
Carbapenems

Proportional use of other beta−lactam antibacterials (ATC J01D) at ATC4 level (chemical subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

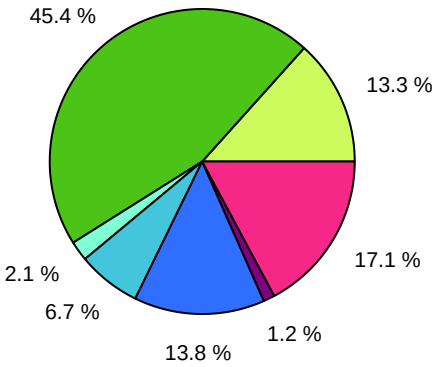
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Overall proportional antibiotic use − paediatric ICU patients

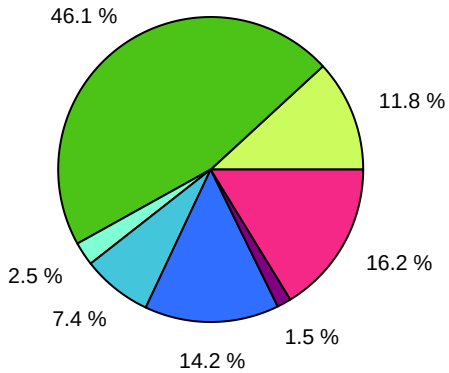
Our hospital 2020−P3
(N= 2 treated patients)



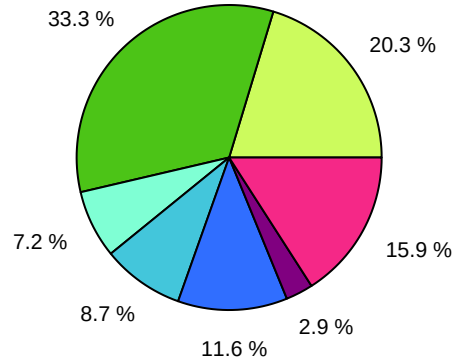
Continent (n= 22 hospitals)



Hospital type (n= 19 hospitals)



Europe (n= 9 hospitals)



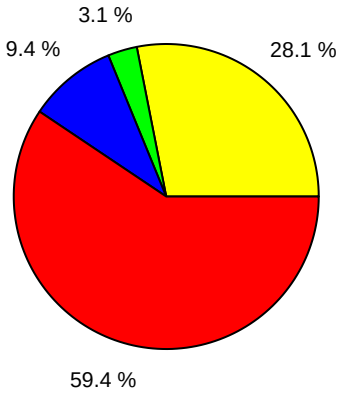
- Penicillins
- Other beta−lactams
- Sulfonamides and Trimethoprim
- Macrolides, Lincosamides and Streptogramins
- Aminoglycosides
- Quinolones
- Other antibacterials

Percentage of antibacterials for systemic use (ATC J01) at ATC3 level (pharmacological subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

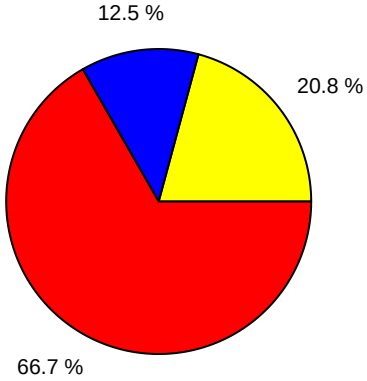
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Proportional use of beta−lactams − paediatric ICU patients

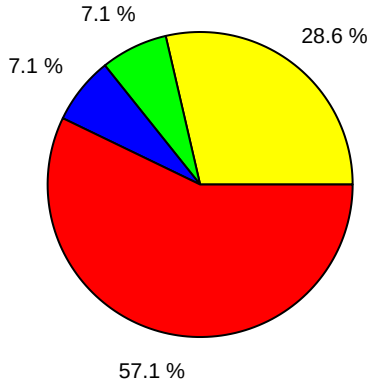
Continent (n= 15 hospitals)



Hospital type (n= 12 hospitals)



Europe (n= 6 hospitals)



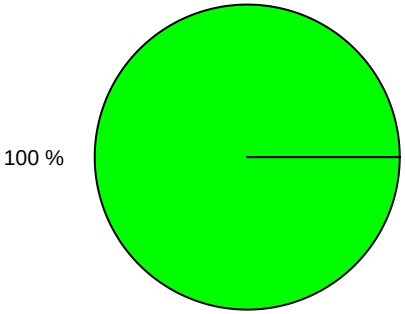
Penicillins with extended spectrum
Beta−lactamase sensitive penicillins
Beta−lactamase resistant penicillins
Combinations of penicillins, incl. beta−lactamase inhibitors

Percentage of beta−lactam antibacterials (ATC J01C) at ATC4 level (chemical subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

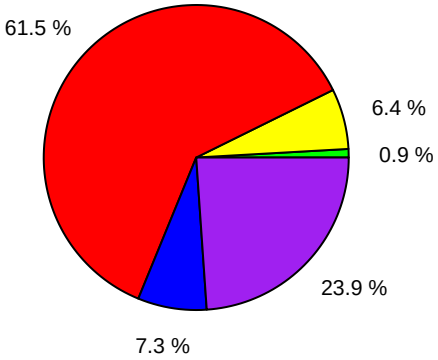
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Proportional use of other beta−lactams − paediatric ICU patients

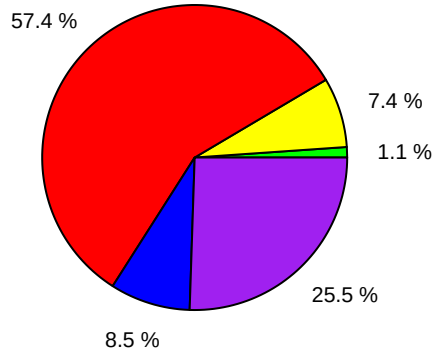
Our hospital 2020−P3
(N= 2 treated patients)



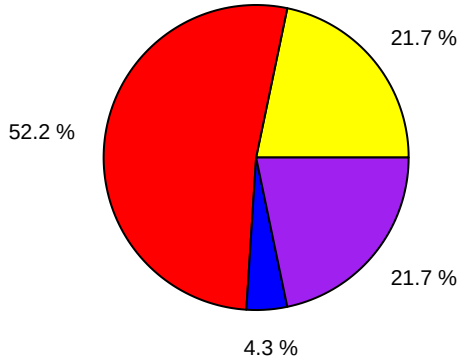
Continent (n= 19 hospitals)



Hospital type (n= 17 hospitals)



Europe (n= 8 hospitals)



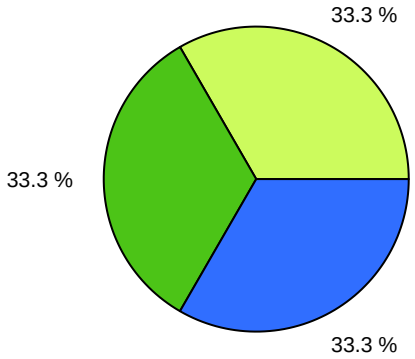
First−generation cephalosporins
Second−generation cephalosporins
Third−generation cephalosporins
Fourth−generation cephalosporins
Carbapenems

Proportional use of other beta−lactam antibacterials (ATC J01D) at ATC4 level (chemical subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

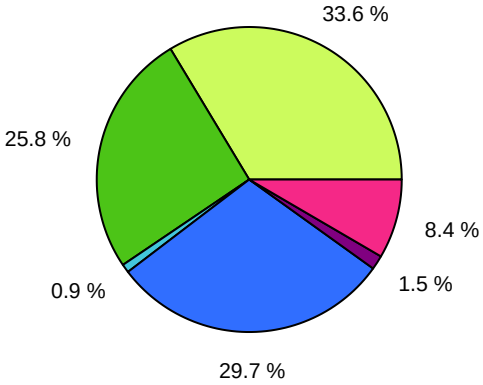
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Overall proportional antibiotic use − neonatal ICU patients

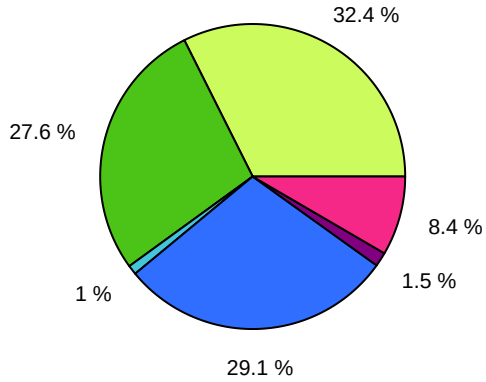
Our hospital 2020−P3
(N= 2 treated patients)



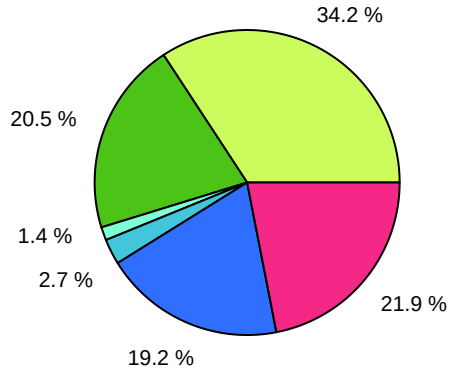
Continent (n= 28 hospitals)



Hospital type (n= 23 hospitals)



Europe (n= 14 hospitals)



- Penicillins
- Other beta−lactams
- Sulfonamides and Trimethoprim
- Macrolides, Lincosamides and Streptogramins
- Aminoglycosides
- Quinolones
- Other antibacterials

Percentage of antibacterials for systemic use (ATC J01) at ATC3 level (pharmacological subgroup). Proportional antibiotic use below 0.5% is not reported.
ICU patients refers to patients treated on an ICU department recorded with activity IC.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital If there are less than three participating hospitals, results are not reported.

Therapeutic antimicrobial use for community acquired and healthcare associated infections by type of treatment

	CAI Empiric		CAI Targeted		CAI Total	
	N	%	N	%	N	%
Our hospital 2020−P3	176	66.9	87	33.1	263	58.7
Country	1083	71.6	430	28.4	1513	71.2
Continent	7464	86.2	1192	13.8	8656	77.7
Hospital type	5931	87.0	887	13.0	6818	76.6

	HAI Empiric		HAI Targeted		HAI Total	
	N	%	N	%	N	%
Our hospital 2020−P3	106	57.3	79	42.7	185	41.3
Country	392	64.1	220	35.9	612	28.8
Continent	1680	67.6	804	32.4	2484	22.3
Hospital type	1404	67.5	677	32.5	2081	23.4

CAI= Community Acquired Infections; HAI=Healthcare Associated Infections
Type of treatment= empiric versus targeted treatment.
For each subgroup of therapeutic use (CAI or HAI) the number of antimicrobials and proportion (%) for empiric versus targeted prescribing is reported.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prophylactic antimicrobial use by indication

	Medical		Surgical	
	N	%	N	%
Our hospital 2020−P3	167	72.0	65	28.0
Country	197	61.2	125	38.8
Continent	1591	35.4	2898	64.6
Hospital type	1240	35.3	2272	64.7

Percentage of antimicrobials prescribed for medical or surgical prophylaxis. Antimicrobials include the antibacterials, antifungals and antivirals for systemic use as well as antibiotics used as intestinal anti−infectives and drugs to treat tuberculosis.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Ten most common diagnoses treated with therapeutic antimicrobials

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
Diagnosis	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Pneu	85	22.6	470	26.9	2932	37.4	2322	37.2	1608	27.5
SST	64	17.0	278	15.9	873	11.1	719	11.5	552	9.4
IA	33	8.8	172	9.8	455	5.8	381	6.1	527	9.0
Cys	28	7.4	125	7.1	402	5.1	336	5.4	405	6.9
Pye	24	6.4	119	6.8	374	4.8	278	4.5	474	8.1
BJ	23	6.1	78	4.5	163	2.1	136	2.2	266	4.5
PUO	16	4.3	28	1.6	105	1.3	64	1.0	106	1.8
BAC	15	4.0	24	1.4	126	1.6	107	1.7	93	1.6
ENT	10	2.7	26	1.5	134	1.7	118	1.9	170	2.9
FN	10	2.7	17	1.0	84	1.1	76	1.2	97	1.7

Top ten diagnoses in our hospital. Count on the number of diagnoses treated with at least one antimicrobal.
This implies that a patient with multiple diagnoses can be counted several times. Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis.

Country: Country Continent: Continent Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

CNS=infection of central nervous system; Eye=eye infections; ENT=ear, nose and throat infections; URTI=upper respiratory tract infection; Bron=bronchitis; Pneu=Pneumonia or lower respiratory tract infection; TB=tuberculosis; CVS=cardiovascular system infections; GI=gastro−intestinal infections; IA=intra−abdominal sepsis; SST=skin and soft tissue; BJ=bone/joint infections; Cys=lower urinary tract infection; Pye=Upper urinary tract infection; OBGY=obstetric/gynaecological infections; GUM=genito−urinary males; BAC=bacteraemia; PUO=pyrexia of unknown origin; PUO−HO=fever syndrome in non−neutropaenic haematology−oncology patient; FN=fever neutropaenic patient; LYMPH=infection lymphatics

Summary of quality indicators for antibiotic use

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
Medical										
Reason in notes	222	75.8	1353	94.7	7035	80.7	5634	81.6	4628	89.3
Guidelines missing	56	19.1	239	16.7	465	5.3	403	5.8	260	5.0
Guideline compliant	171	83.4	782	74.9	4665	74.3	3642	74.1	3507	83.6
Stop/review date documented	166	56.7	832	58.3	3935	45.1	3182	46.1	2310	44.6
Surgical										
Reason in notes	113	66.9	416	83.2	2595	67.1	2230	71.3	1746	80.8
Guidelines missing	29	17.2	83	16.6	484	12.5	272	8.7	111	5.1
Guideline compliant	98	81.0	255	72.6	1351	52.9	1137	53.0	1377	79.5
Stop/review date documented	109	64.5	261	52.2	1425	36.9	1250	39.9	1175	54.3
ICU										
Reason in notes	33	66.0	138	94.5	1868	75.7	1637	77.0	707	84.8
Guidelines missing	7	14.0	18	12.3	230	9.3	198	9.3	67	8.0
Guideline compliant	30	96.8	89	84.0	983	67.9	812	66.4	499	86.2
Stop/review date	36	72.0	78	53.4	935	37.9	803	37.8	330	39.6

Antibiotic quality indicators by activity (medical, surgery, ICU) for all patients receiving antibacterials for systemic use (ATC J01).

− For reason in notes and stop/review date documented: Count at antibacterial level.

− For guidelines missing: Count on NA (= no guideline for an indication) at patient level and diagnosis over total scores for this indicator.

− For guideline compliance: Count at patient level and diagnosis for compliance= yes or no only. For combination therapy with >1 antibiotic: if 1 antibiotic by diagnosis is not compliant, this combination therapy as a whole for this diagnosis will be counted as non−compliant.

If there are less than three participating hospitals, results are not reported.

Antibiotic quality indicators − adult wards

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
Medical										
Reason in notes	209	76.3	1317	94.8	5385	81.3	4328	81.8	3923	88.6
Guidelines missing	50	18.2	239	17.2	422	6.4	366	6.9	201	4.5
Guideline compliant	163	83.6	750	74.3	3552	74.0	2783	73.8	3012	82.7
Stop/review date documented	158	57.7	818	58.9	3126	47.2	2561	48.4	2017	45.5
Surgical										
Reason in notes	112	68.3	410	83.0	2411	68.3	2152	71.3	1689	80.7
Guidelines missing	25	15.2	83	16.8	307	8.7	270	8.9	95	4.5
Guideline compliant	97	80.8	251	72.5	1276	52.3	1088	52.7	1347	79.8
Stop/review date documented	106	64.6	261	52.8	1355	38.4	1199	39.7	1136	54.3
ICU										
Reason in notes	30	66.7	123	94.6	1249	80.8	1070	81.6	578	83.9
Guidelines missing	2	4.4	18	13.8	176	11.4	164	12.5	40	5.8
Guideline compliant	30	96.8	77	81.9	660	68.3	523	66.1	427	85.2
Stop/review date documented	32	71.1	65	50.0	644	41.7	544	41.5	280	40.6

Antibiotic quality indicators by activity (medical, surgical, ICU) for patients admitted on adult wards receiving antibacterials for systemic use (ATC J01).

