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Antimicrobial prescribing in 3 public hospitals of rural South-Africa in 2023: results from the global point prevalence survey

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BACKGROUND & OBJECTIVES

- In low- and middle-income countries, especially in rural settings, local evidence-based guidelines and resistance patterns at the hospital level are often lacking, impairing the optimal use of antibiotics
- We aimed at identifying targets for antimicrobial stewardship activities in 3 hospitals in rural South Africa

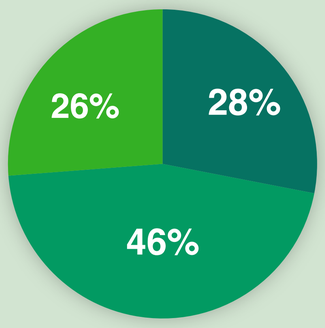
METHODS

- The Global-PPS, a standardized surveillance method to measure antimicrobial prescribing and resistance (www.global-pps.com), was conducted in February 2023 in 3 public hospitals of rural North Mpumalanga province (hospital 1: 269 beds, hosp 2: 425 beds, hosp 3: 178 beds)
- All inpatients receiving an antimicrobial on the day of the survey were included

RESULTS

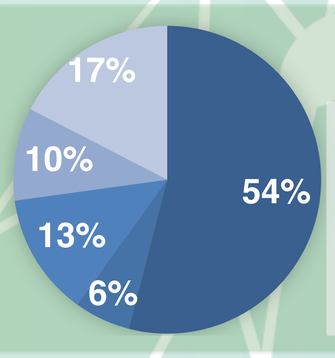
289 inpatients were surveyed

55% female
45% male



Age distribution
- ≤ 12 (neonates and paediatrics)
- 13-49 years
- ≥50 years

55% inpatients received at least one systemic antimicrobial the day of survey



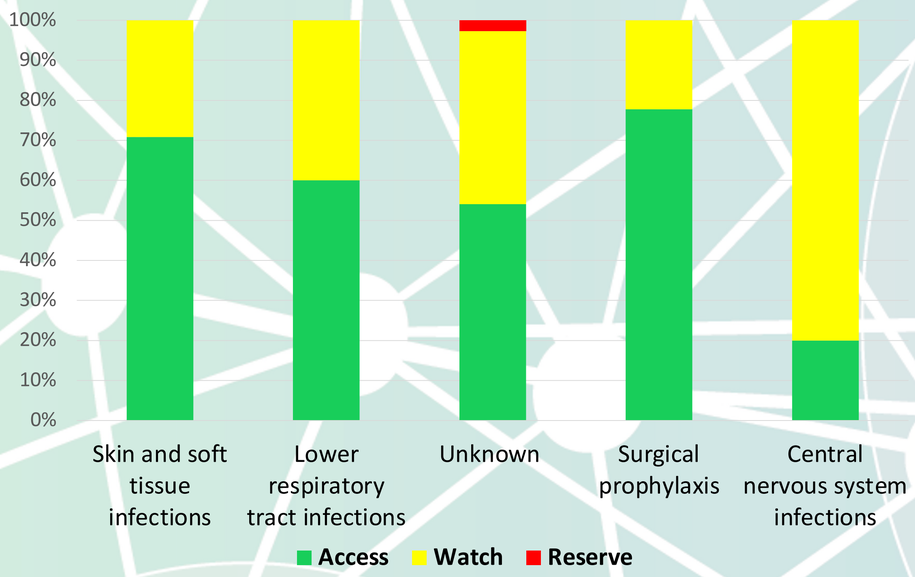
Type of indication for prescribing antibiotics
- Community acquired infections
- Healthcare associated infections
- Surgical prophylaxis
- Medical prophylaxis
- Unknown indications

