Overview of surveillance and AMS activities in Malaysia

Dr Benedict Sim

Infectious disease physician

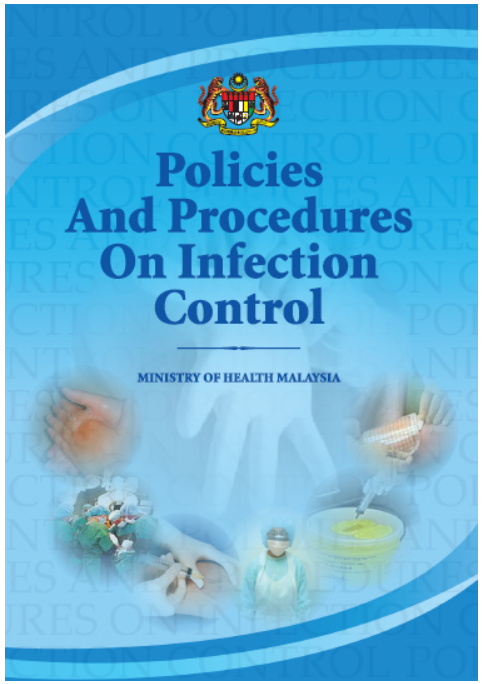
National

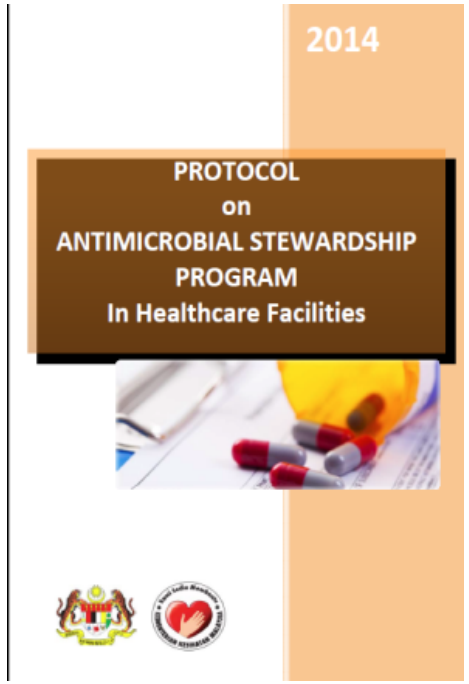
13 States
Population:~30 mil

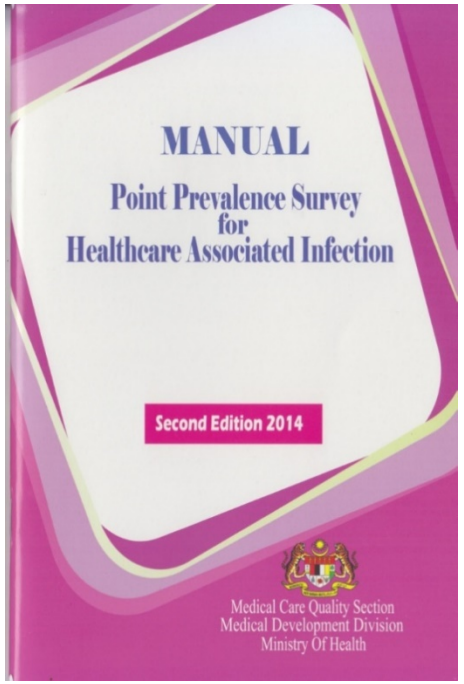
MOH hospitals - 155
Private hospitals - 115
University Hospitals- 3
Private clinics

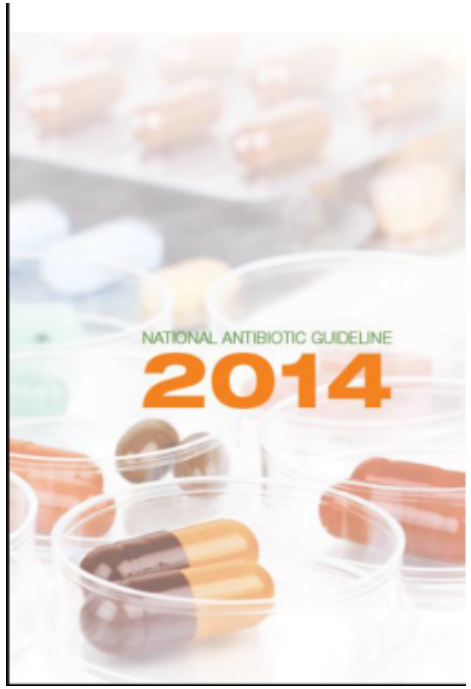
ID physicians in Malaysia:
MOH-20, UM-5, UKM-1,USM-1,
Private-5
Trainess-13+2

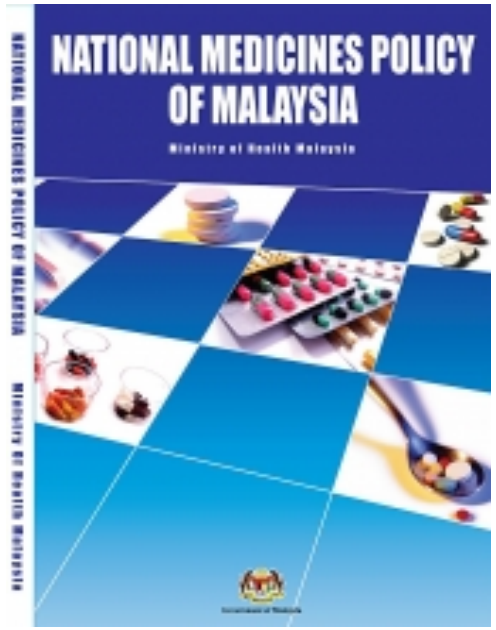
National Policies, Guidelines and Formularies