− For reason in notes and stop/review date documented: Count at antibacterial level.

− For guidelines missing: Count on NA (= no guideline for an indication) at patient level and diagnosis over total scores for this indicator.

− For guideline compliance: Count at patient level and diagnosis for compliance = yes or no only. For combination therapy with >1 antibiotic: if 1 antibiotic by diagnosis is not compliant, this combination therapy as a whole for this diagnosis will be counted as non−compliant.

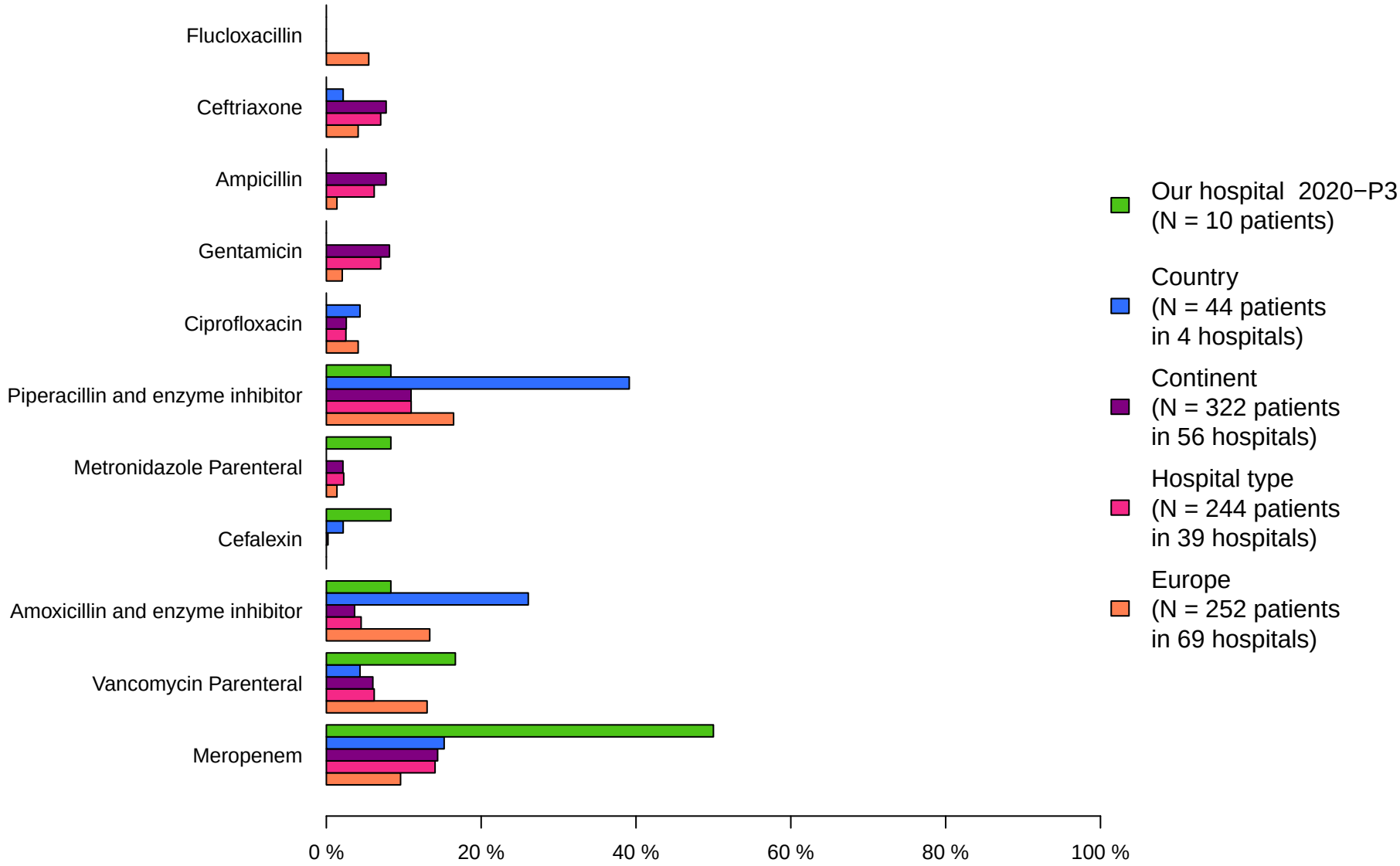
If there are less than three participating hospitals, results are not reported.

Antibiotic quality indicators − paediatric and neonatal wards

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
Medical										
Reason in notes	13	68.4			1650	78.9	1306	80.9	705	93.3
Guidelines missing	6	31.6			43	2.1	37	2.3	59	7.8
Guideline compliant	8	80.0			1113	75.2	859	75.2	495	89.2
Stop/review date documented	8	42.1			809	38.7	621	38.5	293	38.8
Surgical										
Reason in notes	1	20.0			184	54.9	78	70.9	57	83.8
Guidelines missing	4	80.0			177	52.8	2	1.8	16	23.5
Guideline compliant	1	100.0			75	65.8	49	62.8	30	71.4
Stop/review date documented	3	60.0			70	20.9	51	46.4	39	57.4
ICU										
Reason in notes	3	60.0			619	67.1	567	69.6	129	89.0
Guidelines missing	5	100.0			54	5.9	34	4.2	27	18.6
Guideline compliant	0	0.0			323	67.2	289	67.1	72	92.3
Stop/review date documented	4	80.0			291	31.6	259	31.8	50	34.5

Antibiotic quality indicators by activity (medical, surgical, ICU) for patients admitted on paediatric and neonatal wards receiving antibacterials for systemic use (ATC J01).
− For reason in notes and stop/review date documented: Count at antibacterial level.
− For guidelines missing: Count on NA (= no guideline for an indication) at patient level and diagnosis over total scores for this indicator.
− For guideline compliance: Count at patient level and diagnosis for compliance = yes or no only. For combination therapy with >1 antibiotic: if 1 antibiotic by diagnosis is not compliant, this combination therapy as a whole for this diagnosis will be counted as non−compliant.
If there are less than three participating hospitals, results are not reported.

Top 5 most frequently used antibiotics for sepsis in adults and children

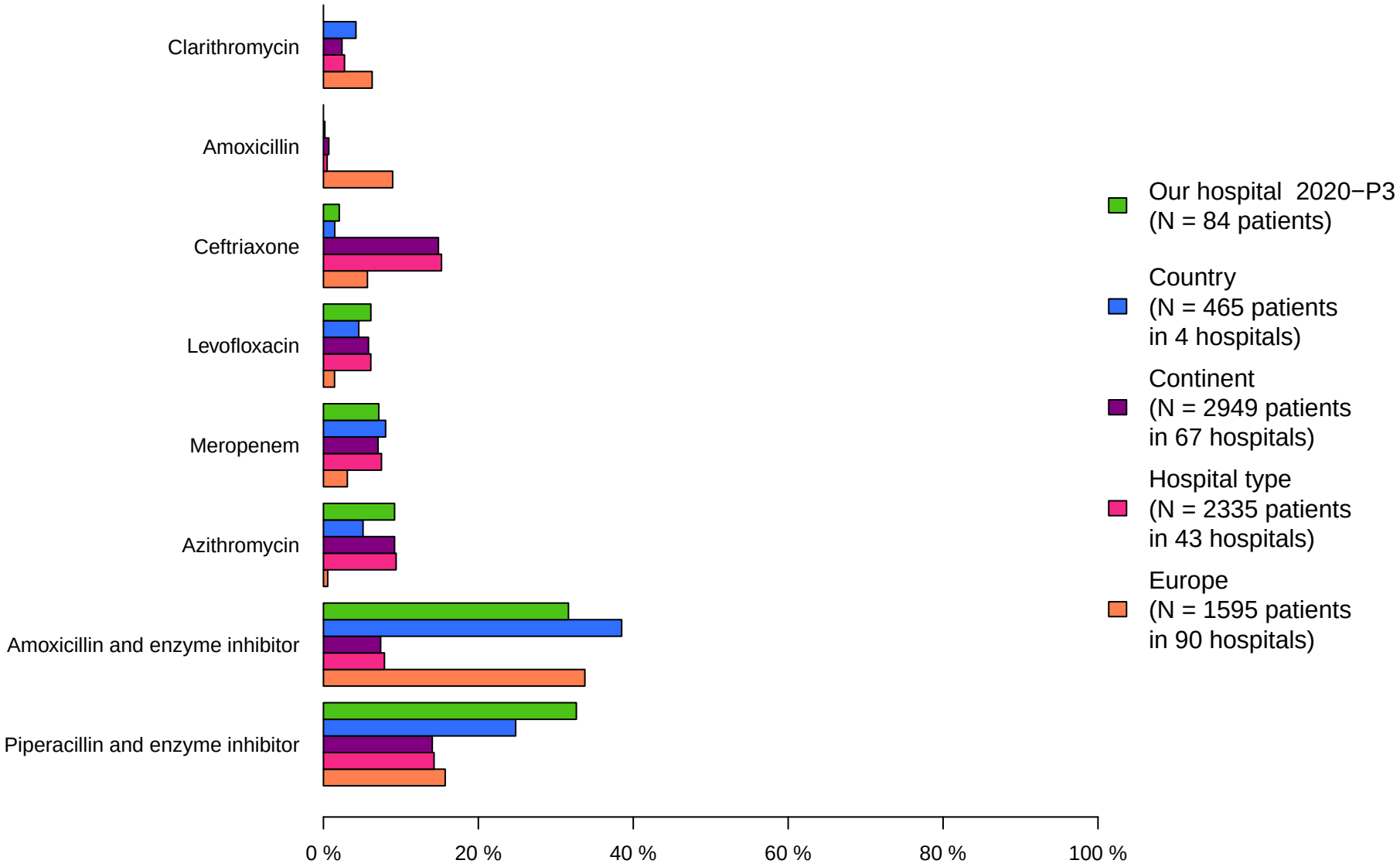


Selection on antibacterials for systemic use (J01). Top 5 most prescribed antibiotics (ATC5, substance level) for sepsis at hospital level, supplemented with the most prescribed antibiotics at country, continental and hospital type level if they do not fall within top 5 of the hospital. Selection on diagnostic code = sepsis; All patients are included with exception of patients admitted on NMW and NICU.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital

If there are less than three participating hospitals, results are not reported.

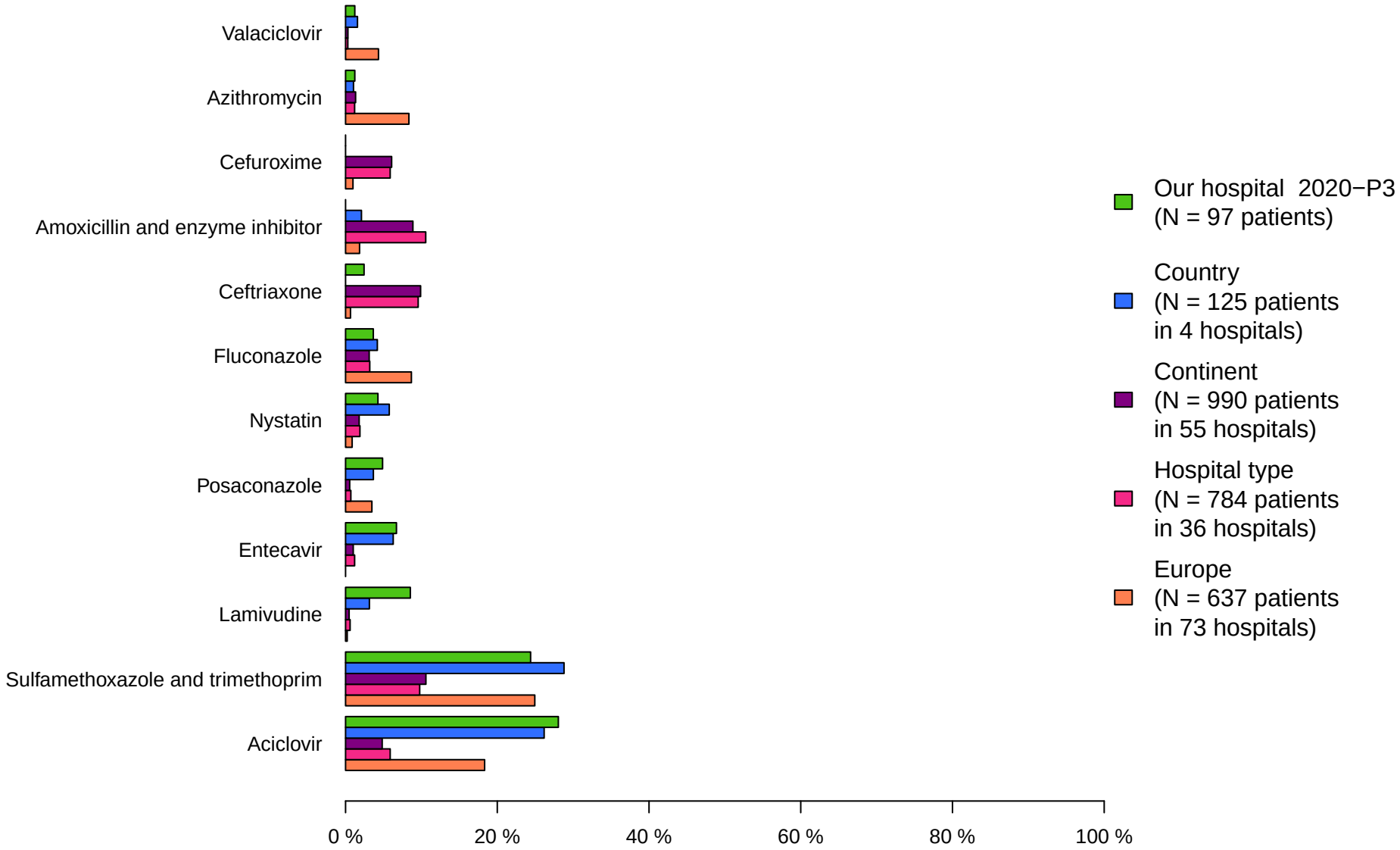
Top 5 most frequently used antibiotics for pneumonia in adults and children



Selection on antibacterials for systemic use (J01). Top 5 most prescribed antibiotics (ATC5, substance level) for pneumonia at hospital level, supplemented with the most prescribed antibiotics at country, continent and hospital type level if they do not fall within top 5 of the hospital.
Selection on diagnostic code = pneu; All patients are included with exception of patients admitted on NMW and NICU.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

