ANTIBIOTIC RESISTANCE

FROM RESEARCH TO ACTION

The 59th ITM Colloquium

5-7 December 2018 - Phnom Penh

Antibiotic Prescribing for Adults and Children with Pneumonia in the Philippines: Results of the 2017 Global PPS

Mari Rose A.De los Reyes[1], Ann Versporten[2], Herman Goossens [2]

[!]Research Institute for Tropical Medicine [2] University of Antwerp

Background Information

- Antimicrobial resistance is a serious global threat
- In the Phil. antimicrobial resistance to microorganisms causing pneumonia is increasing.
- Rational prescribing, dispensing and use of antimicrobials are important approaches in combating AMR

Background Information

- In 2017, the Philippines participated in the Global PPS for the first time involving 16 private and public tertiary hospitals in Luzon and Visayas islands

Objective

To determine the prevalence of antimicrobial use in hospitalized patients

Methods

- One day cross sectional survey of inpatient wards
- Done between September – November 2017
- Used a standardized and validated forms developed by Global PPS
- Data collection was done by a team of doctors, infection control nurses and pharmacists in the participating hospitals

Methods

- Data entry using paper forms
  - Ward form (denominator data)
  - Patient form (numerator data)
- Data were encoded onto the web-based Global PPS application and were subsequently validated and reported with the help of the Univ. of Antwerp, Belgium (Global PPS)

Results

- There were 3692 patients on antimicrobials
- 2030 (54.9%) were males; 1662 (45%) were females

5,933 antimicrobial prescriptions

- **5,355 (90.3%) antibacterials for systemic use (ATC J01)**
- 92 (1.6%) antimycotics for systemic use (ATC J02)
- 351 (5.9%) drugs to treat tuberculose (ATC J04)
- 102 (1.7%) nitroïmidazole derivatives (ATC code P01AB)
- 28 (0.5%) intestinal anti-infectives (ATC code A07)
- 5 (0.1%) neuraminidase inhibitors (ATC code J05AH)

Overall Antibiotic Use Prevalence Rate

- Adult Patients: **57.2%**
- Combined Children and Neonates:**53.3%**

  (Children 61.2%; neonates 31.8%)

The Philippines has high overall antimicrobial prevalence rates in adults and children

Top 5 recorded diagnoses for which therapeutic antimicrobials (CAI and HAI) have been prescribed among adults

	(N) Prevalence rates (%)		
Diagnosis	**CAI**	**HAI**	**Total**
Pneumonia	(440) 60.7%	(220) 33.9%	(660)39.7%
SST	(117) 13.6%	(25) 6.8%	(202)12.1%
GI	(94) 7.2%	(14) 3.8%	(108) 6.5%
TB	(104) 8.0%	(1) 0.3%	(105) 6.3%
IA	(72) 5.5%	(17) 4.6%	(89) 5.3%

Top antibiotics prescribed for treatment (CAI & HAI) of pneumonia among adults

	CAI (n=715 antibiotics)	HAI (n=300 antibiotics)	Total (n=1015 antibiotics)
Azithromycin	**26.6 %**	6.0%	**20.5%**
Piperacillin Tazobactam	**15.2%**	**26.7%**	**18.6%**
Ceftriaxone	**15.8%**	4.3%	**12.4 %**
Meropenem	5.3%	**19.7%**	9.6 %
Levofloxacin	5.0%	7.3%	5.7%
Ampicillin/enz.inh.	5.6%	0.7%	4.1%
Clindamycin	2.9%	5.0%	3.5%
Cefuroxime	4.2%	1.0%	3.3%
Cefixime	2.9%	2.0%	2.7%
Co-trimoxazole	2.7%	2.3%	2.6%
Cefepime	2.2%	3.0%	2.5%