National Infection Control and Antibiotic Committee Meeting
9th June 2017

NATIONAL SURVEILLANCE ON ANTIBIOTIC UTILISATION HOSPITAL & PRIMARY CARE (2016)

Pharmaceutical Services Division

Ministry of Health, Malaysia

SCOPE OF SURVEILLANCE

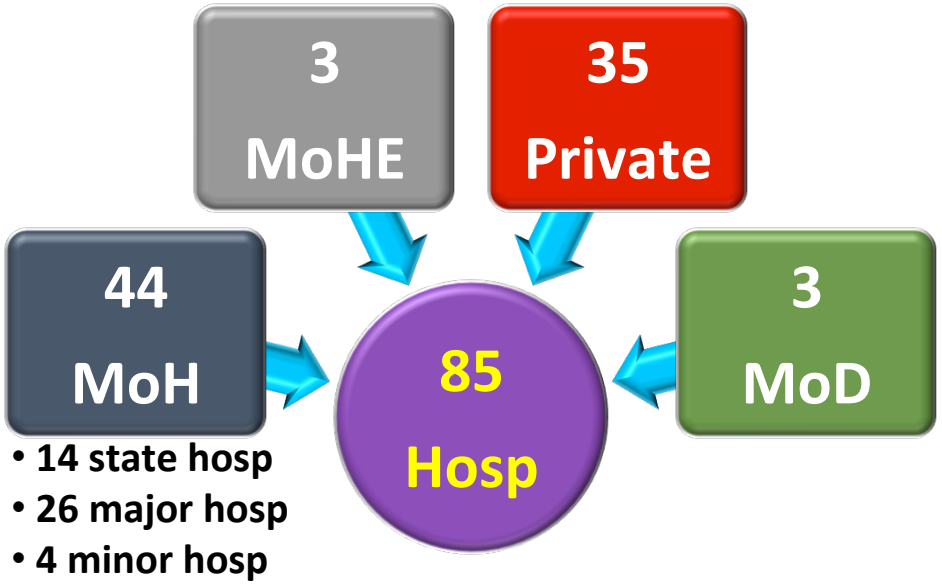
Contributors :

