

Worldwide prescribing of surgical antibiotic prophylaxis: 2015-2020 results from the Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS)

Ines Pauwels

Global-PPS coordination centre

University of Antwerp, Belgium

On behalf of the Global-PPS network

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The Global-PPS is coordinated
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Background, aim and methodology

Background

- Surgical prophylaxis (SP) = common indication for antibiotic prescribing in hospital setting
- Little is known on SP prescribing practices globally



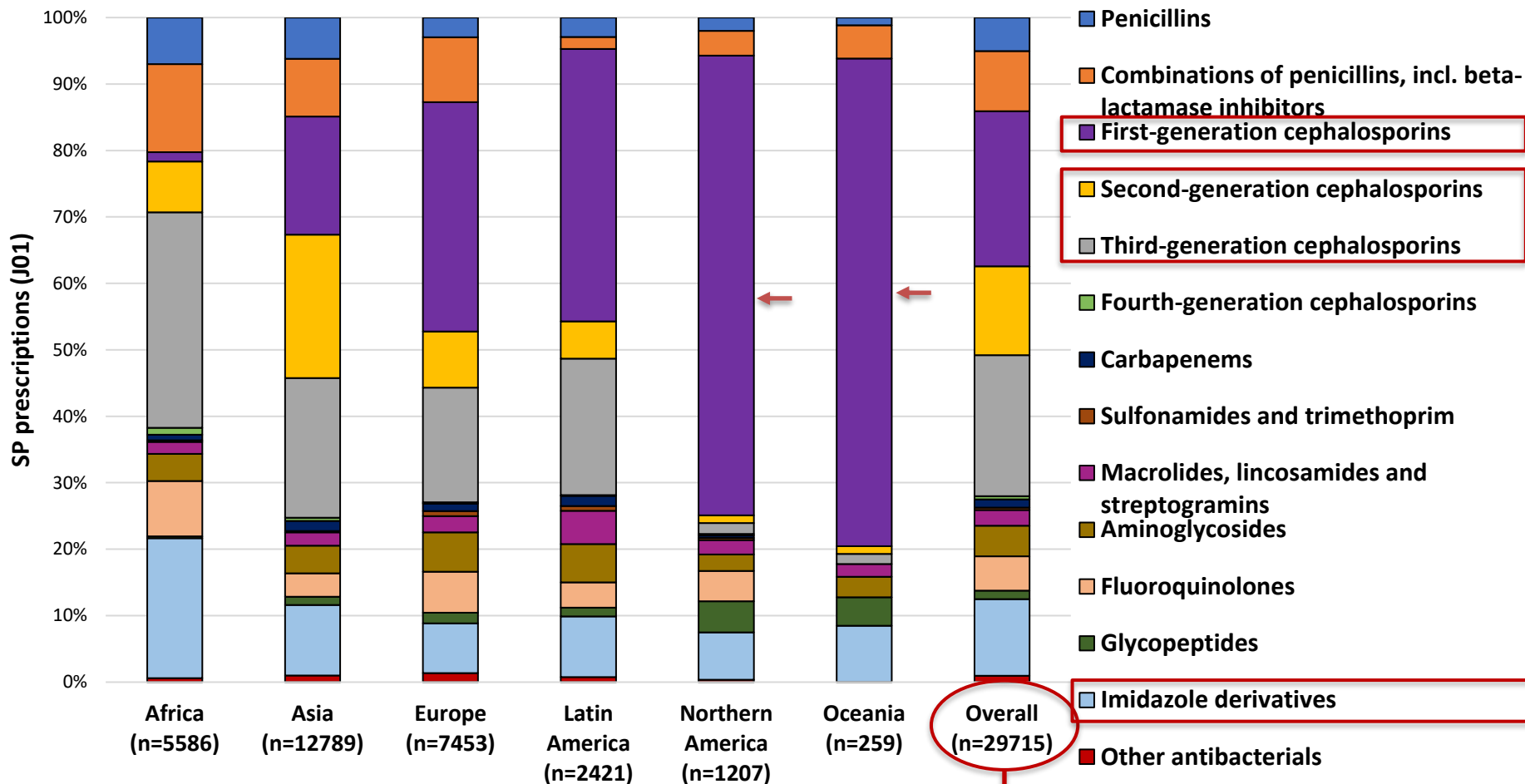
Aim

- To describe worldwide variations in the choice of antibiotics for SP
- To assess the quality of antibiotic prescriptions for SP in hospitals worldwide

Methodology

- Data collected between 2015-2020 in the Global-PPS network (749 hospitals, 83 countries)
- All inpatients on systemic antibiotics (ATC J01) for SP at 8 am on the day of the PPS
- Most used antibiotics, SP duration and a set of prescription quality indicators
- Antibiotics were also categorized according to the WHO AWaRe classification