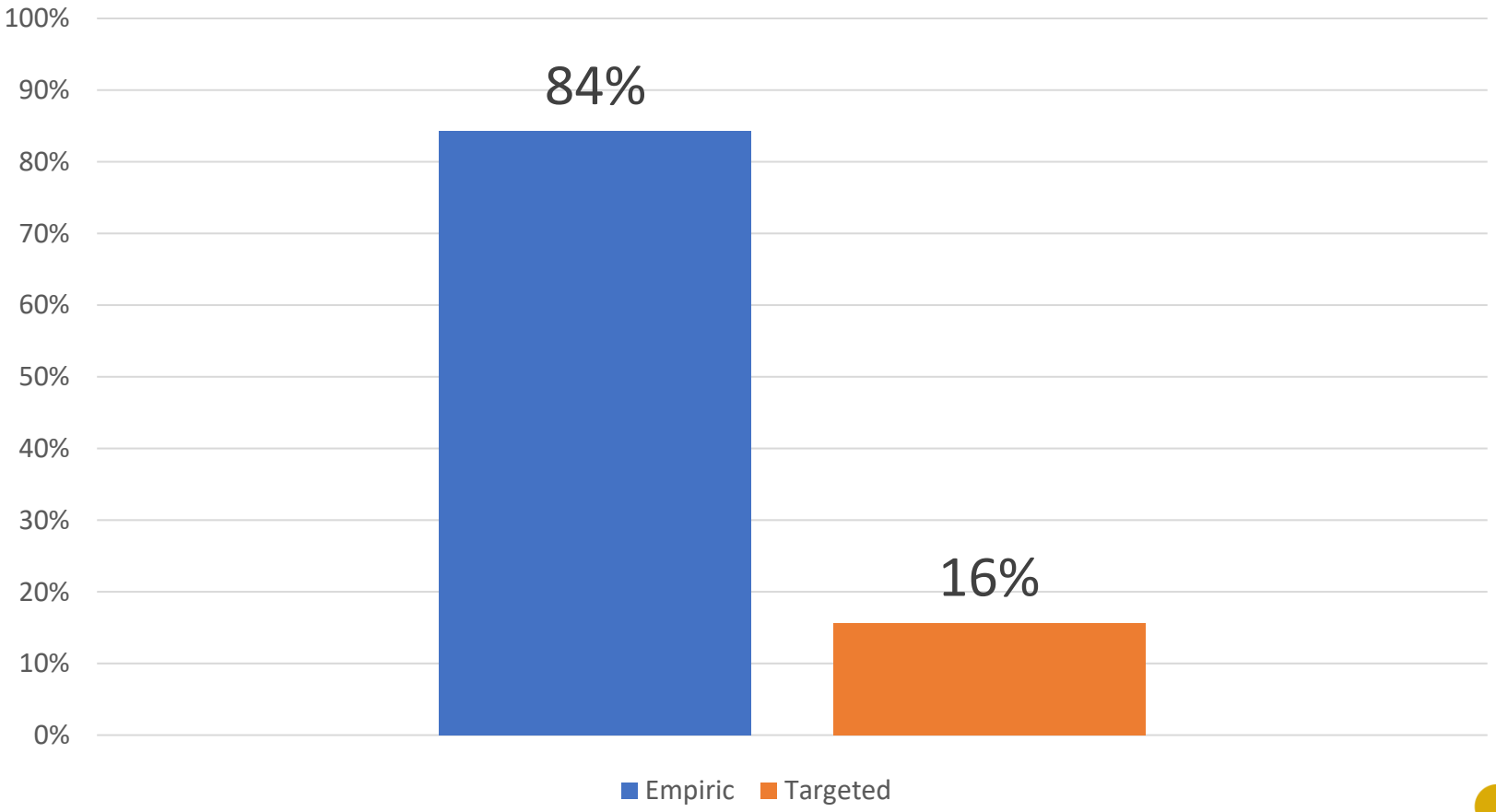
Top 5 recorded diagnoses for which therapeutic antimicrobials (CAI and HAI) have been prescribed among children

	(N)Prevalence rates (%)		
Diagnosis	**CAI**	**HAI**	**Total**
Pneumonia	(279) 51.9%	(41) 41.0%	(320) 50.2
Gastro-intestinal	(47) 8.7%	(1) 1.0%	(48) 7.5%
Skin Soft Tissue	(36) 6.7%	(6) 6.0%	(42) 6.6%
SEPSIS	(13) 2.4%	(27) 27.0%	(40) 6.3%
CNS	(27) 5.0%	(11) 11.0%	(38) 6.0%