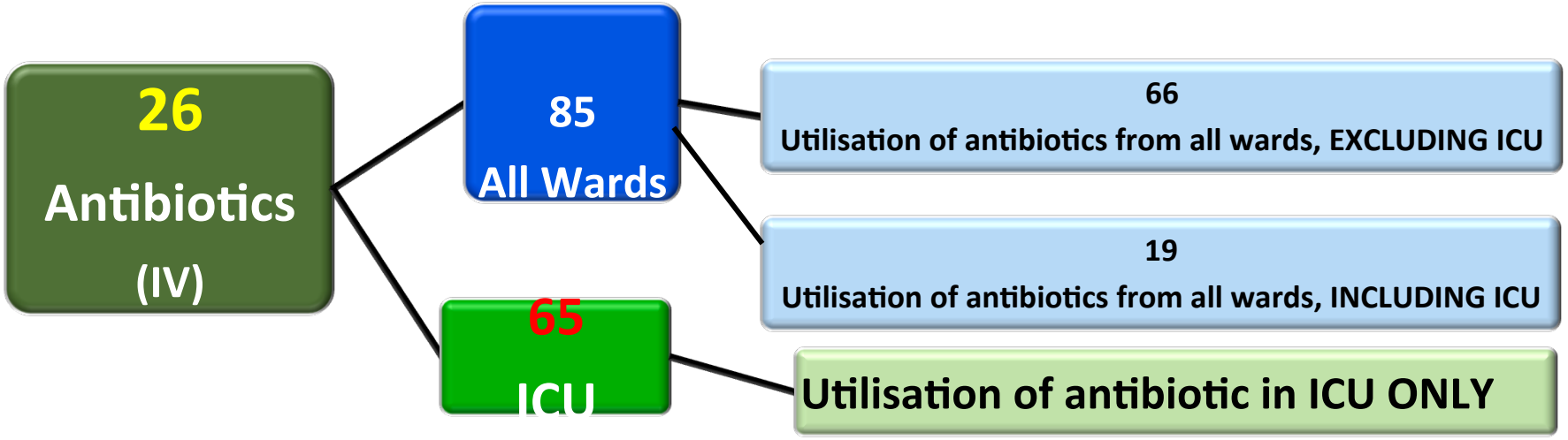
MoH – Ministry of Health

MoE – Ministry of Higher Education

MoD – Ministry of Defence

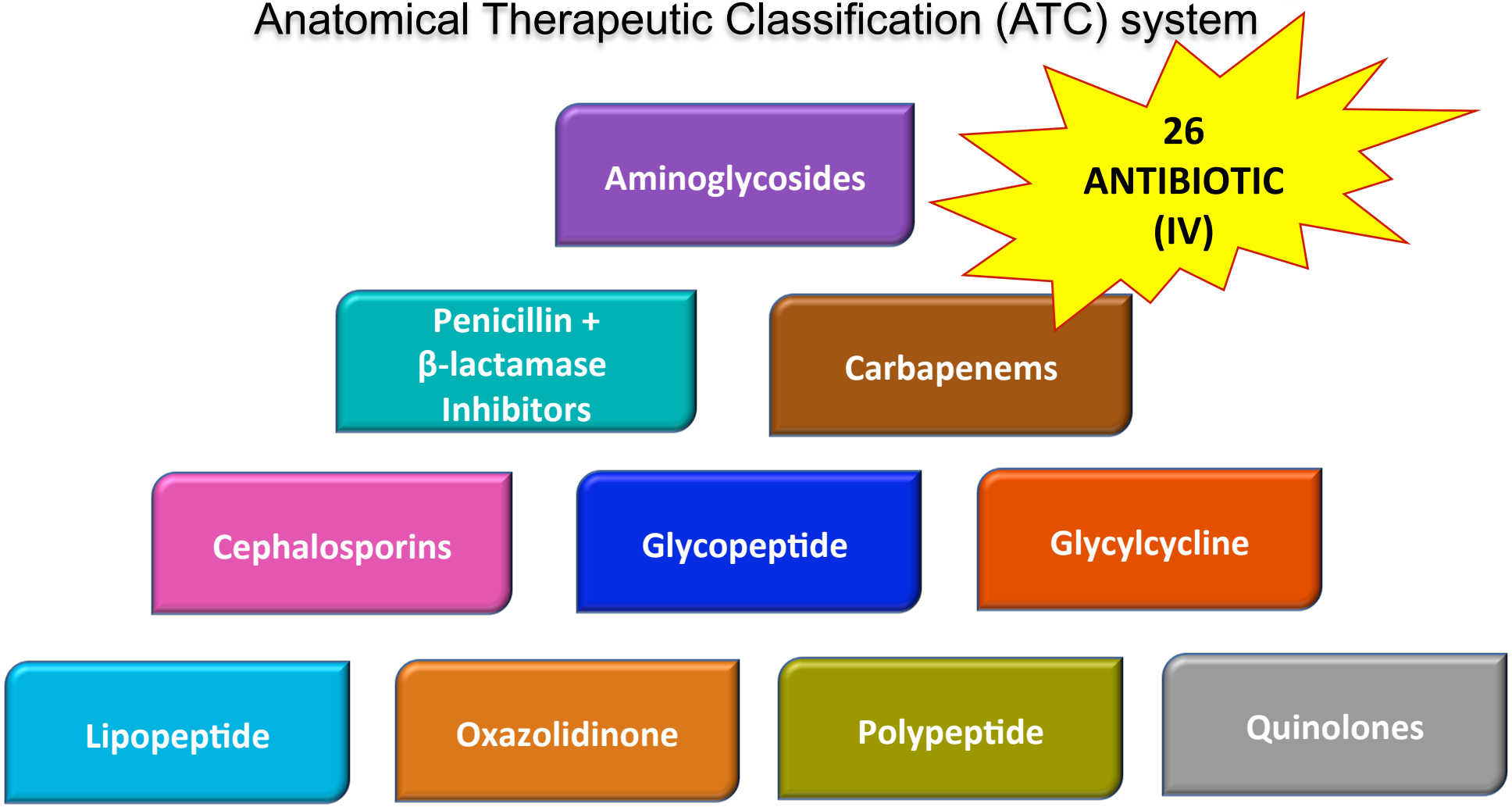
Private – Private Hospitals (>100 beds)