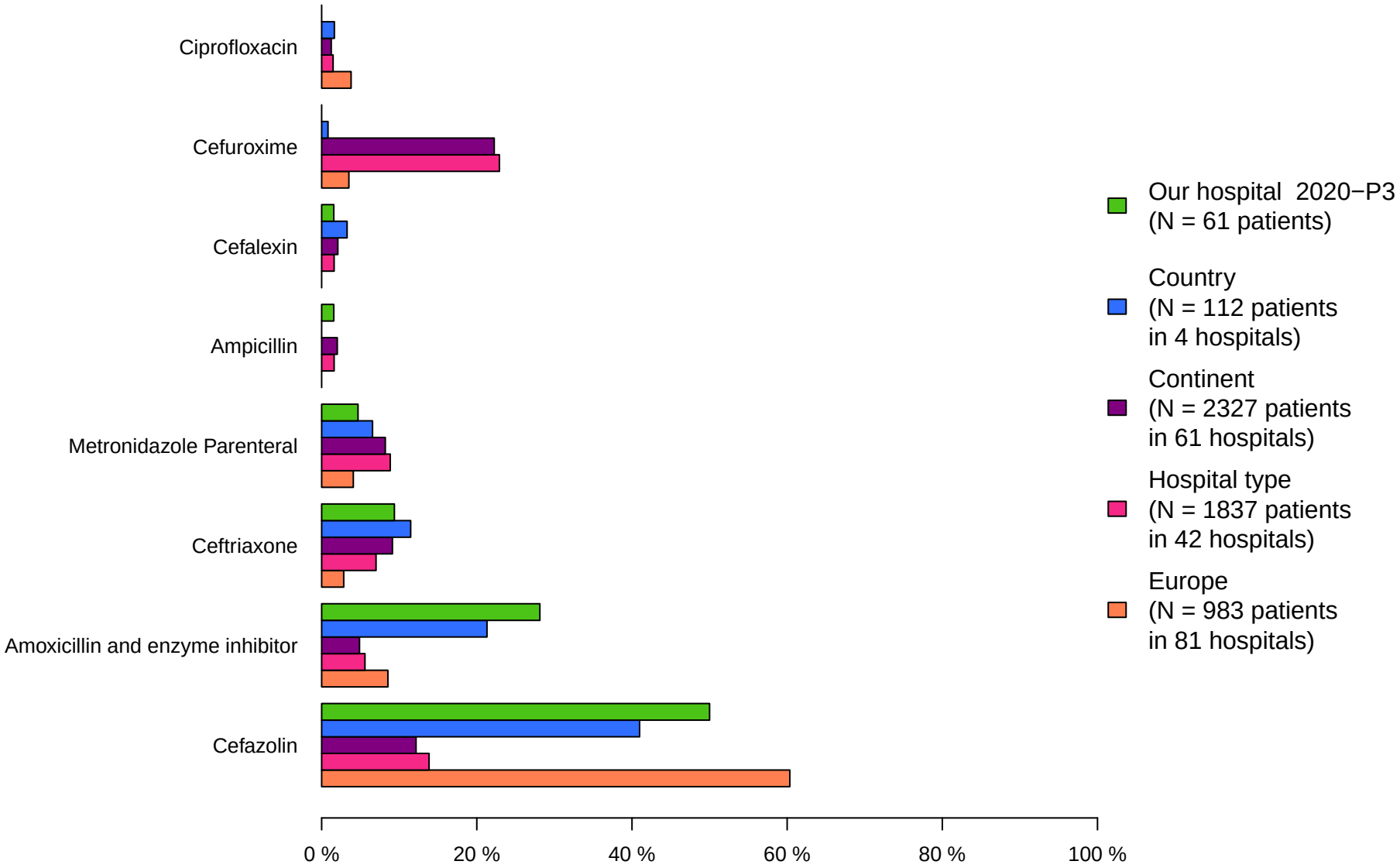
Top 5 most frequently used antimicrobials for medical prophylaxis in adults and children



Top 5 most prescribed antimicrobials (ATC5, substance level) for medical prophylaxis at hospital level, supplemented with the most prescribed antimicrobials at country, continent and hospital type level if they do not fall within top 5 of the hospital.
Selection on indication = MP; All patients are included with exception of patients admitted on NMW and NICU.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

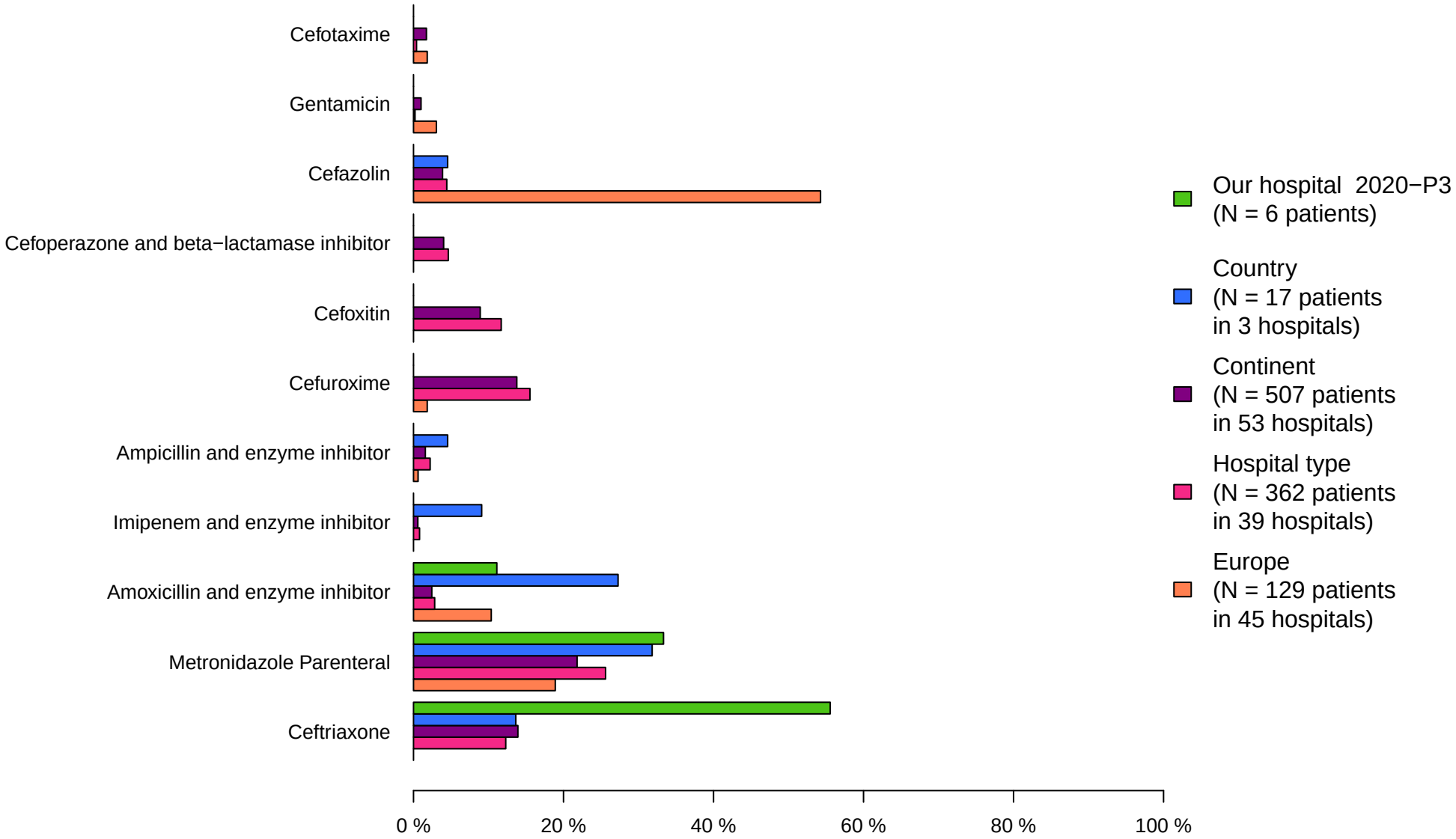
Top 5 most frequently used antibiotics for surgical prophylaxis in adults and children



Top 5 most prescribed antibacterials for systemic use (ATC code J01) for surgical prophylaxis use at hospital level, supplemented with the most prescribed antibiotics at country, continent and hospital type level if they do not fall within the top 5 of the hospital.
Selection on indication = SP; All patients are included with exception of patients admitted on NMW and NICU.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Top 5 most frequently used antibiotics for surgical prophylaxis of the gastro−intestinal tract in adults and children

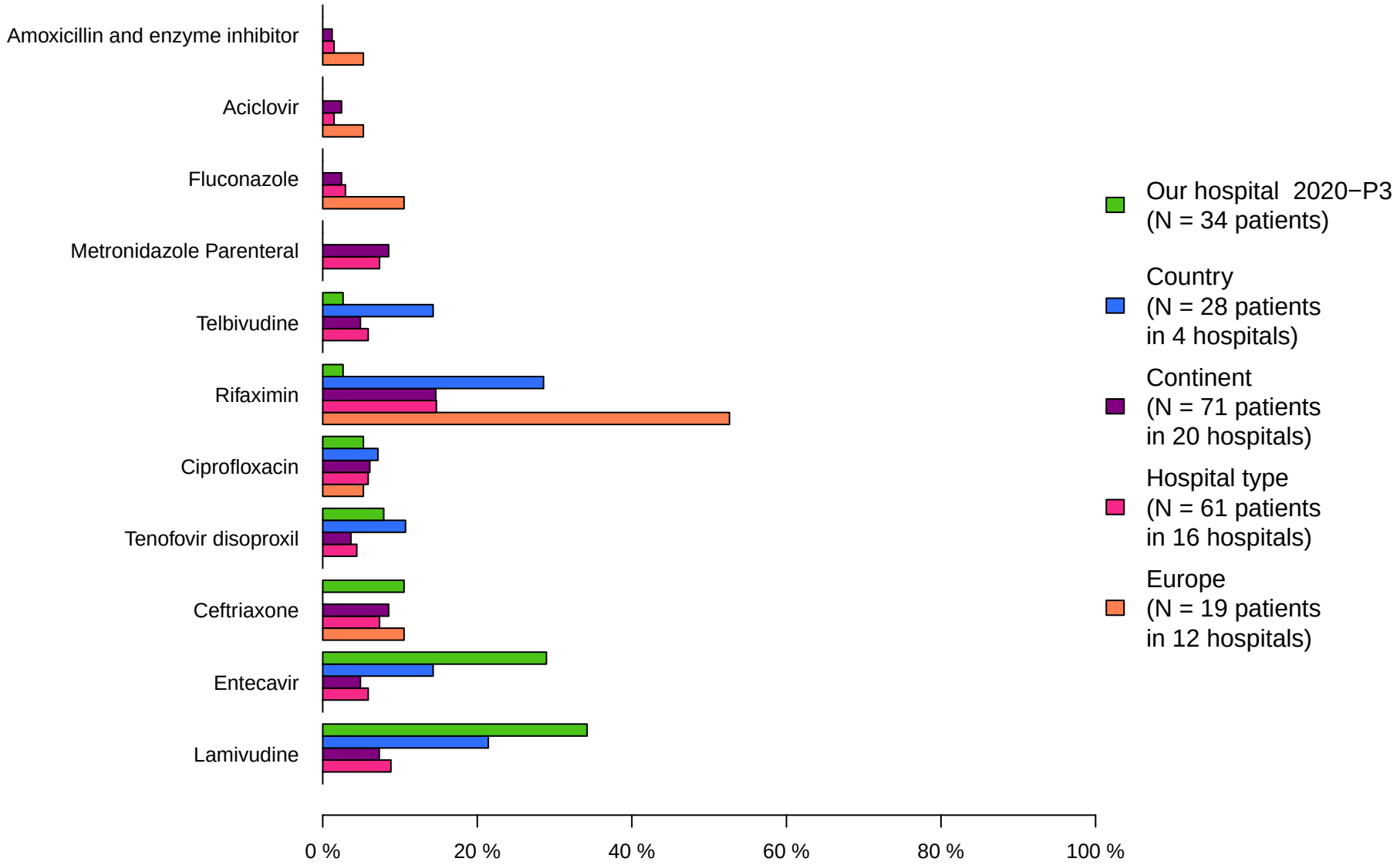


Selection on antibacterials for systemic use (J01). Top 5 antibiotics (ATC5, substance level) prescribed for surgical prophylaxis of the gastro−intestinal tract at hospital level, supplemented with the most prescribed antibiotics at country, continent and hospital type level if they do not fall within top 5 of the hospital. Selection on diagnostic code = Proph GI and indication = SP; All patients are included with exception of patients admitted on NMW and NICU.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital

If there are less than three participating hospitals, results are not reported

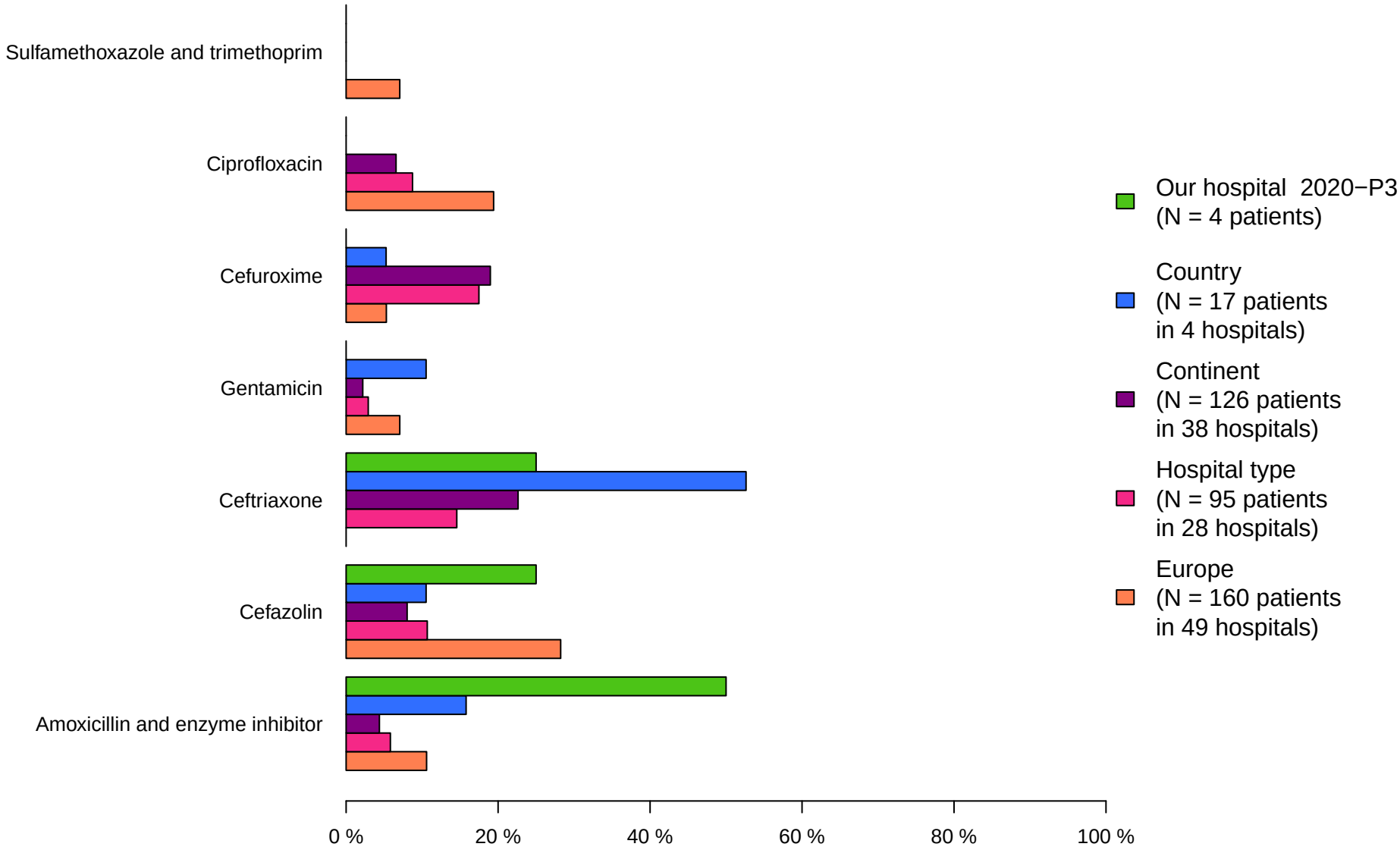
Top 5 most frequently used antimicrobials for medical prophylaxis of the gastro−intestinal tract



Top 5 antimicrobials (ATC5, substance level) prescribed for medical prophylaxis of the gastro−intestinal tract at hospital level, supplemented with the most prescribed antimicrobials at country, continent and hospital type level if they do not fall within top 5 of the hospital.
Selection on diagnostic code = Proph GI and indication = MP; All patients are included with exception of patients admitted on NMW and NICU.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Top 5 most frequently used antibiotics for surgical UTI prophylaxis