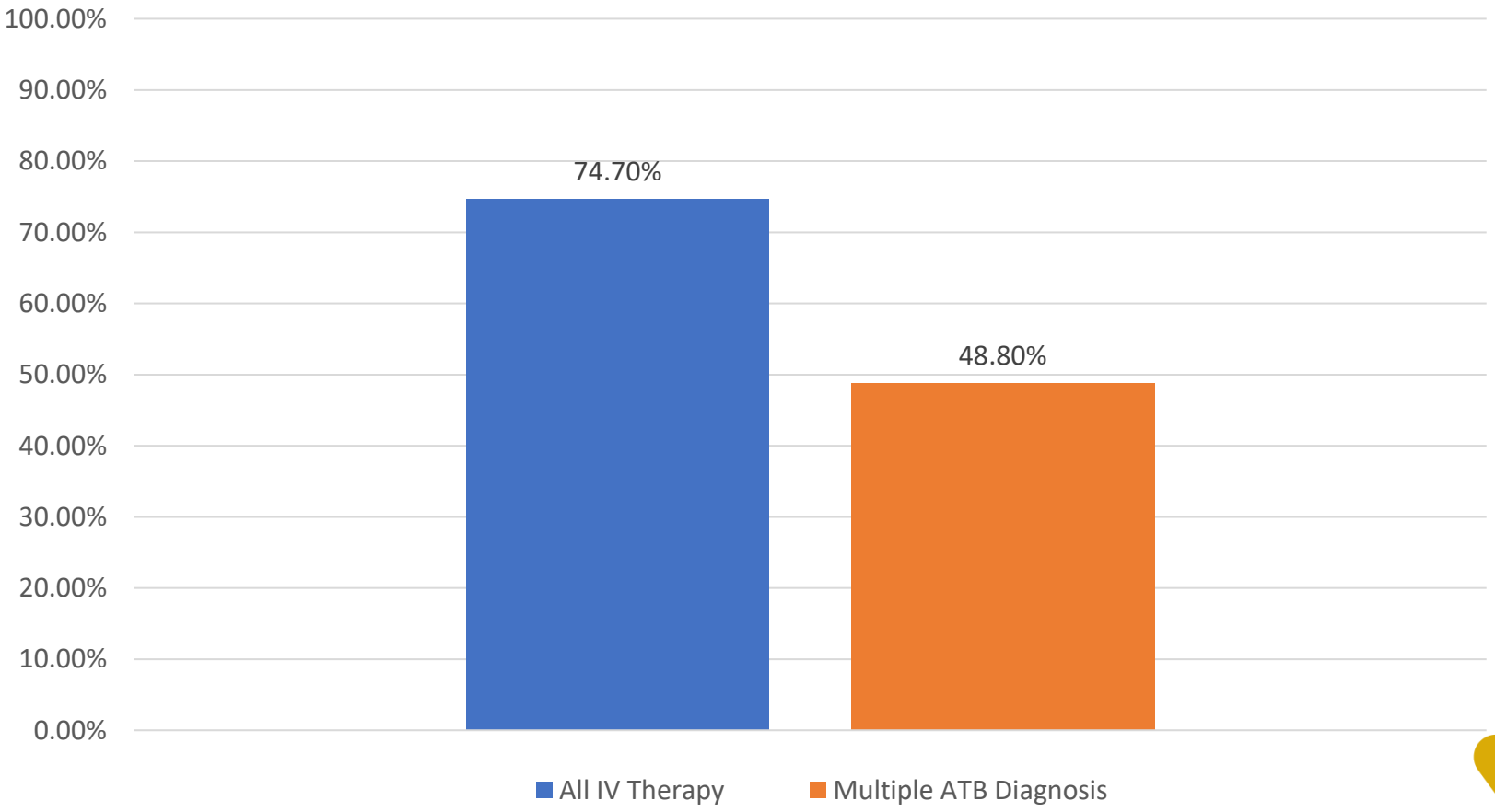
Top antibiotic prescribed for treatment (CAI & HAI) of **pneumonia** among **children**

	CAI (n=416 antibiotics)	HAI (n=54 antibiotics)	Total (n=470 antibiotics)
Cefuroxime	**16.1**	5.6	**14.9**
Amikacin	**14.4**	**14.8**	**14.5**
Ampicillin	**13.9**	3.7	**12.8**
Ceftriaxone	12.7		11.3
Benzylpenicillin	10.6	1.9	9.6
Piperacillin tazobactam	5.0	9.3	5.5
Meropenem	2.4	**18.5**	4.3
Clarithromycin	3.8	5.6	4.0
Cefotaxime	3.1	3.7	3.2
Azithromycin	3.1		2.8
Ceftazidime	0.5	**16.7**	2.3
Cefepime	1.2	3.7	1.5
Ciprofloxacin	0.5	9.3	1.5

Therapeutic Antimicrobial Use for Pneumonia by Type of Treatment



Key Prescription Patterns for Pneumonia



Conclusion

- PPS is a tool for antimicrobial stewardship
- Can be used as feedback for policy development, staff education and behavior change in hospitals
- AMS programs are now in place in hospitals in the Philippines.
- These data are important quality indicators of antimicrobial use
- To monitor the effectiveness of our stewardship program repeated PPS should be done.

Acknowledgment

Dr. Mediadora Saniel, Chair of NAGCOM
Pharmaceutical Division, DOH
PIDSP PSMID RITM
16 Participating Hospitals - Directors and AMS Teams

- Asian Hospital and Medical Center
- Bicol Regional Training and Teaching Hospital
- Chung Hua Hospital, Mandaue
- Corazon Locsin Montelibano Memorial Medical Center
- Iloilo Doctor's Hospital
- JB Lingad Medical Center
- Makati Medical Center
- Perpetual Help Dalta Medical Center
- Philippine General Hospital
- Research Institute for Tropical Medicine
- Rizal Medical Center
- St Louis Hospital
- St Luke's Medical Center – Global City
- The Medical City
- Vicente Sotto Medical Center
- Western Visayas Medical Center


TRAINING ON POINT PREVALENCE SURVEY OF ANTIMICROBIAL USE
JULY 17-18, 2017 | B HOTEL, MADRIGAL BUSINESS PARK,
Ayala Alabang, Muntinlupa City
DEPARTMENT OF HEALTH
RESEARCH INSTITUTE FOR TROPICAL MEDICINE

Thank You Very Much!

Maraming Salamat Po!