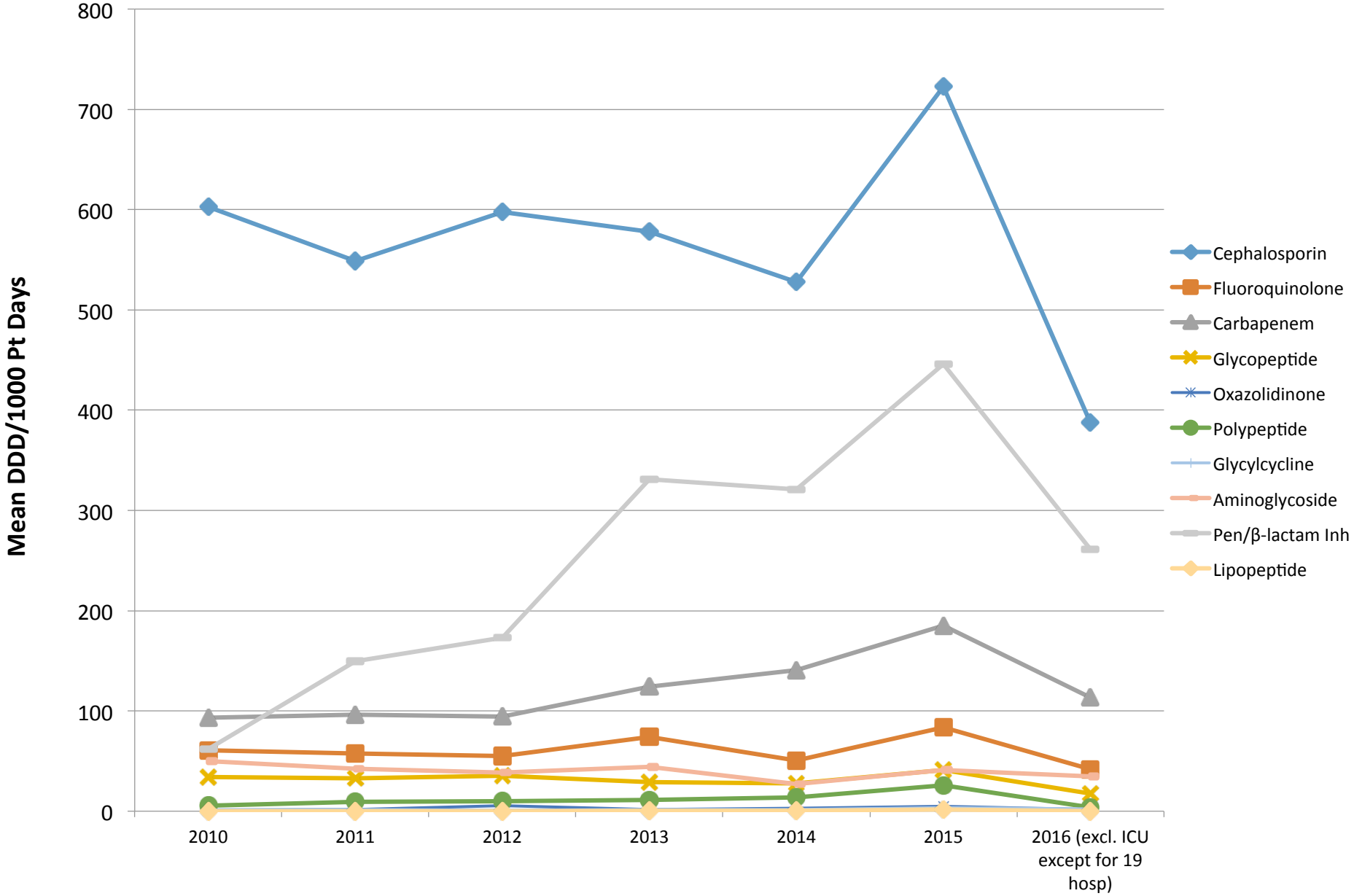


GROUPS OF ANTIBIOTIC

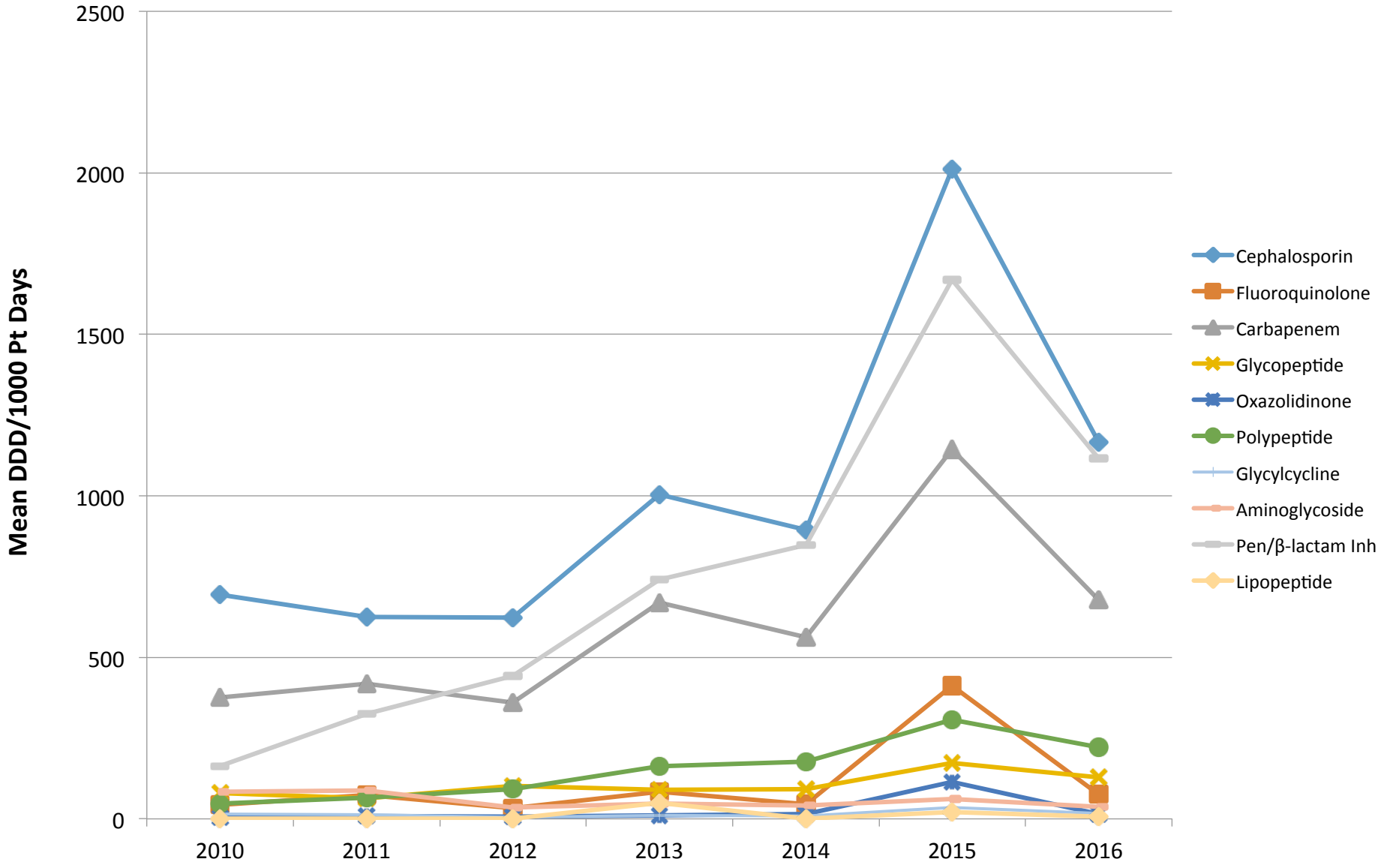
Antibiotic classes are categorized into therapeutic groups using WHO Anatomical Therapeutic Classification (ATC) system