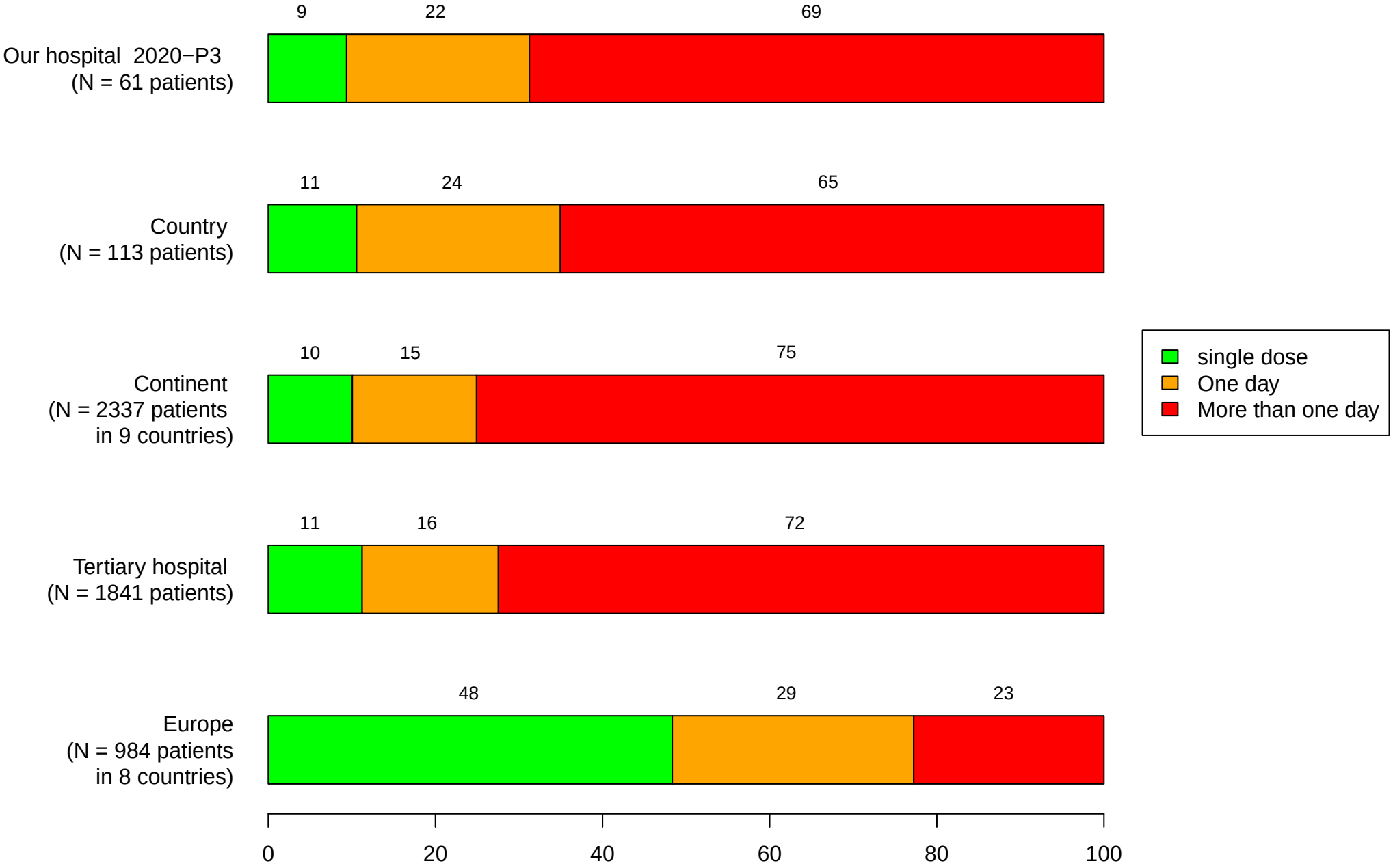


Selection on antibacterials for systemic use (J01). Top 5 antibiotics (ATC5, substance level) prescribed for surgical prophylaxis of the urinary tract at hospital level, supplemented with the most prescribed antibiotics at country, continent and hospital type level if they do not fall within top 5 of the hospital. Selection on diagnostic code = Proph UTI and indication = SP; All patients are included with exception of patients admitted on NMW and NICU.

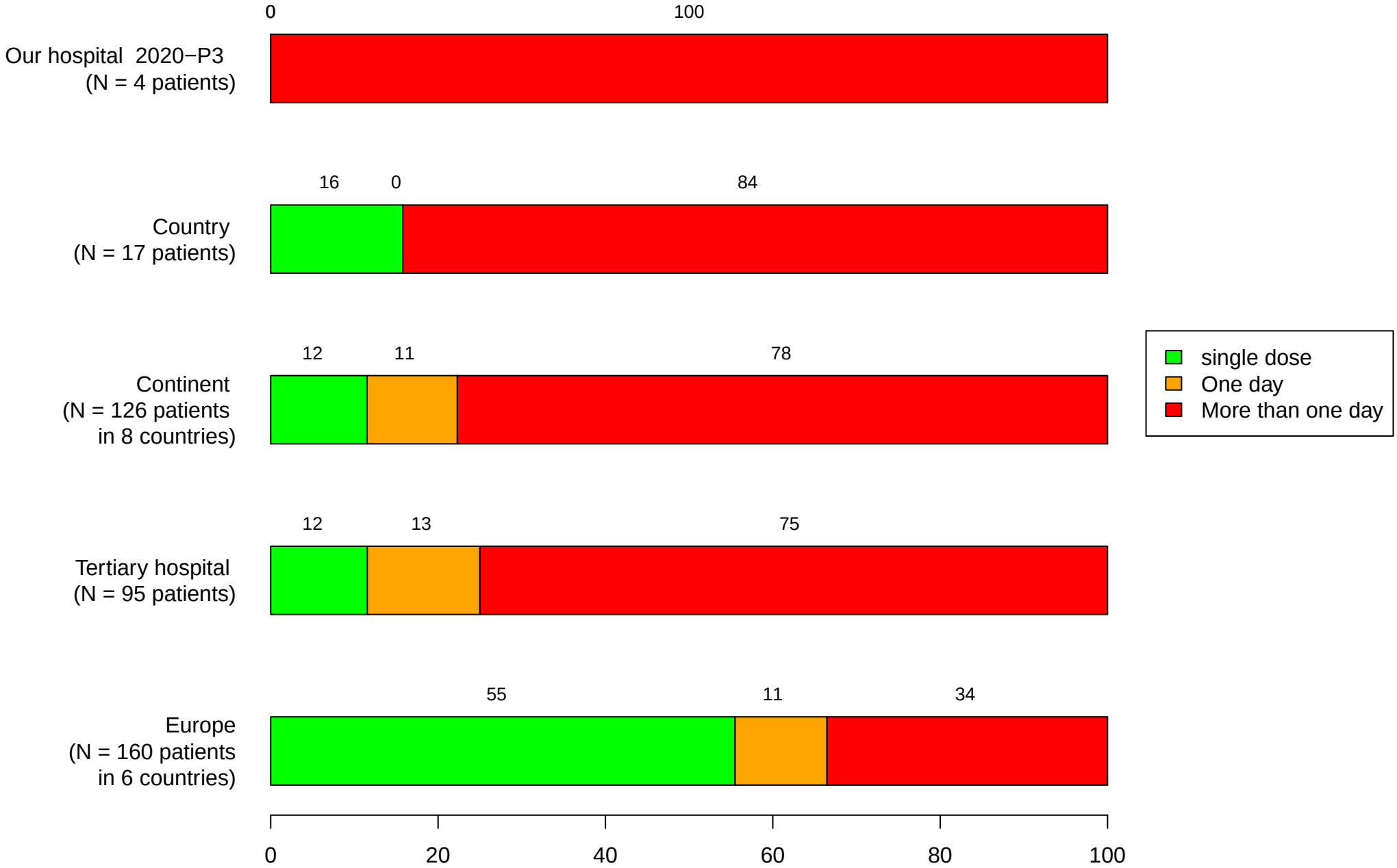
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital

If there are less than three participating hospitals, results are not reported

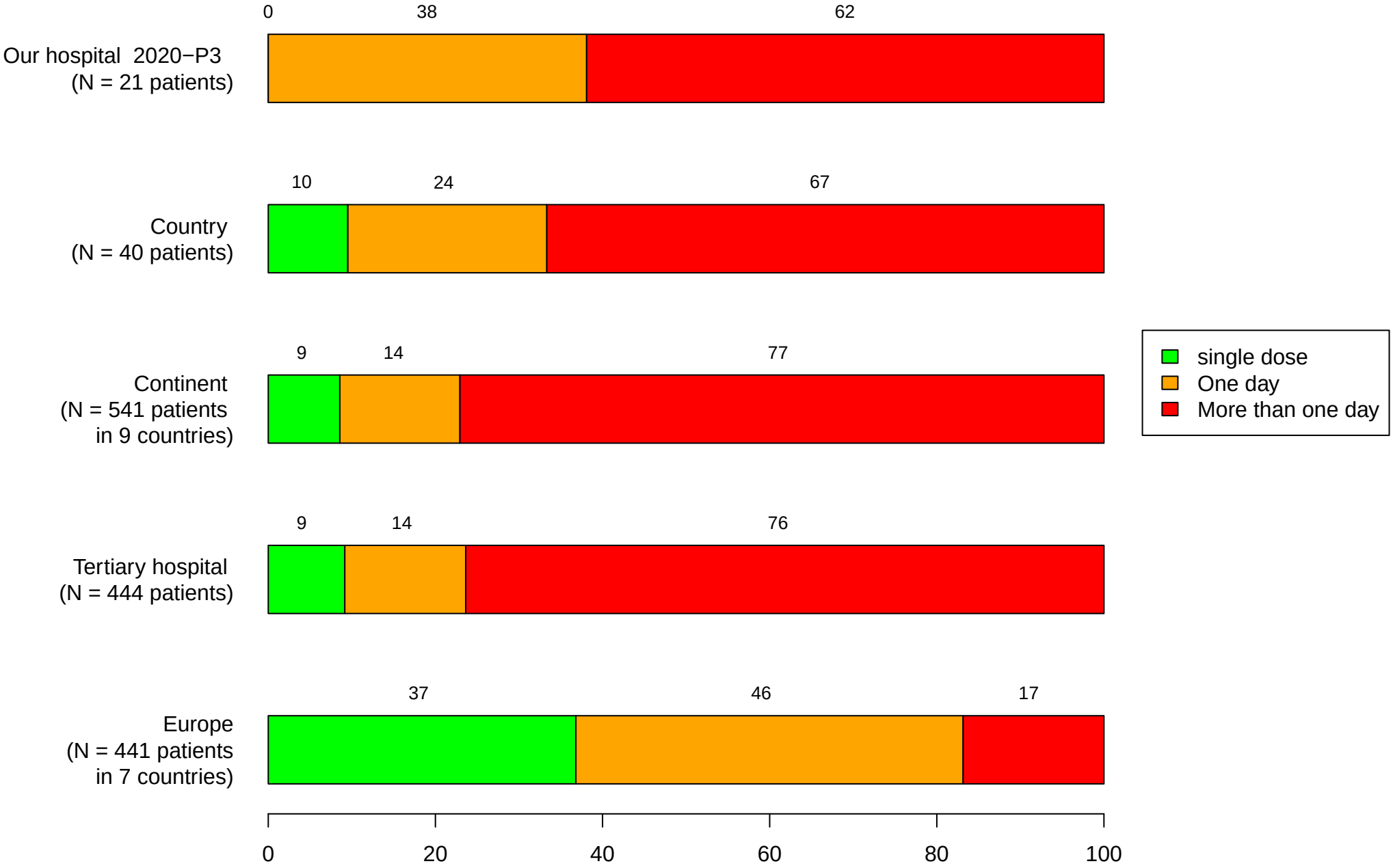
Duration of surgical prophylaxis in adults and children



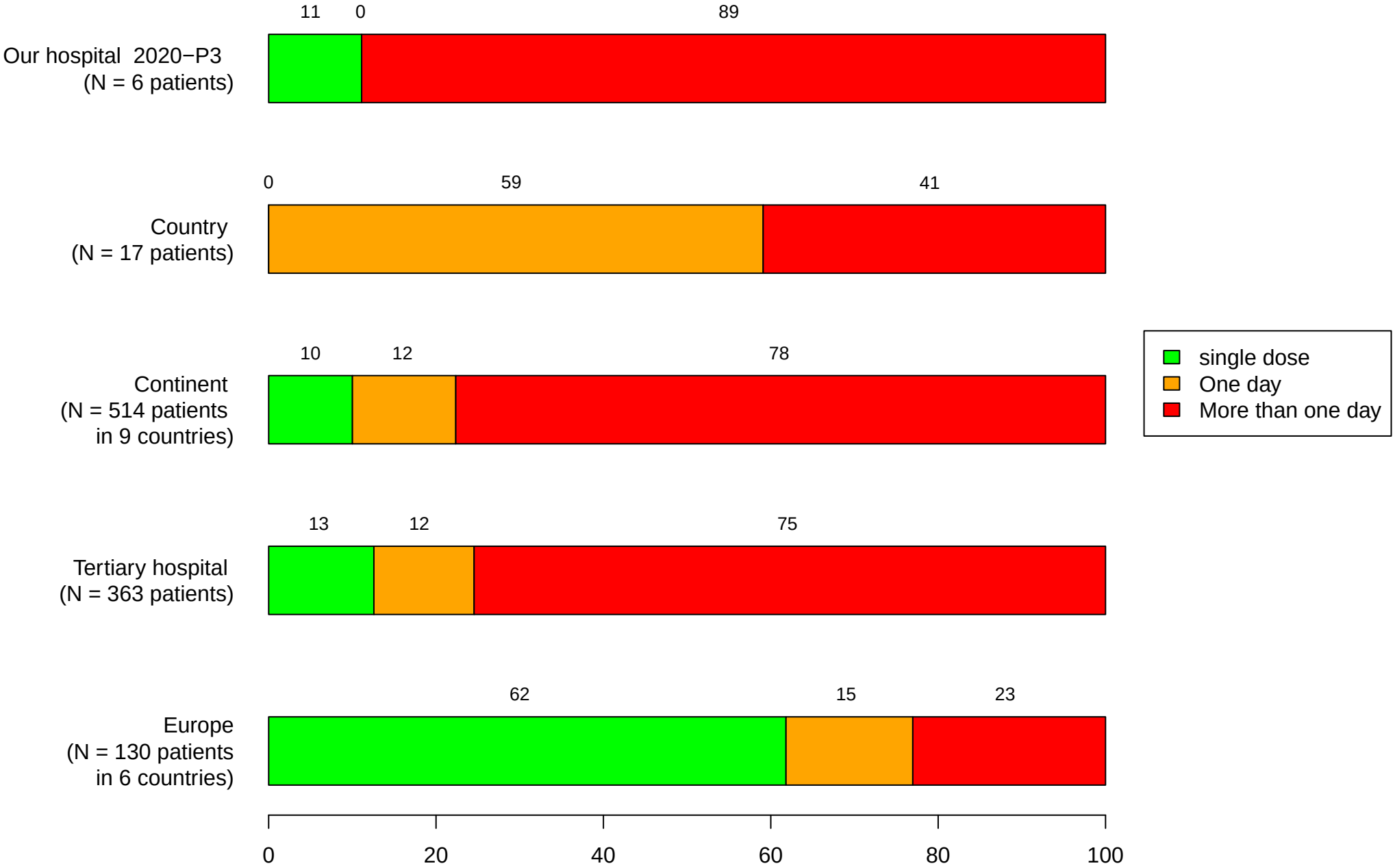
Duration of UTI prophylaxis in adults and children