Antimicrobial prescription prevalence by wards

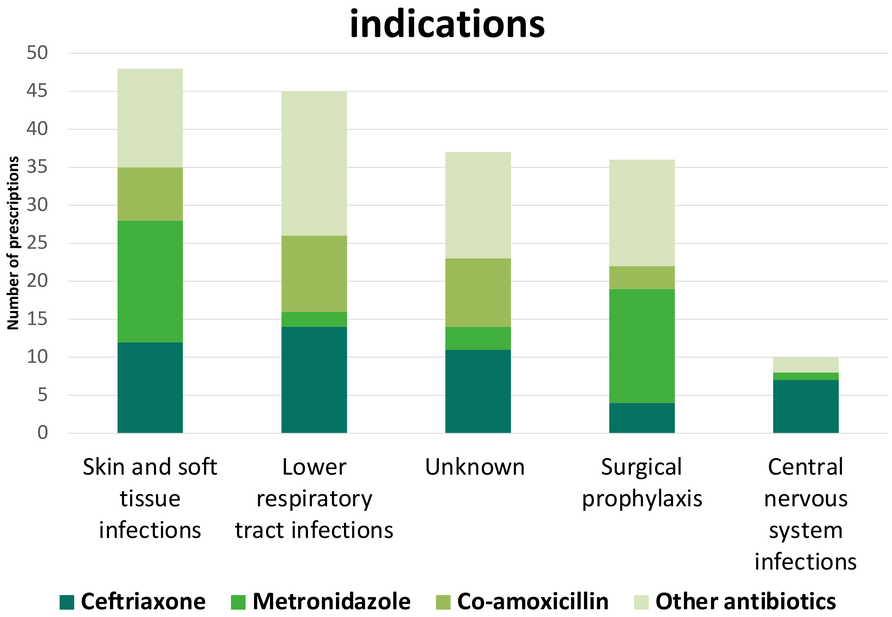
	Adult wards (N=207)					Paediatrics (N=51)		Neonatal (N=31)
	Medical	Isolation	Surgical	Gyn-obst*	ICU	Medical	Surgical	
Hosp 1	38% (14/37)	100% (2/2)	80% (8/10)	44% (10/23)	-	38% (3/8)	0% (0/5)	25% (4/16)
Hosp 2	65 % (17/26)	100% (6/6)	65% (24/37)	46% (13/28)	100% (2/2)	77% (13/17)	-	63% (5/8)
Hosp 3	70% (19/27)	-	44% (4/9)	-	-	81% (17/21)	-	43% (3/7)
Total	**56%**	**100%**	**64%**	**45%**	**100%**	**72%**	**0%**	**39%**

*gynecology-obstetrics (medical and surgical)

Systemic antibiotics used according to WHO AWaRe Classification for most frequent indications



Systemic antibiotics used for most frequent indications

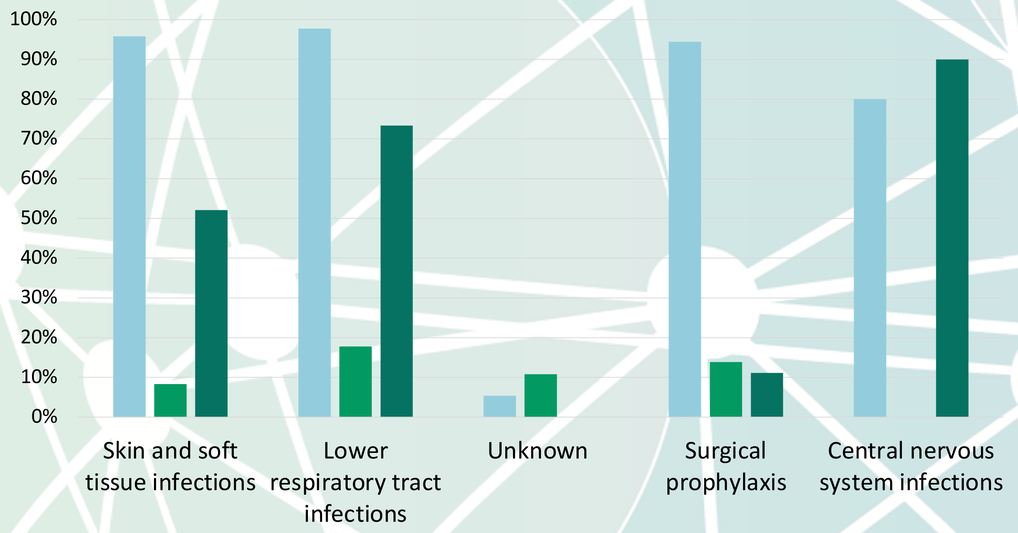


Most prescribed systemic antibiotics and guideline compliance

	Prevalence (% of prescriptions)	As per guidelines* (% of prescriptions)
Ceftriaxone	23.8%	49.2%
Metronidazole	18.5%	17.4%
Co-amoxicillin	14.1%	28.6%

*when diagnosis was known, and guidelines were available

Quality indicators for systemic antibiotic prescriptions for most frequent indications



*when diagnosis was known, and guidelines were available

Other key findings:
- While 14.9% of the prescriptions were for surgical prophylaxis, 94.6% of those were prescribed for more than one day
- A diagnosis was documented for 84.7% of the prescriptions and 53.1% of the prescriptions were compliant to national guidelines

CONCLUSION

- Half of inpatients in this rural region were receiving antibiotics on the day of survey, which is higher than previous reports in South-Africa of 33.6%[1]
- Potential targets for antimicrobial stewardship interventions are high use of Watch antibiotics, prolonged use of antibiotics for surgical prophylaxis and inappropriate prescribing of metronidazole
- Documentation of diagnosis and treatment duration in patient records should be improved to reliably assess treatment appropriateness
- Global-PPS will be useful to evaluate antimicrobial stewardship interventions and trends in antibiotics prescriptions

1. PP Skosana *et al.* 2021: A point prevalence survey of antimicrobial utilisation patterns and quality indices amongst hospitals in South Africa; findings and implications, Expert Review of Anti-infective Therapy, 19:10

Disclosures: bioMérieux is the sole industrial partner of the Global-PPS. The company has no role in study design, data collection, data analysis, data interpretation, or writing the report.
Data are strictly confidential and stored anonymously at the coordinating centre of the University of Antwerp.