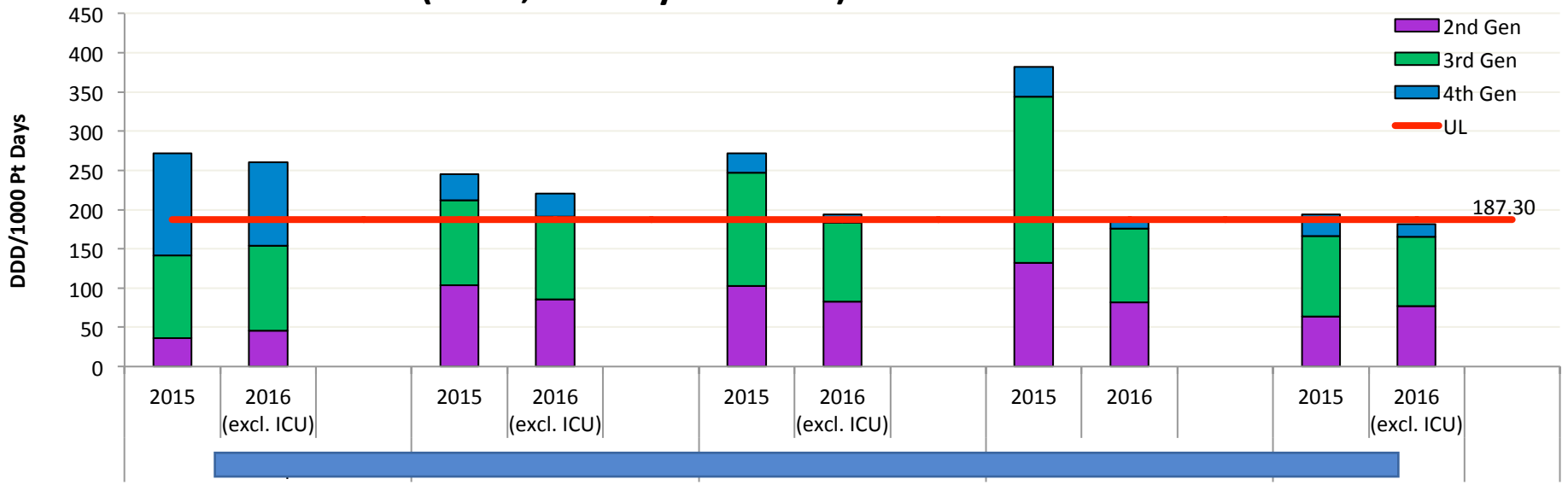
Pattern of Total Antibiotics Utilisation in MoH, MoHE, MoD & Private Hospitals: 2010-2016 (ALL WARDS)



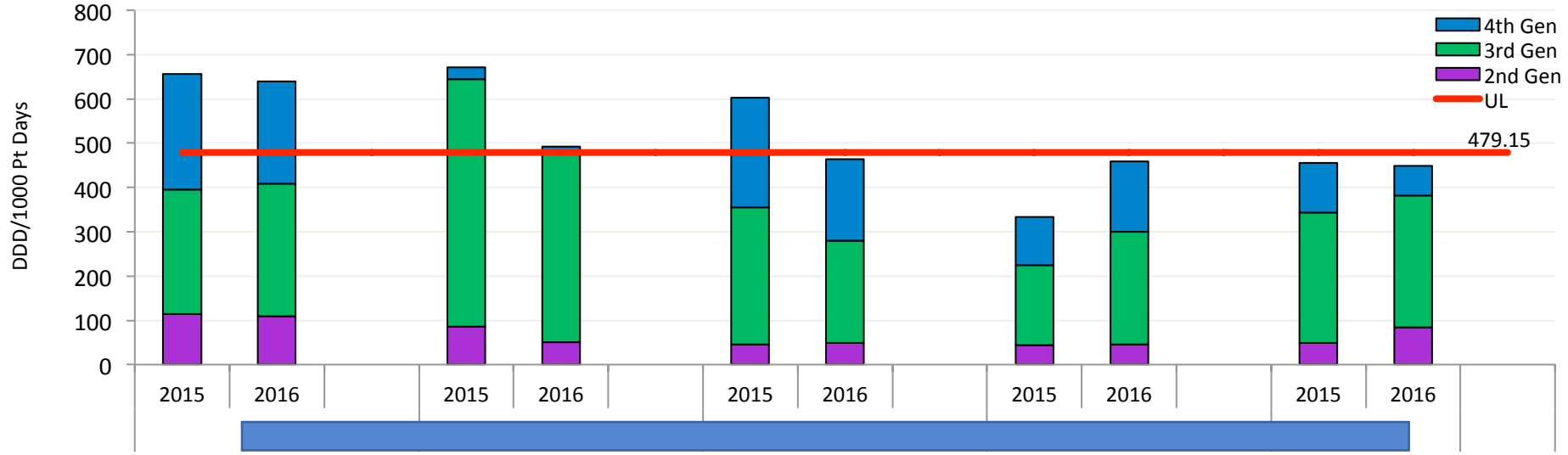
Pattern of Total Antibiotics Utilisation in MoH, MoHE, MoD & Private Hospitals: 2010-2016 (ICU ONLY)



Top 5 Hospitals with Highest Cephalosporins Utilisation (State, Tertiary & MoHE)2016 : ALL WARDS



Top 5 Hospitals with Highest Cephalosporins Utilisation (State, Tertiary & MoHE Hospitals) 2016 : ICU



PHARMACEUTICAL SERVICES DIVISION
MINISTRY OF HEALTH MALAYSIA

A NATIONAL POINT PREVALENCE STUDY OF ANTIBIOTIC UTILISATION AMONG HOSPITALS IN MALAYSIA

NOR HASNI BT HARON
Ketua Penolong Pengarah Kanan U52
Cawangan Penjagaan Farmaseutikal
Bahagian Perkhidmatan Farmasi, KKM
(Emel : hasni.haron@moh.gov.my)