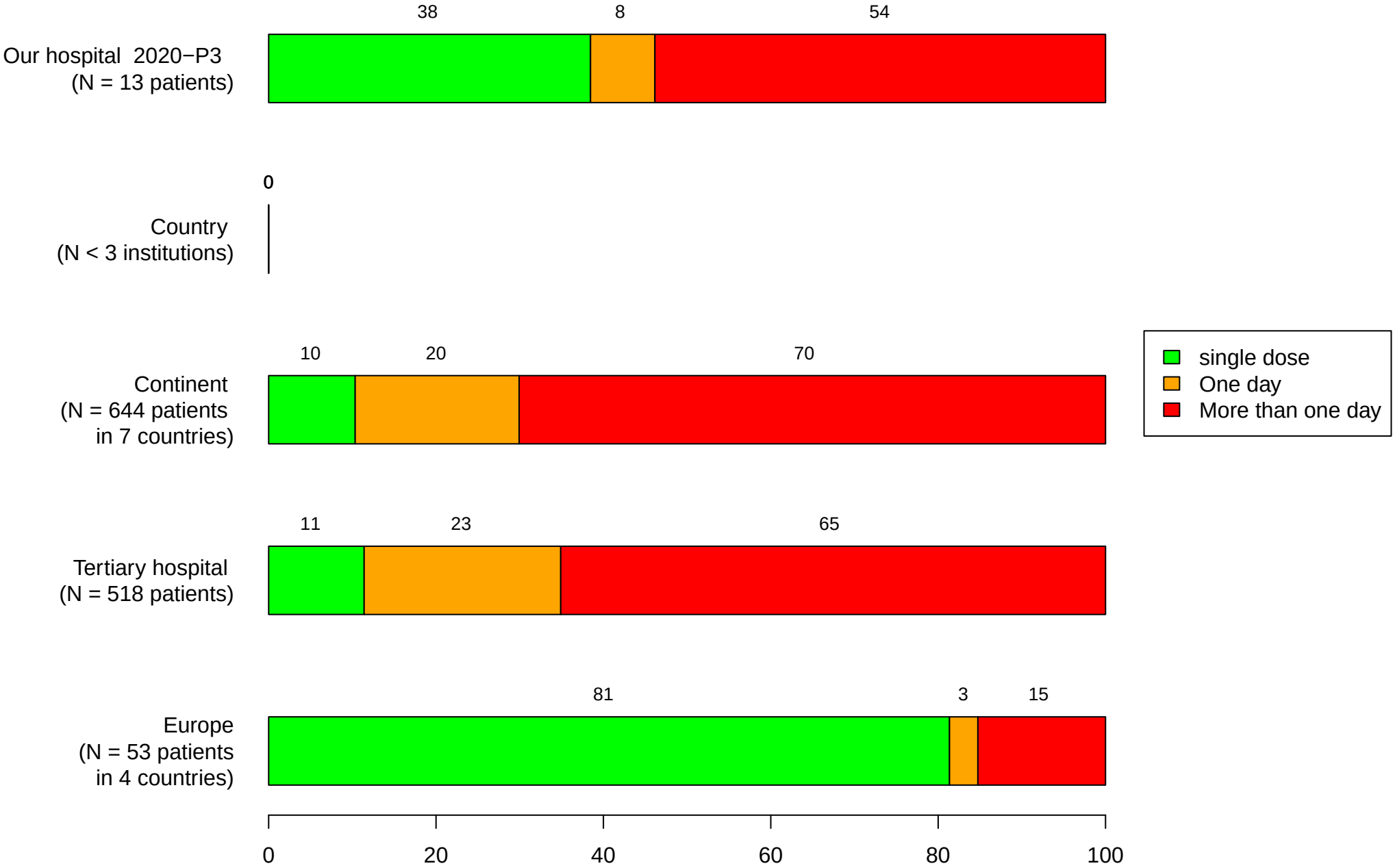
Duration of prophylaxis for plastic and orthopedic surgery in adults and children



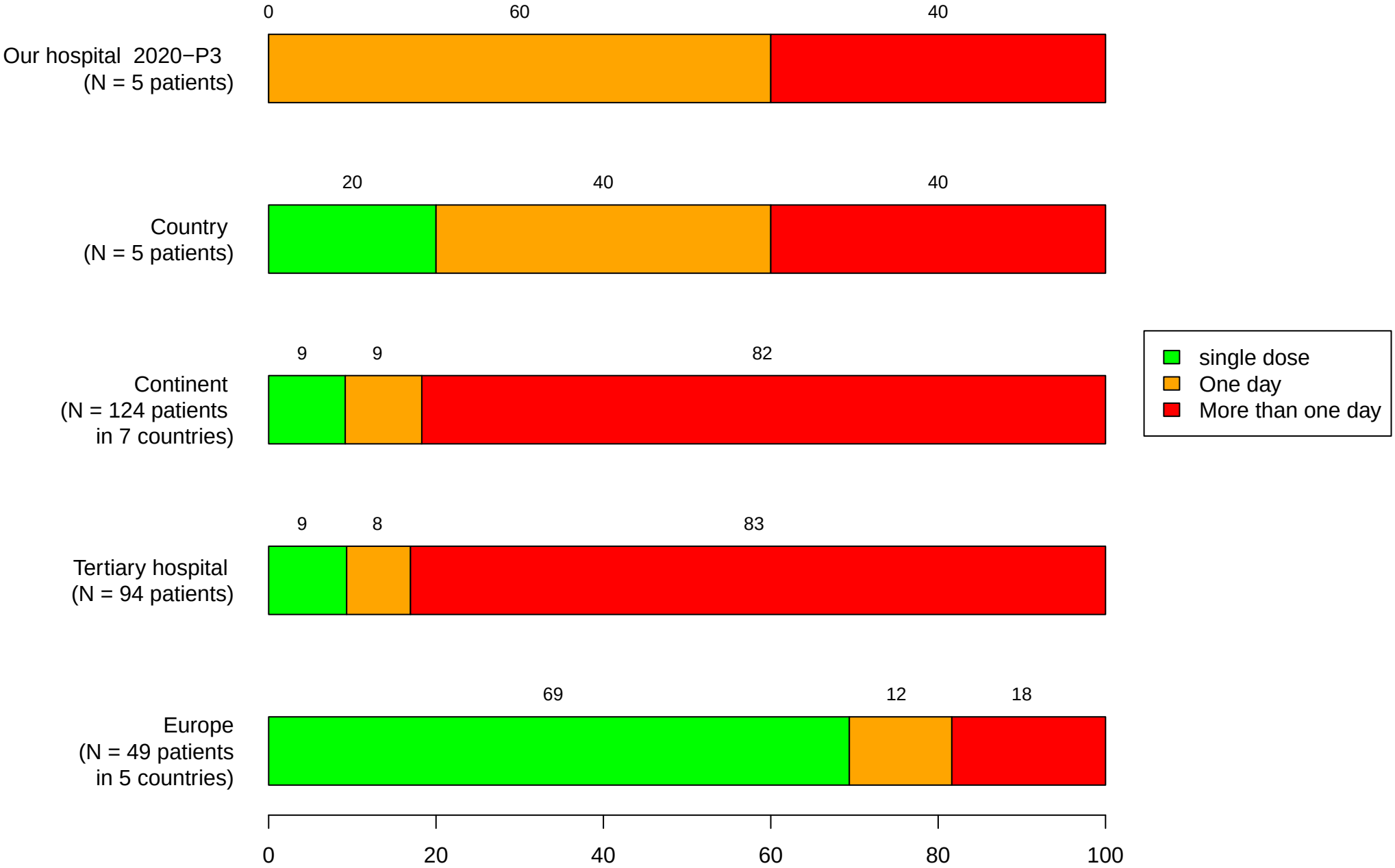
Duration of GI prophylaxis in adults and children



Duration of obstetric or gynaecological prophylaxis in adult wards



Duration of CNS prophylaxis in adults and children



Key prescription patterns (adults and children)

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
All patients										
IV therapy	304	70.4	1160	65.4	8557	78.8	6821	78.7	4808	69.8
Multiple ATB diagnosis	41	8.9	223	12.2	2597	23.1	2132	23.7	852	11.9
Multiple ATB patient	69	16.0	271	15.3	2895	26.7	2380	27.5	1055	15.3
Medical										
IV therapy	167	61.2	730	56.4	5005	69.0	3928	68.5	2774	59.8
Multiple ATB diagnosis	21	7.8	149	11.7	1514	22.2	1220	22.7	503	11.0
Multiple ATB patient	44	18.0	183	14.9	1696	25.8	1367	26.3	634	14.3
Surgical										
IV therapy	104	65.4	335	73.8	2397	74.5	1934	74.8	1473	76.6
Multiple ATB diagnosis	13	8.3	54	12.2	665	21.2	545	21.5	235	12.3
Multiple ATB patient	15	9.7	63	14.5	730	23.8	603	24.5	270	14.4
ICU										
IV therapy	33	91.7	95	82.6	1155	88.6	959	88.1	561	92.3
Multiple ATB diagnosis	7	19.4	20	17.4	418	32.4	367	34.0	114	17.8
Multiple ATB patient	10	30.3	25	23.4	469	38.7	410	40.6	151	25.3

Analyses at patient level. Patients admitted on a NMW and NICU are excluded.
Multiple ATB diagnosis is defined as receiving > 1 antibiotic (J01) for a single identified reason to treat (=diagnose code) at patient level.
Multiple ATB patient is defined as receiving > 1 antibiotic (J01) at patient level.

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Type of antibiotic treatment − Summary

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
All patients										
Empiric	364	73.8	1599	78.0	13209	89.4	10603	89.2	5649	71.9
Targetted	129	26.2	452	22.0	1560	10.6	1278	10.8	2213	28.1
Adults (>= 18 years)										
Empiric	341	73.5	1541	77.4	9682	87.6	7890	87.5	4890	71.0
Targetted	123	26.5	449	22.6	1365	12.4	1127	12.5	2002	29.0
Children (< 18 years)										
Empiric	20	76.9	53	98.1	2890	94.6	2132	94.5	707	79.0
Targetted	6	23.1	1	1.9	164	5.4	123	5.5	188	21.0
Neonates (NICU)										
Empiric	3	100.0	5	71.4	637	95.4	581	95.4	52	69.3
Targetted	0	0.0	2	28.6	31	4.6	28	4.6	23	30.7

Selection on antibiotic treatments.
N = number of antibiotics (J01) included per type of treatment and subgroup (all patients, adults, children and neonates).

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Type of antibiotic treatment by activity

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
All patients										
Empiric	254	66.5	1353	75.1	8523	85.3	6872	85.0	4173	66.1
Targetted	128	33.5	449	24.9	1473	14.7	1212	15.0	2141	33.9
Medical										
Empiric	160	67.8	997	76.9	6114	87.7	4816	87.6	2996	67.0
Targetted	76	32.2	300	23.1	858	12.3	679	12.4	1474	33.0
Surgical										
Empiric	61	57.0	270	70.3	1080	77.4	904	76.8	762	64.8
Targetted	46	43.0	114	29.7	315	22.6	273	23.2	414	35.2
ICU										
Empiric	33	84.6	86	71.1	1329	81.6	1152	81.6	415	62.1
Targetted	6	15.4	35	28.9	300	18.4	260	18.4	253	37.9

Selection on antibiotic treatments (prophylactic and unknown prescribing are excluded) by activity.
N = number of antibiotics (J01) included per type of treatment and activity (medical, surgical, ICU).

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Treatment based on microbiology data

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
MRSA	6	1.8	11	0.7	61	0.8	48	0.8	56	1.0
MRCoNS	7	2.1	3	0.2	30	0.4	28	0.5	50	0.9
VRE	1	0.3	2	0.1	8	0.1	8	0.1	6	0.1
ESBL	1	0.3	6	0.4	151	2.0	136	2.3	122	2.2
3GCREB	23	7.0	19	1.2	59	0.8	53	0.9	42	0.8
CRE	0	0.0	2	0.1	52	0.7	38	0.6	7	0.1
ESBL−NF	1	0.3	6	0.4	46	0.6	37	0.6	22	0.4
CR−NF	3	0.9	13	0.8	49	0.7	40	0.7	29	0.5
Other MDR	0	0.0	21	1.3	119	1.6	108	1.8	14	0.3
PNSP	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
MLS	3	0.9	0	0.0	1	0.0	1	0.0	16	0.3
Any of the above	42	12.8	74	4.7	508	6.7	437	7.3	334	6.1

N = the number of patients reported to have recieved a microbiology−based treatment.
% = 100*(the number of patients reported to have recieved a microbiology−based treatment/total number of patients receiving a therapeutic treatment (CAI or HAI) with at least one antibacterial for systemic use (J01)).

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prevalence (%) of Healthcare Associated Infections: Hospital−wide

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	153	504	1829	1512	1915
Denominator (N admitted patients)	912	4116	23656	18085	24550
HAI rate (%)	16.8	12.2	7.7	8.4	7.8
Post−operative surgical site infection (%)	1.1	1.2	1.0	1.1	1.4
Intervention related infection (%)	3.0	2.2	1.5	1.8	1.3
CDAD (%)	0.5	0.2	0.1	0.1	0.2
Other HAI (%)	10.9	6.4	4.1	4.3	4.1
HAI from another hospital (%)	0.8	0.5	0.5	0.6	0.3
HAI from LTCF or nursing home (%)	1.2	2.1	0.6	0.7	0.7

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prevalence (%) of Intervention−related versus Other Hospital−Associated Infections Hospital−wide

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	153	504	1829	1512	1915
Denominator (N admitted patients)	912	4116	23656	18085	24550
HAI rate (%)	16.8	12.2	7.7	8.4	7.8
Intervention−related infections (%)					
Mixed origin	0.3	2.1	1.3	1.5	0.5
CVC−BSI	0.9	0.0	0.1	0.0	0.2
PVC−BSI	0.0	0.0	0.0	0.0	0.0
Ventilator−Associated Pneumonia (VAP)	0.4	0.0	0.1	0.2	0.2
CAUTI	1.3	0.1	0.1	0.1	0.4
Other Hospital−Associated Infections (%)					
HAI of mixed or undefined origin	4.8	4.8	3.2	3.4	2.3
Blood Stream Infection (BSI)	1.0	0.1	0.1	0.1	0.2
Hospital−Acquired Pneumonia (not VAP)	4.1	1.2	0.7	0.7	0.9
Urinary Tract Infection (UTI)	1.4	0.2	0.1	0.1	0.6

CVC−BSI = Central Venous Catheter−related Blood Stream Infection
PVC−BSI = Peripheral Vascular Catheter−related Blood Stream Infection
CAUTI = Catheter−Associated Urinary Tract Infection

Intervention−related infections are scored by code HAI2 and Other Hospital−Associated Infections by HAI4 of the variable Indication

Prevalence (%) of Healthcare Associated Infections: Adult wards

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	148	499	1609	1315	1814
Denominator (N admitted patients)	809	3972	19578	15119	21860
HAI rate (%)	18.3	12.6	8.2	8.7	8.3
Post−operative surgical site infection (%)	1.2	1.3	1.1	1.2	1.6
Intervention related infection (%)	3.2	2.3	1.6	1.8	1.3
CDAD (%)	0.6	0.2	0.1	0.1	0.2
Other HAI (%)	11.6	6.5	4.4	4.3	4.3
HAI from another hospital (%)	0.9	0.5	0.5	0.5	0.3
HAI from LTCF or nursing home (%)	1.4	2.1	0.8	0.9	0.8

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prevalence (%) of Intervention−related versus Other Hospital−Associated Infections Adult Wards

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	148	499	1609	1315	1814
Denominator (N admitted patients)	809	3972	19578	15119	21860
HAI rate (%)	18.3	12.6	8.2	8.7	8.3
Intervention−related infections (%)					
Mixed origin	0.4	2.1	1.3	1.5	0.5
CVC−BSI	0.9	0.1	0.1	0.0	0.2
PVC−BSI	0.0	0.0	0.0	0.0	0.0
Ventilator−Associated Pneumonia (VAP)	0.5	0.0	0.1	0.1	0.2
CAUTI	1.5	0.1	0.1	0.1	0.4
Other Hospital−Associated Infections (%)					
HAI of mixed or undefined origin	4.9	4.9	3.3	3.4	2.4
Blood Stream Infection (BSI)	1.1	0.1	0.1	0.1	0.2
Hospital−Acquired Pneumonia (not VAP)	4.4	1.3	0.8	0.7	1.1
Urinary Tract Infection (UTI)	1.6	0.3	0.1	0.1	0.7