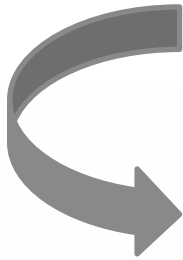
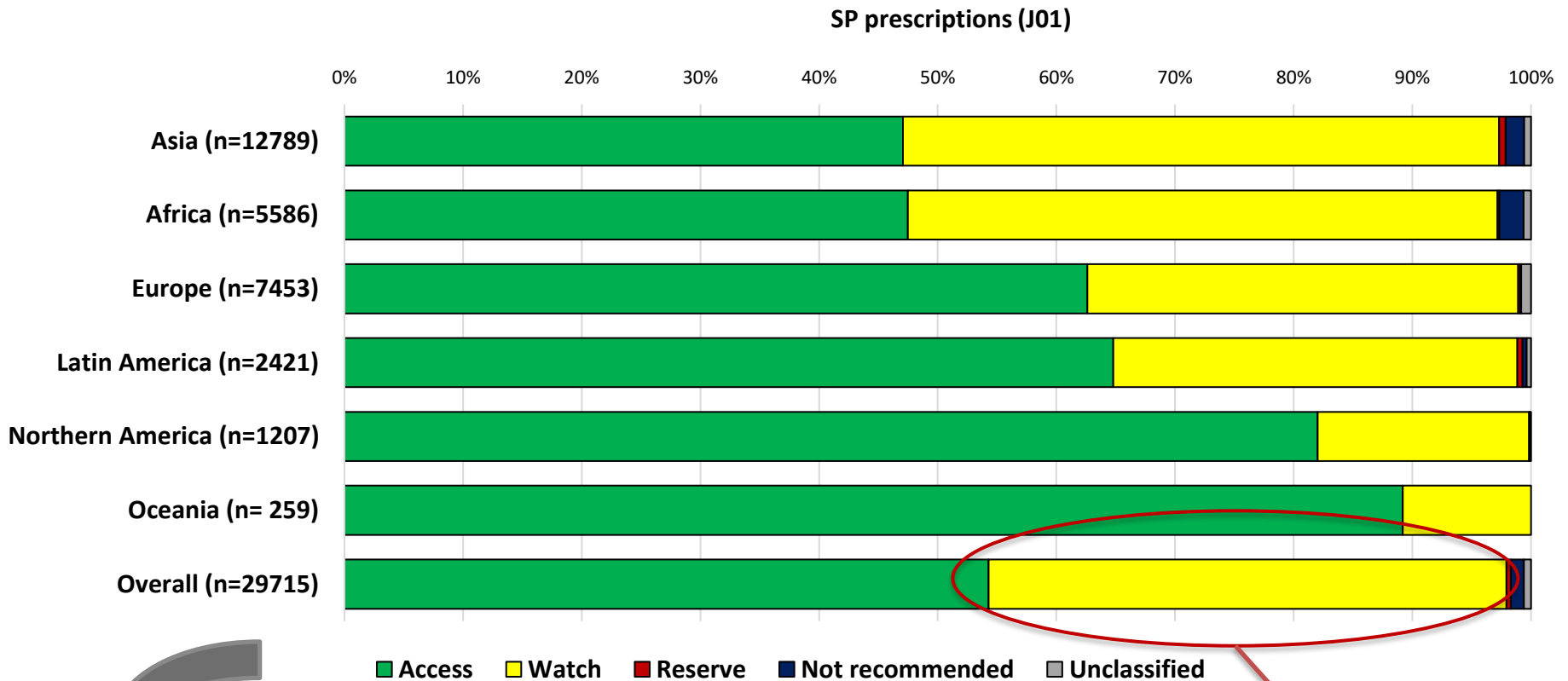
Antibiotics used for surgical prophylaxis



23,606 patients

1. Orthopaedic or plastic surgery (26.9%)
2. Obstetric and gynaecological procedures (21.3%)
3. Gastrointestinal procedures (20.7%)

AWaRe patterns of surgical antibiotic prophylaxis



Overall, high use of Watch antibiotics for SP
Variations between regions



Quality indicators for surgical prophylaxis

	Africa (n=5586)	Asia (n=12789)	Europe (n=7453)	Latin America (n=2421)	Northern America (n=1207)	Oceania (n= 259)	Overall (n=29715)
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SP duration (% of prescriptions)

single dose	9.2%	10.0%	22.4%	17.7%	32.3%	53.3%	14.9%
multiple dose < 24h	8.8%	13.1%	20.5%	24.0%	32.1%	18.9%	15.8%
more than 24h	82.0%	77.0%	57.1%	58.3%	35.6%	27.8%	69.3%

Quality indicators (% of prescriptions)

guidelines missing	39.8%	24.8%	20.9%	10.4%	14.2%	6.6%	24.9%
guideline compliance*	63.3%	55.9%	67.5%	61.1%	78.2%	58.3%	61.6%
stop/review date documented	43.6%	34.2%	54.8%	41.4%	87.1%	71.4%	44.2%
reason for prescription documented	70.1%	55.5%	67.5%	61.1%	71.8%	85.3%	62.6%
multiple antibiotics**	45.5%	21.7%	14.7%	19.9%	13.0%	13.7%	22.8%

* if guidelines were available. Excludes prescriptions with missing guidelines and prescriptions with insufficient information on the indication for prescribing. ** calculations on patient level (% of patients)



Conclusions

Many opportunities for improving the use of antibiotics to prevent surgical site infections:

- Unavailability of guidelines
- Inappropriate duration of prophylactic regimens
- High use of Watch antibiotics for SP, mainly in Asia and Africa

Need to:

- Support local stewardship teams in developing SP guidelines and interventions
- Ensure universal access to first-choice antibiotics