Study Design

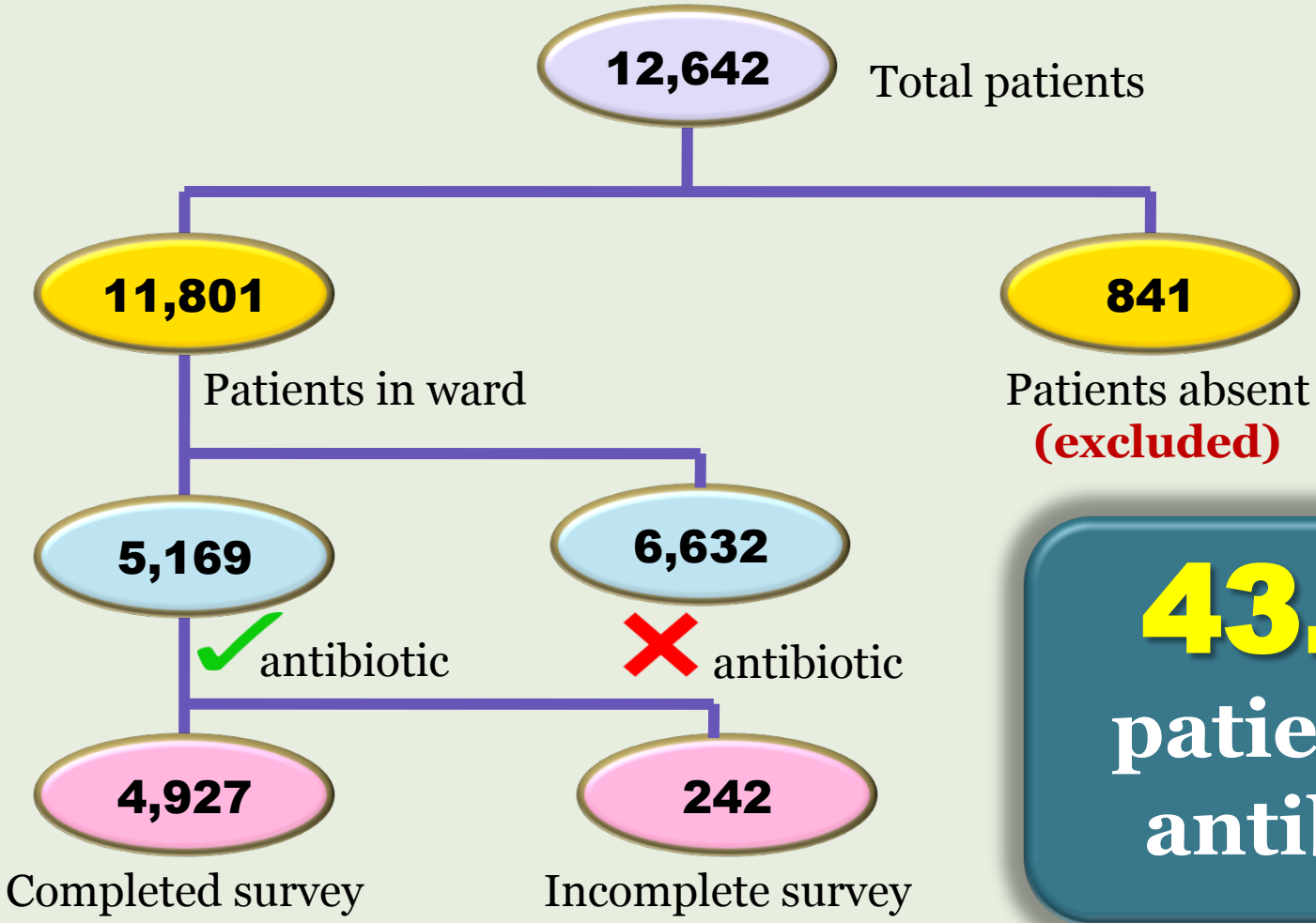
Type of Study	:	Point Prevalence Study
Study Sites	:	Multicentre study involving of 14 state hospitals and 5 tertiary hospitals
Time Frame	:	July 2015 - Mac 2016
Date of Survey	:	19 October 2015
Sampling	:	Convenient sampling
Study Method	:	Pharmacist will review patients on antibiotic in the wards and to complete the data collection forms in that particular day

State Hospitals : HTF, HSB, HPP, HRPB, HTAR, HKL, HTJ, HMelaka, HAS, HTAA, HSNZ, HRPZ II, HUS, HQE

Tertiary Hospitals : HSelayang, HSgB, HSerdang, HAmpang, HPutrajaya

General Objective

- To measure the prevalence of patient prescribed with antibiotic among hospitalized patients in 14 state hospitals and 5 tertiary hospitals.