CVC−BSI = Central Venous Catheter−related Blood Stream Infection
PVC−BSI = Peripheral Vascular Catheter−related Blood Stream Infection
CAUTI = Catheter−Associated Urinary Tract Infection

Intervention−related infections are scored by code HAI2 and Other Hospital−Associated Infections by HAI4 of the variable Indication

Prevalence (%) of Healthcare Associated Infections: Child and Neonatal Wards

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	5		220	197	101
Denominator (N admitted patients)	103		4078	2966	2690
HAI rate (%)	4.9		5.4	6.6	3.8
Post−operative surgical site infection (%)	0.0		0.3	0.3	0.4
Intervention related infection (%)	1.0		1.4	1.8	1.2
CDAD (%)	0.0		0.0	0.1	0.0
Other HAI (%)	4.9		3.1	3.8	1.9
HAI from another hospital (%)	0.0		0.5	0.7	0.3
HAI from LTCF or nursing home (%)	0.0		0.1	0.2	0.0

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prevalence (%) of Intervention−related versus Other Hospital−Associated Infections Child and Neonatal Wards

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	5		220	197	101
Denominator (N admitted patients)	103		4078	2966	2690
HAI rate (%)	4.9		5.4	6.6	3.8
Intervention−related infections (%)					
Mixed origin	0.0		1.1	1.4	0.5
CVC−BSI	1.0		0.1	0.1	0.5
PVC−BSI	0.0		0.0	0.0	0.0
Ventilator−Associated Pneumonia (VAP)	0.0		0.2	0.3	0.1
CAUTI	0.0		0.0	0.0	0.1
Other Hospital−Associated Infections (%)					
HAI of mixed or undefined origin	3.9		2.8	3.4	1.6
Blood Stream Infection (BSI)	0.0		0.1	0.2	0.3
Hospital−Acquired Pneumonia (not VAP)	1.0		0.2	0.3	0.0
Urinary Tract Infection (UTI)	0.0		0.0	0.0	0.0

CVC−BSI = Central Venous Catheter−related Blood Stream Infection
PVC−BSI = Peripheral Vascular Catheter−related Blood Stream Infection
CAUTI = Catheter−Associated Urinary Tract Infection

Intervention−related infections are scored by code HAI2 and Other Hospital−Associated Infections by HAI4 of the variable Indication

Prevalence (%) of Healthcare Associated Infections: Adult − ICU

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	14	40	262	224	262
Denominator (N admitted patients)	59	157	1649	1331	1001
HAI rate (%)	23.7	25.5	15.9	16.8	26.2
Post−operative surgical site infection (%)	0.0	1.3	1.6	1.7	3.1
Intervention related infection (%)	6.8	7.0	5.2	5.5	8.9
CDAD (%)	1.7	0.6	0.4	0.5	0.1
Other HAI (%)	18.6	16.6	7.8	8.0	12.8
HAI from another hospital (%)	0.0	1.3	1.3	1.5	0.8
HAI from LTCF or nursing home (%)	0.0	0.0	0.2	0.2	1.0

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prevalence (%) of Intervention−related versus Other Hospital−Associated Infections
Adult − ICU

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	14	40	262	224	262
Denominator (N admitted patients)	59	157	1649	1331	1001
HAI rate (%)	23.7	25.5	15.9	16.8	26.2
Intervention−related infections (%)					
Mixed origin	0.0	7.0	3.8	4.0	3.2
CVC−BSI	1.7	0.0	0.1	0.2	0.6
PVC−BSI	0.0	0.0	0.0	0.0	0.1
Ventilator−Associated Pneumonia (VAP)	5.1	0.0	1.0	1.3	4.4
CAUTI	0.0	0.0	0.2	0.1	1.0
Other Hospital−Associated Infections (%)					
HAI of mixed or undefined origin	10.2	15.9	5.8	5.9	6.9
Blood Stream Infection (BSI)	1.7	0.0	0.7	0.9	0.6
Hospital−Acquired Pneumonia (not VAP)	8.5	0.6	1.6	1.5	5.1
Urinary Tract Infection (UTI)	0.0	0.0	0.1	0.2	0.3

CVC−BSI = Central Venous Catheter−related Blood Stream Infection
PVC−BSI = Peripheral Vascular Catheter−related Blood Stream Infection
CAUTI = Catheter−Associated Urinary Tract Infection

Intervention−related infections are scored by code HAI2 and Other Hospital−Associated Infections by HAI4 of the variable Indication

Prevalence (%) of Healthcare Associated Infections: Adult Medical Wards

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	116	364	1000	779	1118
Denominator (N admitted patients)	604	2927	13284	9841	14889
HAI rate (%)	19.2	12.4	7.5	7.9	7.5
Post−operative surgical site infection (%)	1.2	0.8	0.4	0.5	0.6
Intervention related infection (%)	3.1	2.4	1.2	1.4	0.9
CDAD (%)	0.7	0.3	0.1	0.1	0.2
Other HAI (%)	11.9	6.3	4.5	4.5	4.6
HAI from another hospital (%)	1.2	0.4	0.4	0.5	0.3
HAI from LTCF or nursing home (%)	1.7	2.7	1.0	1.2	1.0

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prevalence (%) of Intervention−related versus Other Hospital−Associated Infections
Adult Medical Wards

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	116	364	1000	779	1118
Denominator (N admitted patients)	604	2927	13284	9841	14889
HAI rate (%)	19.2	12.4	7.5	7.9	7.5
Intervention−related infections (%)					
Mixed origin	0.5	2.2	1.0	1.2	0.3
CVC−BSI	0.8	0.0	0.0	0.0	0.2
PVC−BSI	0.0	0.0	0.0	0.0	0.0
Ventilator−Associated Pneumonia (VAP)	0.2	0.0	0.0	0.0	0.0
CAUTI	1.7	0.1	0.1	0.1	0.4
Other Hospital−Associated Infections (%)					
HAI of mixed or undefined origin	4.8	4.4	3.4	3.6	2.5
Blood Stream Infection (BSI)	1.2	0.1	0.1	0.1	0.2
Hospital−Acquired Pneumonia (not VAP)	4.6	1.5	0.9	0.7	1.0
Urinary Tract Infection (UTI)	1.8	0.3	0.1	0.1	0.8

CVC−BSI = Central Venous Catheter−related Blood Stream Infection
PVC−BSI = Peripheral Vascular Catheter−related Blood Stream Infection
CAUTI = Catheter−Associated Urinary Tract Infection

Intervention−related infections are scored by code HAI2 and Other Hospital−Associated Infections by HAI4 of the variable Indication

Prevalence (%) of Healthcare Associated Infections: Adult Surgical Ward

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	18	95	347	312	434
Denominator (N admitted patients)	146	888	4645	3947	5970
HAI rate (%)	12.3	10.7	7.5	7.9	7.3
Post−operative surgical site infection (%)	2.1	2.9	2.9	2.9	3.6
Intervention related infection (%)	2.1	1.1	1.4	1.6	1.0
CDAD (%)	0.0	0.0	0.1	0.1	0.1
Other HAI (%)	7.5	5.7	2.7	2.8	2.2
HAI from another hospital (%)	0.0	0.6	0.3	0.4	0.4
HAI from LTCF or nursing home (%)	0.7	0.6	0.2	0.3	0.2

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Prevalence (%) of Intervention−related versus Other Hospital−Associated Infections
Adult Surgical Ward

	Hospital 2020−P3	Country	Continent	Hospital type	Europe
Numerator (N patients)	18	95	347	312	434
Denominator (N admitted patients)	146	888	4645	3947	5970
HAI rate (%)	12.3	10.7	7.5	7.9	7.3
Intervention−related infections (%)					
Mixed origin	0.0	0.9	1.2	1.4	0.5
CVC−BSI	0.7	0.1	0.0	0.0	0.1
PVC−BSI	0.0	0.0	0.0	0.1	0.1
Ventilator−Associated Pneumonia (VAP)	0.0	0.0	0.0	0.0	0.1
CAUTI	1.4	0.1	0.0	0.1	0.3
Other Hospital−Associated Infections (%)					
HAI of mixed or undefined origin	3.4	4.8	2.1	2.3	1.4
Blood Stream Infection (BSI)	0.7	0.1	0.1	0.1	0.1
Hospital−Acquired Pneumonia (not VAP)	2.1	0.7	0.5	0.5	0.4
Urinary Tract Infection (UTI)	1.4	0.2	0.1	0.1	0.3

CVC−BSI = Central Venous Catheter−related Blood Stream Infection
PVC−BSI = Peripheral Vascular Catheter−related Blood Stream Infection
CAUTI = Catheter−Associated Urinary Tract Infection

Intervention−related infections are scored by code HAI2 and Other Hospital−Associated Infections by HAI4 of the variable Indication

Invasive device use hospital−wide

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
N total admitted patients	912				1853		1756		11452	
N admitted patients with:										
PVC	483	53.0			1411	76.1	1314	74.8	4144	36.2
CVC	121	13.3			83	4.5	83	4.7	712	6.2
Indwelling UC	116	12.7			216	11.7	216	12.3	1350	11.8
Tubes/Drains	83	9.1			174	9.4	174	9.9	712	6.2
IRI	41	4.5			64	3.5	64	3.6	163	1.4
CiPAP−BiPAP	0	0.0			3	0.2	3	0.2	16	0.1

CVC = Central Venous Catheter; PVC = Peripheral Vascular Catheter;
UC = Urinary Catheter; IRI = Invasive endotracheal Respiratory Intubation;
CiPAP, BiPAP = Non−invasive mechanical ventilation

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Invasive device use − Adult wards

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
N total admitted patients	809				1653		1572		10615	
N admitted patients with:										
PVC	450	55.6			1306	79.0	1225	77.9	3866	36.4
CVC	106	13.1			79	4.8	79	5.0	693	6.5
Indwelling UC	112	13.8			206	12.5	206	13.1	1343	12.7
Tubes/Drains	79	9.8			164	9.9	164	10.4	660	6.2
IRI	37	4.6			58	3.5	58	3.7	154	1.5
CiPAP−BiPAP	0	0.0			3	0.2	3	0.2	16	0.2

CVC = Central Venous Catheter; PVC = Peripheral Vascular Catheter;
UC = Urinary Catheter; IRI = Invasive endotracheal Respiratory Intubation;
CiPAP, BiPAP = Non−invasive mechanical ventilation

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Invasive device use − Adult ICU

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
N total admitted patients	59				187		181		448	
N admitted patients with:										
PVC	40	67.8			171	91.4	165	91.2	265	59.2
CVC	30	50.8			37	19.8	37	20.4	255	56.9
Indwelling UC	25	42.4			80	42.8	80	44.2	318	71.0
Tubes/Drains	7	11.9			43	23.0	43	23.8	120	26.8
IRI	22	37.3			34	18.2	34	18.8	117	26.1
CiPAP−BiPAP	0	0.0			3	1.6	3	1.7	4	0.9

CVC = Central Venous Catheter; PVC = Peripheral Vascular Catheter;
UC = Urinary Catheter; IRI = Invasive endotracheal Respiratory Intubation;
CiPAP, BiPAP = Non−invasive mechanical ventilation

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Invasive device use − Adult medical wards

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
N total admitted patients	604				1087		1047		7701	
N admitted patients with:										
PVC	312	51.7			823	75.7	783	74.8	2482	32.2
CVC	67	11.1			41	3.8	41	3.9	306	4.0
Indwelling UC	57	9.4			77	7.1	77	7.4	686	8.9
Tubes/Drains	40	6.6			97	8.9	97	9.3	163	2.1
IRI	6	1.0			23	2.1	23	2.2	20	0.3
CiPAP−BiPAP	0	0.0			0	0.0	0	0.0	12	0.2

CVC = Central Venous Catheter; PVC = Peripheral Vascular Catheter;
UC = Urinary Catheter; IRI = Invasive endotracheal Respiratory Intubation;
CiPAP, BiPAP = Non−invasive mechanical ventilation

Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

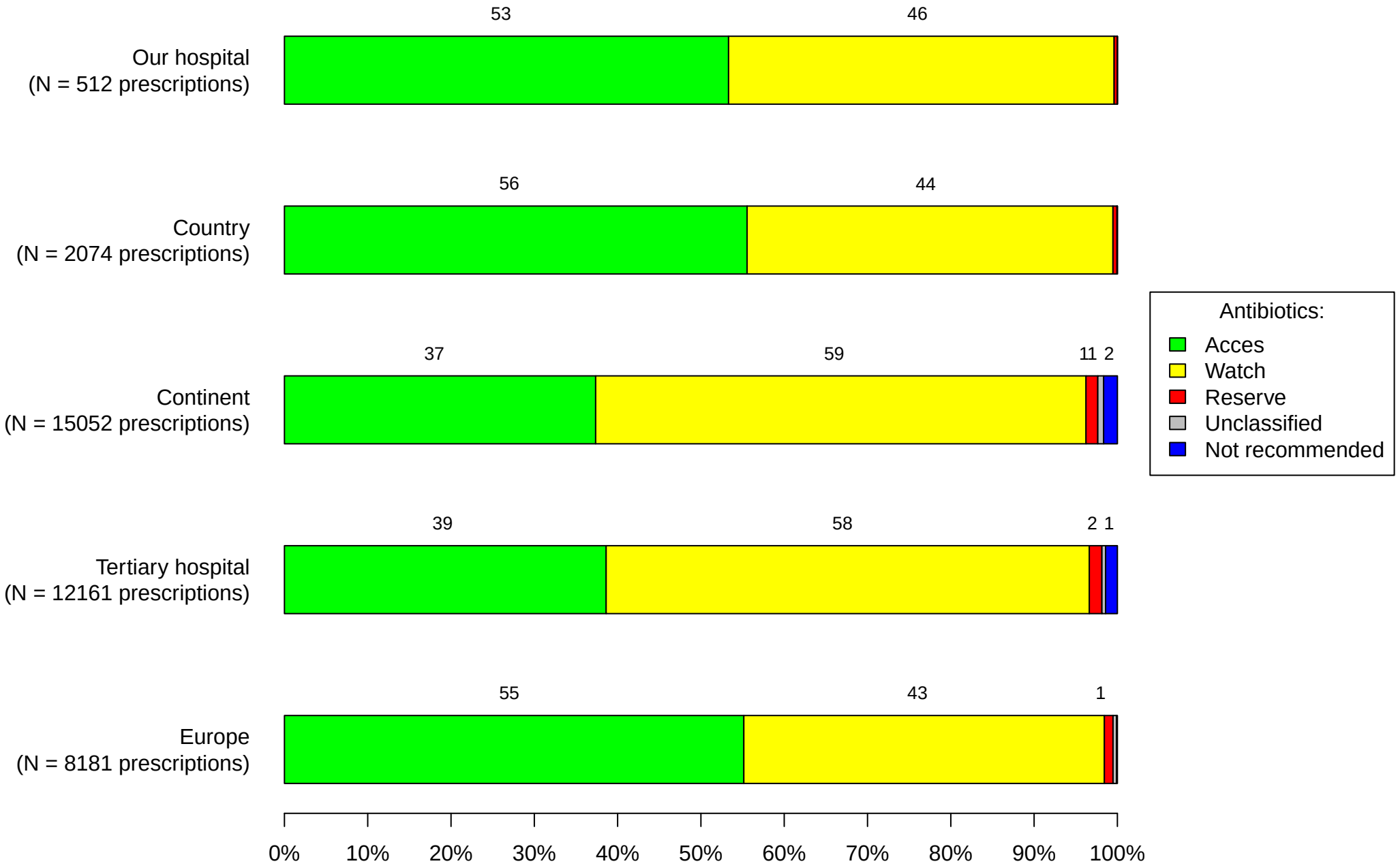
Invasive device use − Adult surgical ward