43.8%
patients on antibiotic

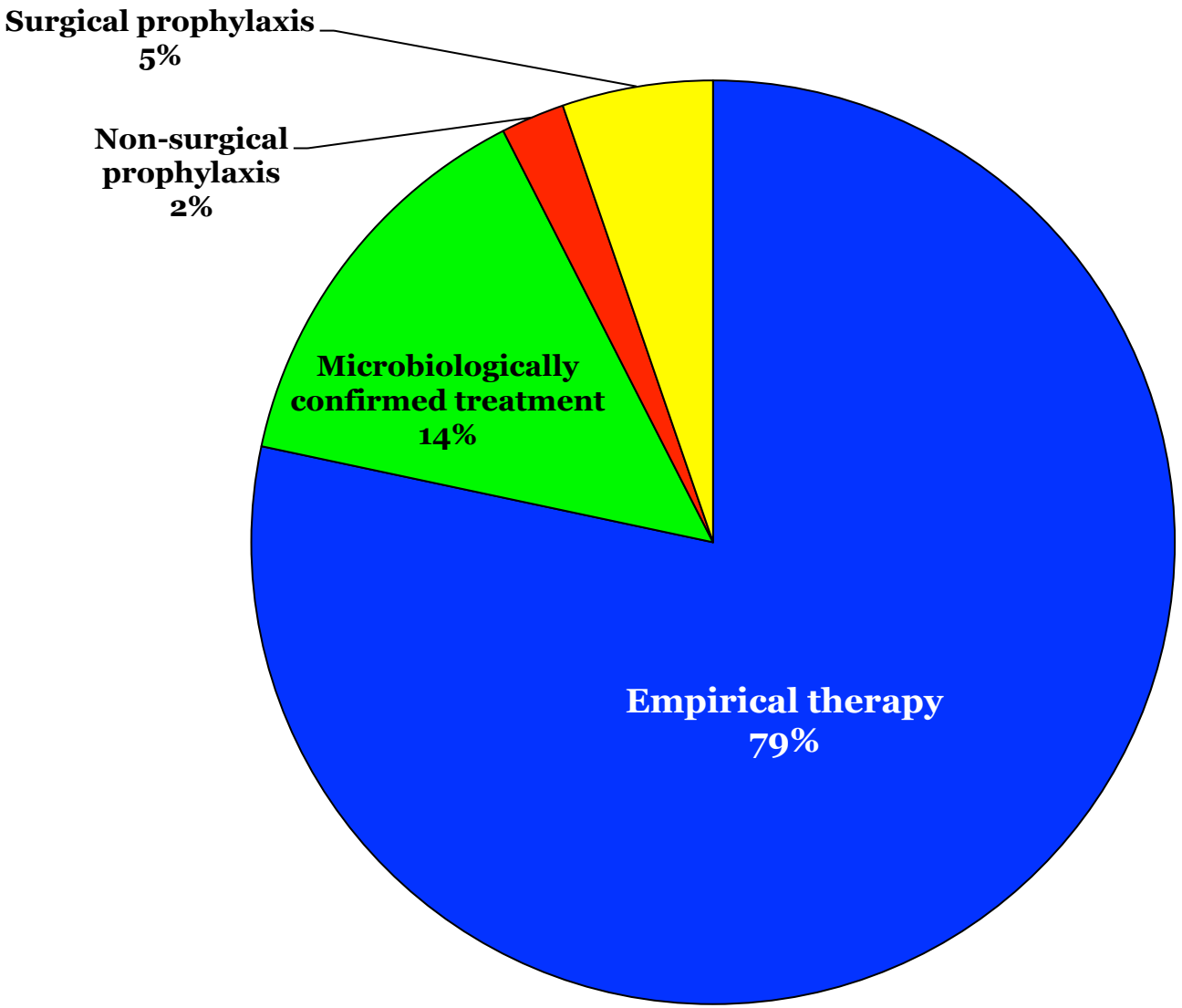
Groups of Antibiotic Prescribed to the Patients in State & Tertiary Hospitals

Groups of Antibiotic	Frequency	Percentage
Cephalosporin	1834	29.23 %
β -lactam/β-lactamase Inh	1571	25.04 %
Penicillin	916	14.60 %
Others	531	8.46 %
Aminoglycoside	367	5.85 %
Macrolide	353	5.63 %
Carbapenem	342	5.45 %
Glycopeptide	134	2.14 %
Quinolone	113	1.80 %
Tetracycline	42	0.67 %
Polypeptide	30	0.48 %
Lincosamide	21	0.33 %
Oxazolidinone	11	0.18 %
Glycylcycline	6	0.10 %
Nitrofuran	2	0.03 %
Lipopeptide	1	0.02 %
TOTAL	**6274**	**100**

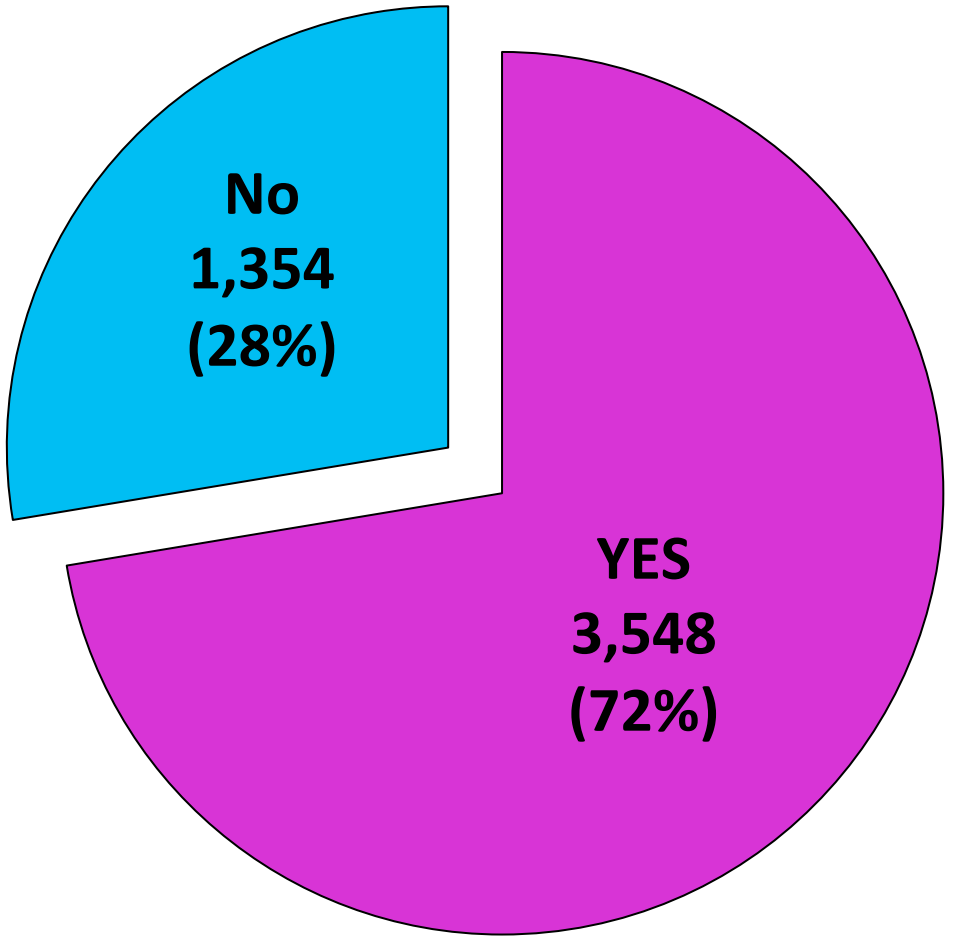
TOP 3 Commonly Prescribed Antibiotic By 5 Major Department