	Our hospital 2020−P3		Country		Continent		Hospital type		Europe	
	N	%	N	%	N	%	N	%	N	%
N total admitted patients	146				379		344		2466	
N admitted patients with:										
PVC	98	67.1			312	82.3	277	80.5	1119	45.4
CVC	9	6.2			1	0.3	1	0.3	132	5.4
Indwelling UC	30	20.5			49	12.9	49	14.2	339	13.7
Tubes/Drains	32	21.9			24	6.3	24	7.0	377	15.3
IRI	9	6.2			1	0.3	1	0.3	17	0.7
CiPAP−BiPAP	0	0.0			0	0.0	0	0.0	0	0.0

CVC = Central Venous Catheter; PVC = Peripheral Vascular Catheter;
UC = Urinary Catheter; IRI = Invasive endotracheal Respiratory Intubation;
CiPAP, BiPAP = Non−invasive mechanical ventilation

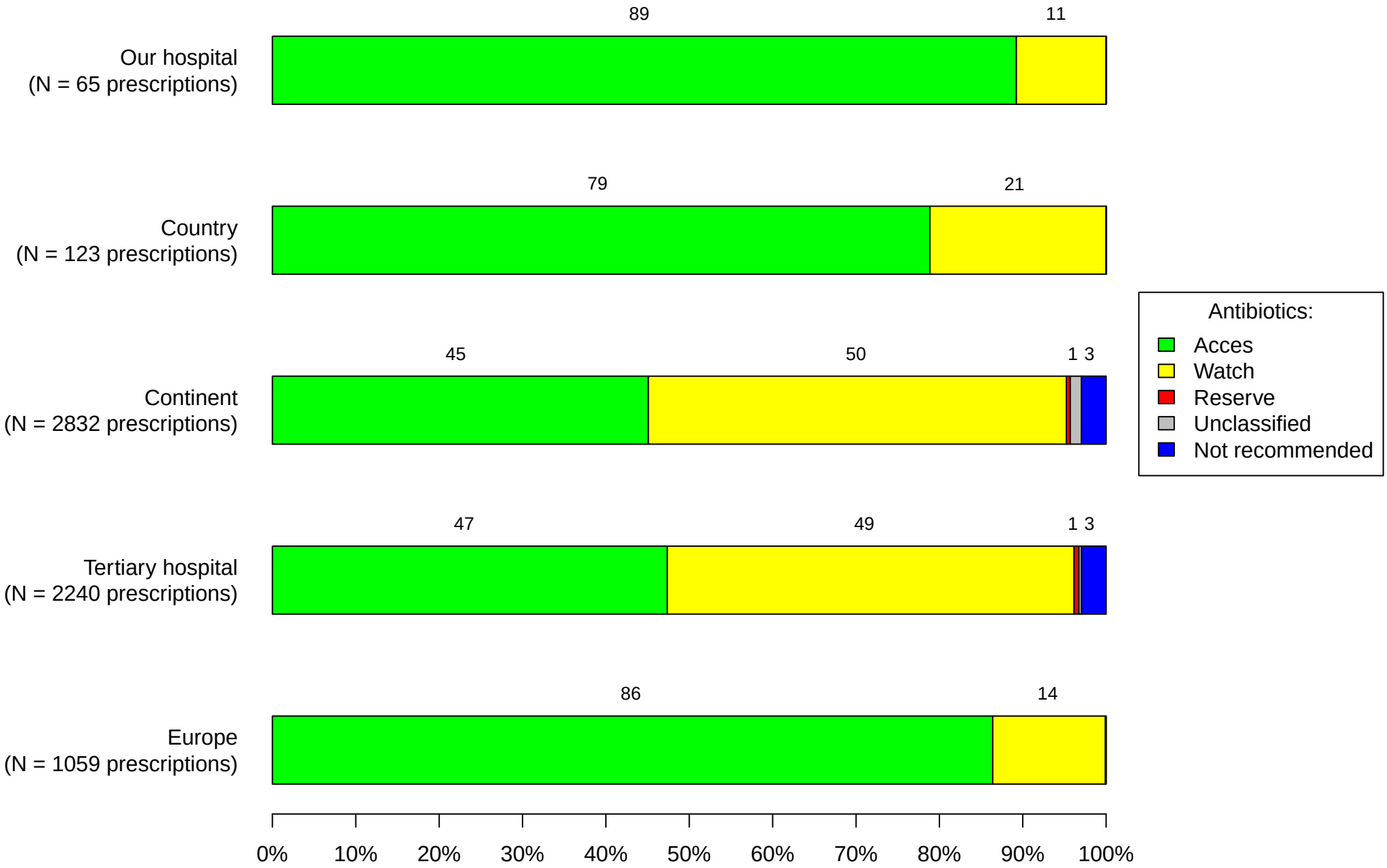
Country: Country ; Continent: Continent ; Hospital type: Tertiary hospital
If there are less than three participating hospitals, results are not reported.

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification

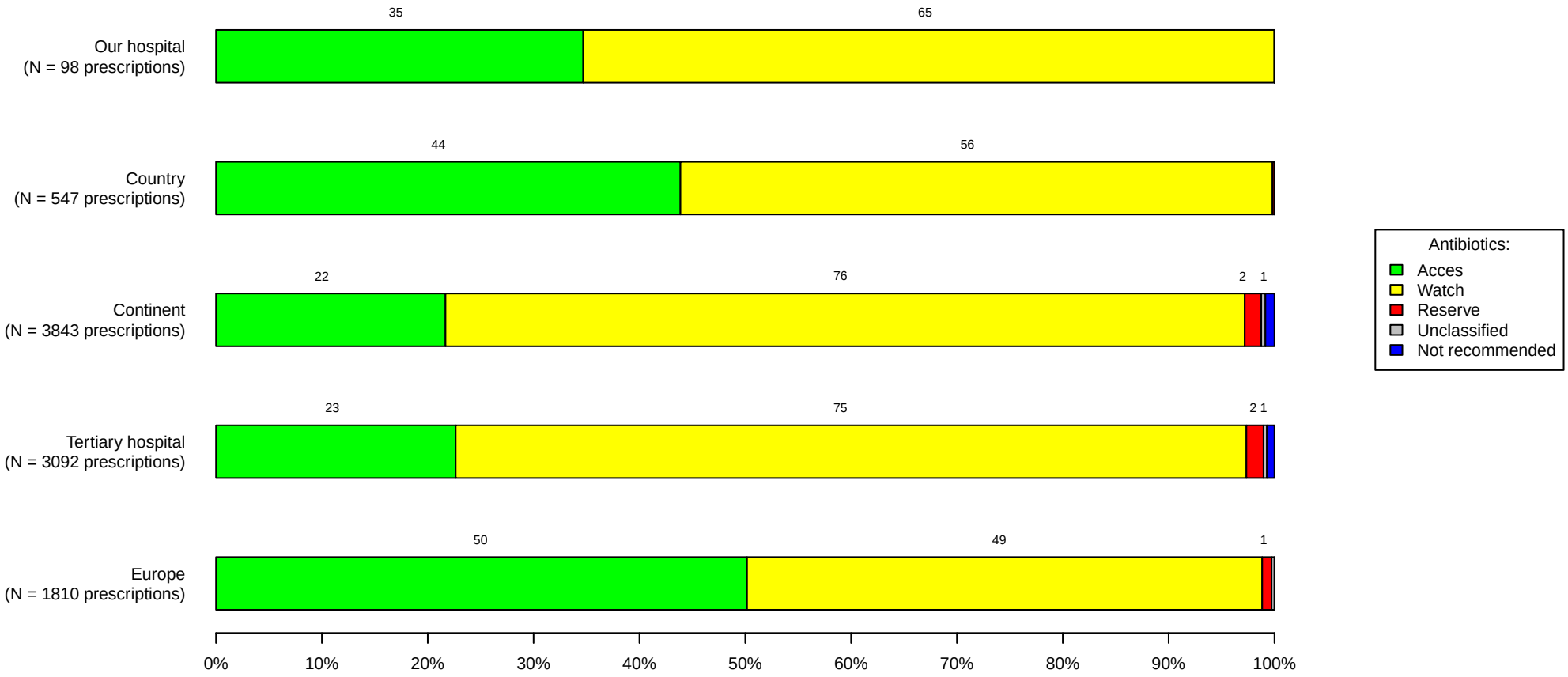


Antibiotic use (ATC J01) by activity according to the WHO AWaRe classification

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification − surgical prophylaxis

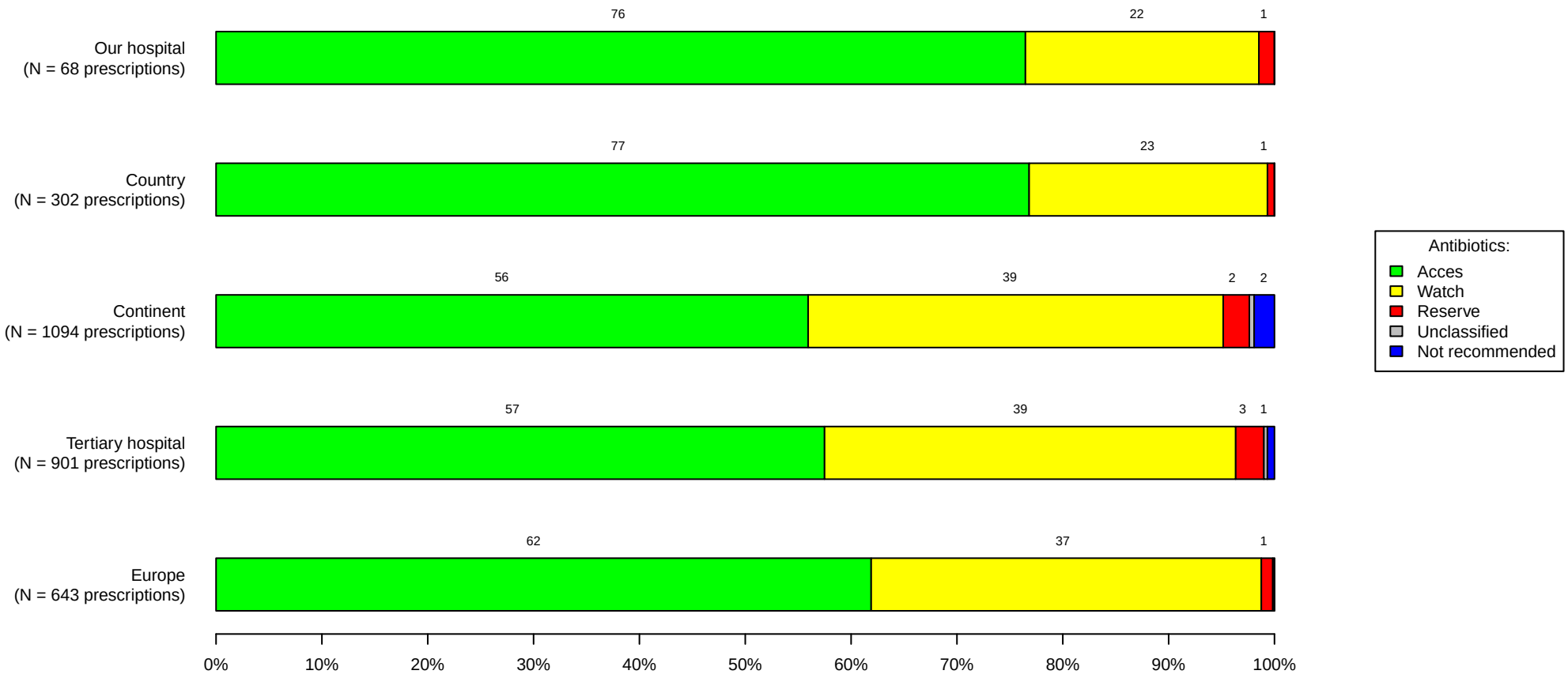


Overall antibiotic use (ATC J01) according to the WHO AWaRe classification – pneumonia



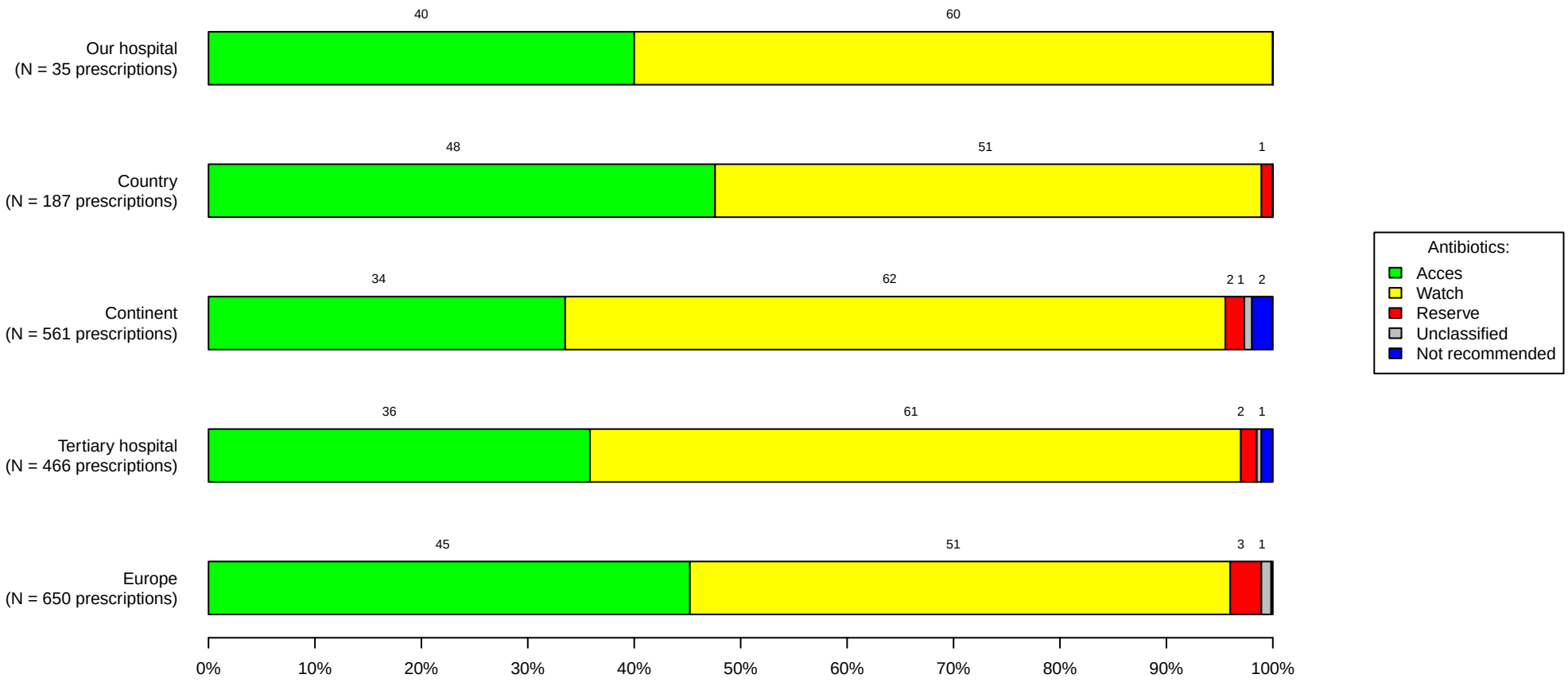
Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification – skin and soft tissue infections



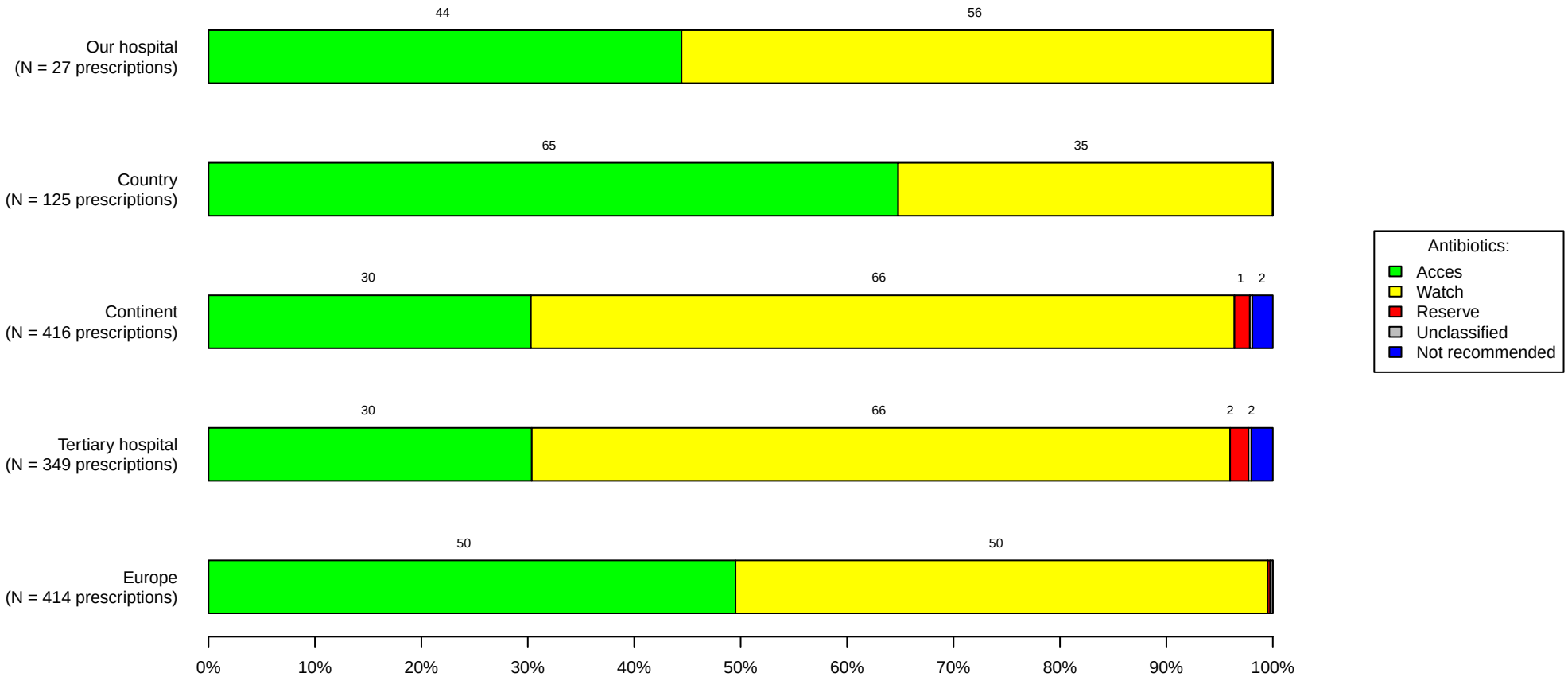
Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification − intra−abdominal sepsis



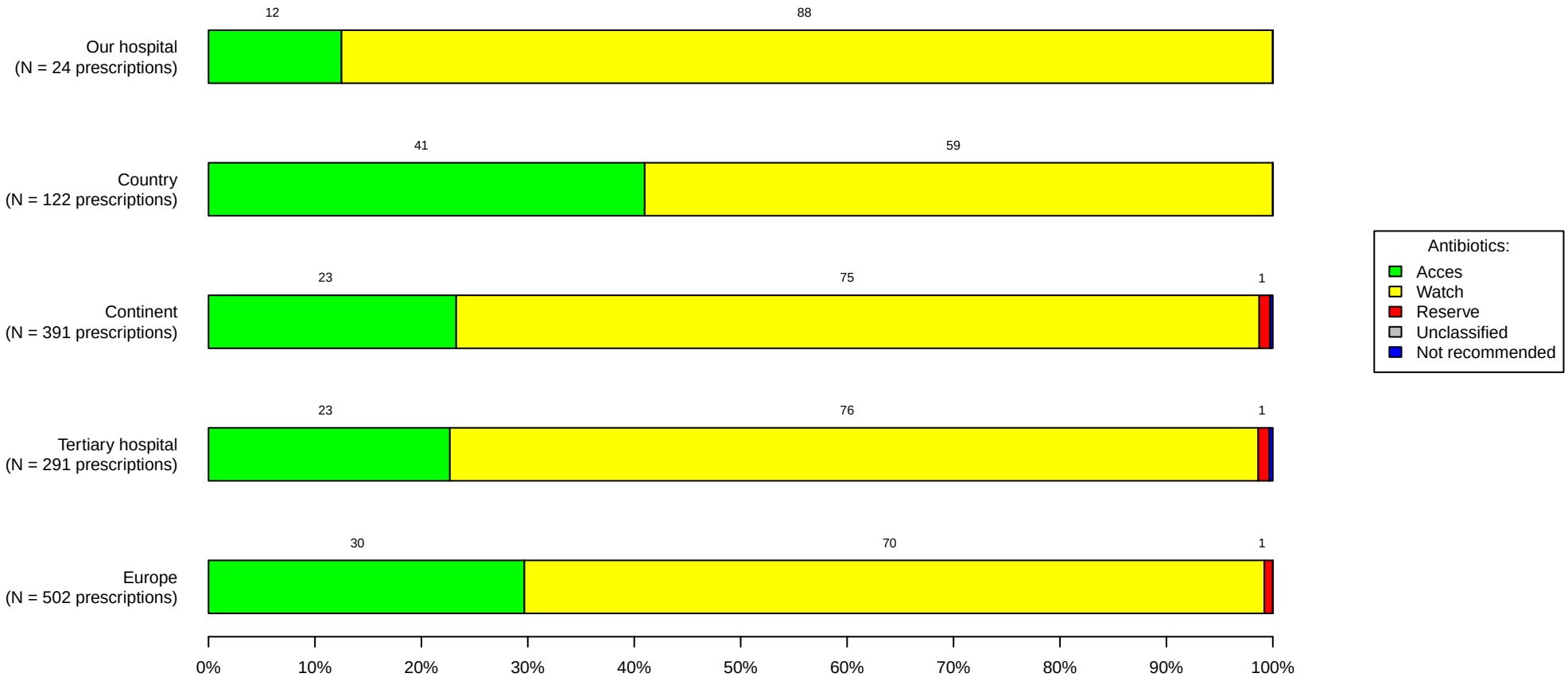
Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification – lower urinary tract infections



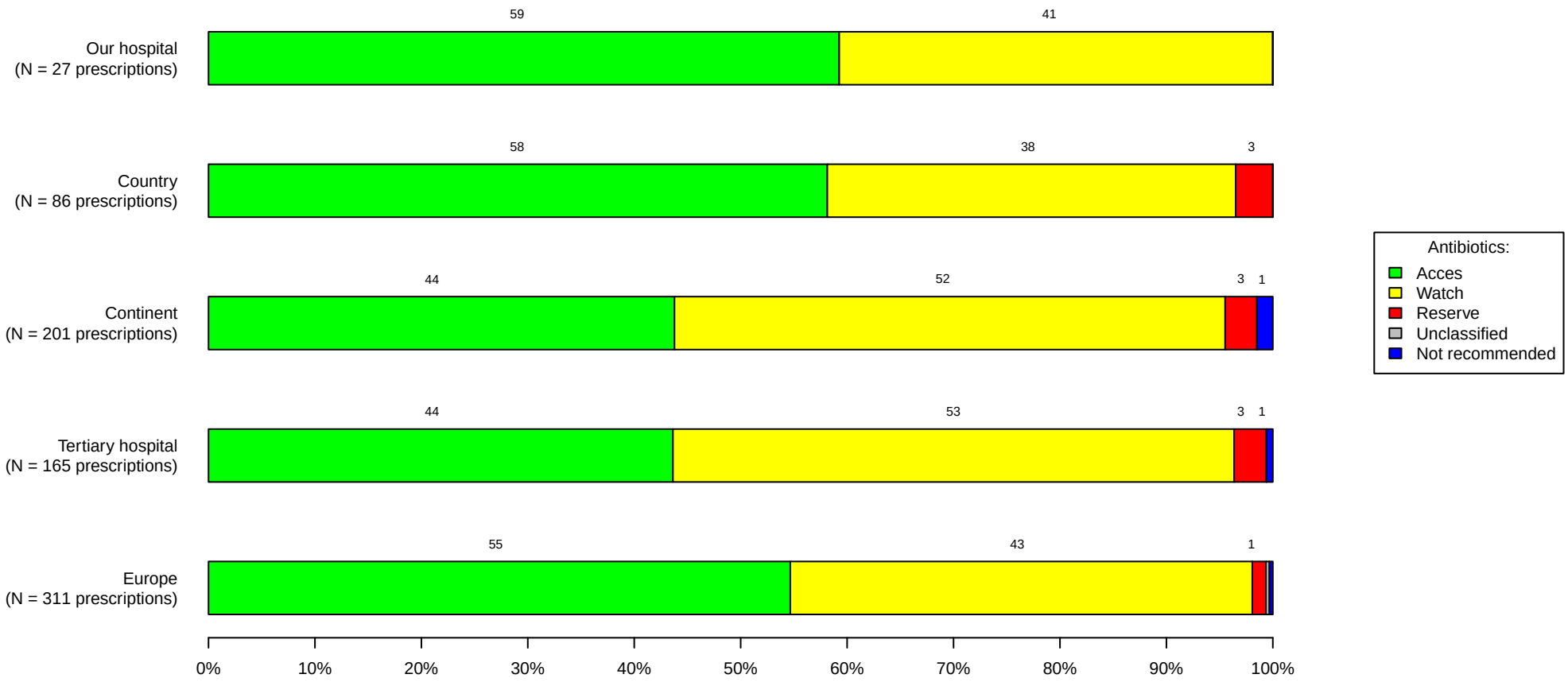
Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification – upper urinary tract infections



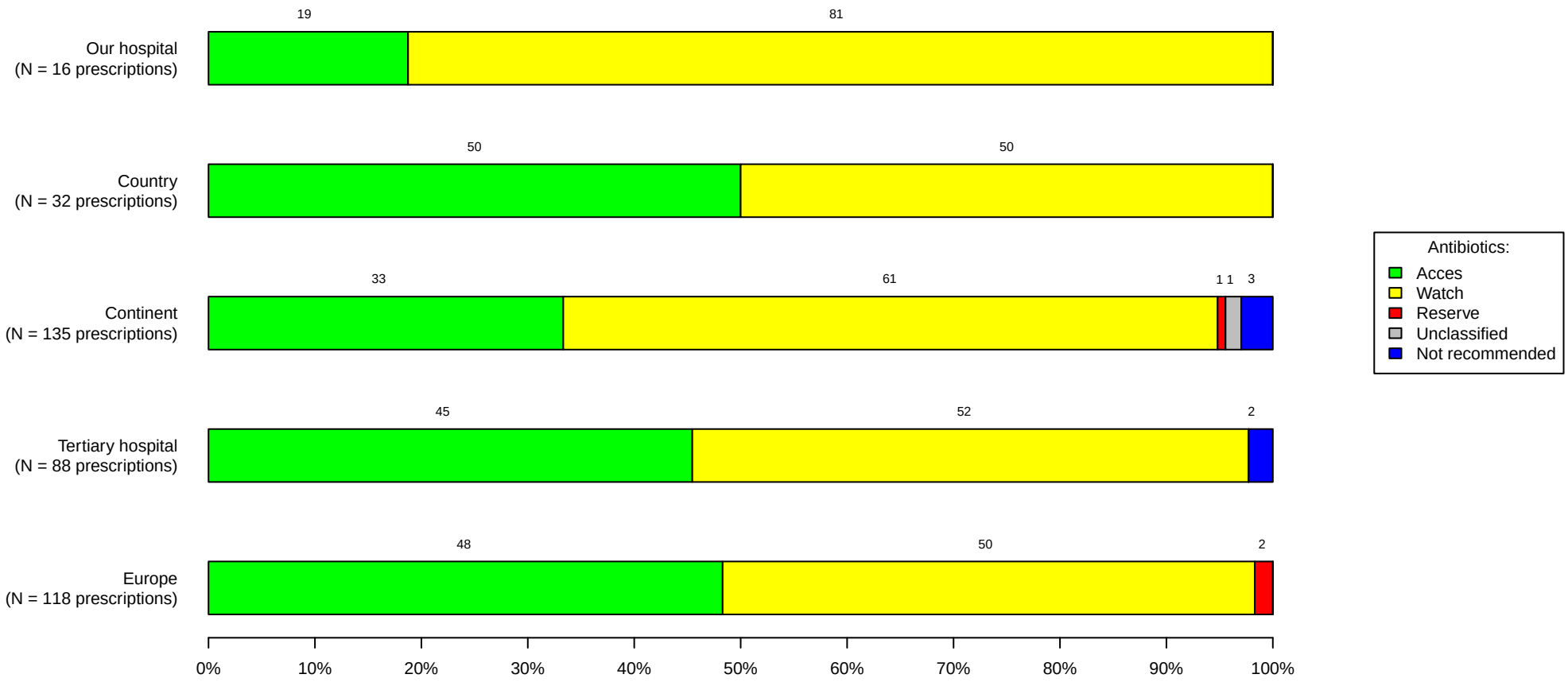
Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification – bone and joint infections



Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification – PUO



Prophylactic prescribing and patients admitted on NICU or NMW are excluded from this analysis

Overall antibiotic use (ATC J01) according to the WHO AWaRe classification

Access Our Hospital	Access Country	Watch Our Hospital	Watch Country	Reserve Our Hospital	Reserve Country
AMC 22.9%	AMC 32%	TZP 12.7%	TZP 12.8%	Linezolid 0.2%	Polymyxin b 0.2%
SXT 8.4%	Cefazolin 7.2%	Ceftriaxone 9.2%	Ceftriaxone 7%	Tedizolid 0.2%	Aztreonam 0.1%
Cefazolin 8.2%	SXT 4.1%	Meropenem 8.4%	Meropenem 5.8%		Daptomycin 0.1%
Clindamycin 2.7%	Metronidazole P 2.6%	Ciprofloxacin 3.9%	Ciprofloxacin 5.2%		
Metronidazole P 2.3%	Doxycycline 1.9%	Vancomycin P 3.7%	Vancomycin P 2.8%		

Top 5 antibiotics by AWaRe classification and percentage of all prescriptions. Only antibacterials for systemic use (ATC J01) are included.

P=Parenteral, O=Oral, I=Inhalation, R=Rectal.

TZP=Piperacillin and enzyme inhibitor, AMC=Amoxicillin and enzyme inhibitor, SXT=Sulfamethoxazole and trimethoprim, SAM=Ampicillin and enzyme inhibitor, I−R=Imipenem and enzyme inhibitor, Cefo−Sul=Cefoperazone and beta−lactamase inhibitor, TMP/SDZ=Sulfadiazine and trimethoprim, Pen−G=Benzathine benzylpenicillin, AMP−Com=Ampicillin, combinations, Pen−Com=Penicillins, combinations with other antibacterials, Chl=Chloramphenicol, Pen V=Phenoxymethylpenicillin, Ceftr−com=Ceftriaxone, combinations, Ceftr−BLI=Ceftriaxone and beta−lactamase inhibitor, Cefu−Com=Cefuroxime, combinations with other antibacterials, Sulfam−TMP=Sulfamoxole and trimethoprim, Sulfad−TMP=Sulfadimidine and trimethoprim, Ben−Pen−V=Benzathine phenoxymethylpenicillin, CIP−Met=Ciprofloxacin and metronidazol CZA=ceftazidime and beta−lactamase inhibitor, TIM=Ticarcillin and enzyme inhibitor, Pani−Bet=Panipenem and betamipron.