Department	Total Number of Antibiotic Prescribed	Top 3 Commonly Antibiotic Prescribed	Frequency	Percentage (%)
General Medical	1,541	Amoxycillin/Clavulanate	418	27.13
		Ceftriaxone	259	16.81
		Azithromycin	141	9.15
Paediatric	1,379	Benzylpenicillin	306	22.19
		Gentamicin	216	15.66
		Cefuroxime	93	6.74
Orthopaedic	885	Cefuroxime	302	34.12
		Ampicillin/Sulbactam	134	15.14
		Cloxacillin	96	10.85
General Surgical	507	Metronidazole	119	23.47
		Cefoperazone	73	14.40
		Ampicillin/Sulbactam	54	10.65
O&G	362	Ampicillin/Sulbactam	79	21.82
		Cefuroxime	65	17.96
		Metronidazole	51	14.09

Indication of Antibiotic Prescribed



Culture Sent Prior To Empirical Therapy



Study Limitations

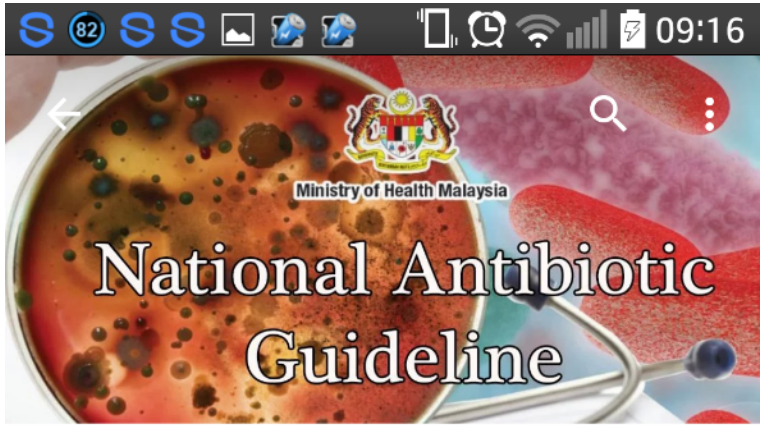
- **Data were collected across hospitals with different specialties and case mix:**
  - **Underestimate prevalence**
  - **Possible inconsistencies in documentation**
  - **Compliance to policy**
  - **Local guideline(s)**

- **Data collectors – inter-rater variation or observer bias is unknown**

2014

PROTOCOL
on
ANTIMICROBIAL STEWARDSHIP PROGRAM
In Healthcare Facilities

1. Formulation of AMS team in each hospital. (Core Strategy)
2. Surveillance and feedback mechanism on specific antibiotic consumption. (Core Strategy)
3. Implementation of prospective audit and feedback according to local needs. (Core Strategy)
4. Formalize regular rounds by AMS team especially in State and Specialist Hospital. (Core Strategy)
5. Establishment of formulary restriction and pre-authorization/approval system. (Core Strategy)
6. Establishment of antimicrobial order tools for restricted antimicrobials.
7. Streamlining the antimicrobial usage
8. Antimicrobial selection and dose optimization of antimicrobials.
9. Initiation of intravenous (IV) to oral (PO) switch program
10. Educational on AMS program via continuous medical education (CME) and antibiotic awareness campaign



MyNAG
Pharmaceutical Services Division MOH

UNINSTALL OPEN

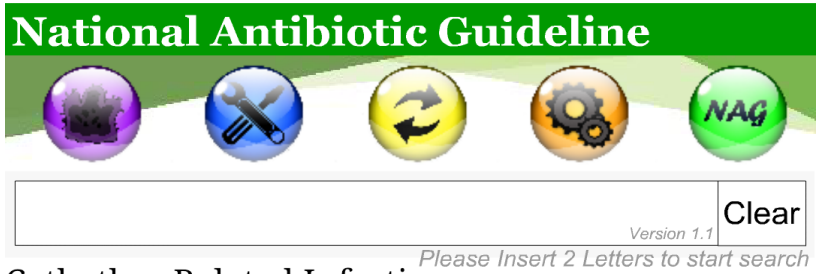
1 THOUSAND Downloads | 4.6 33 | Medical | Similar

This is the second edition of National Antibiotic Guideline MOH in Mobile.

READ MORE

Remember to USE guidelines!

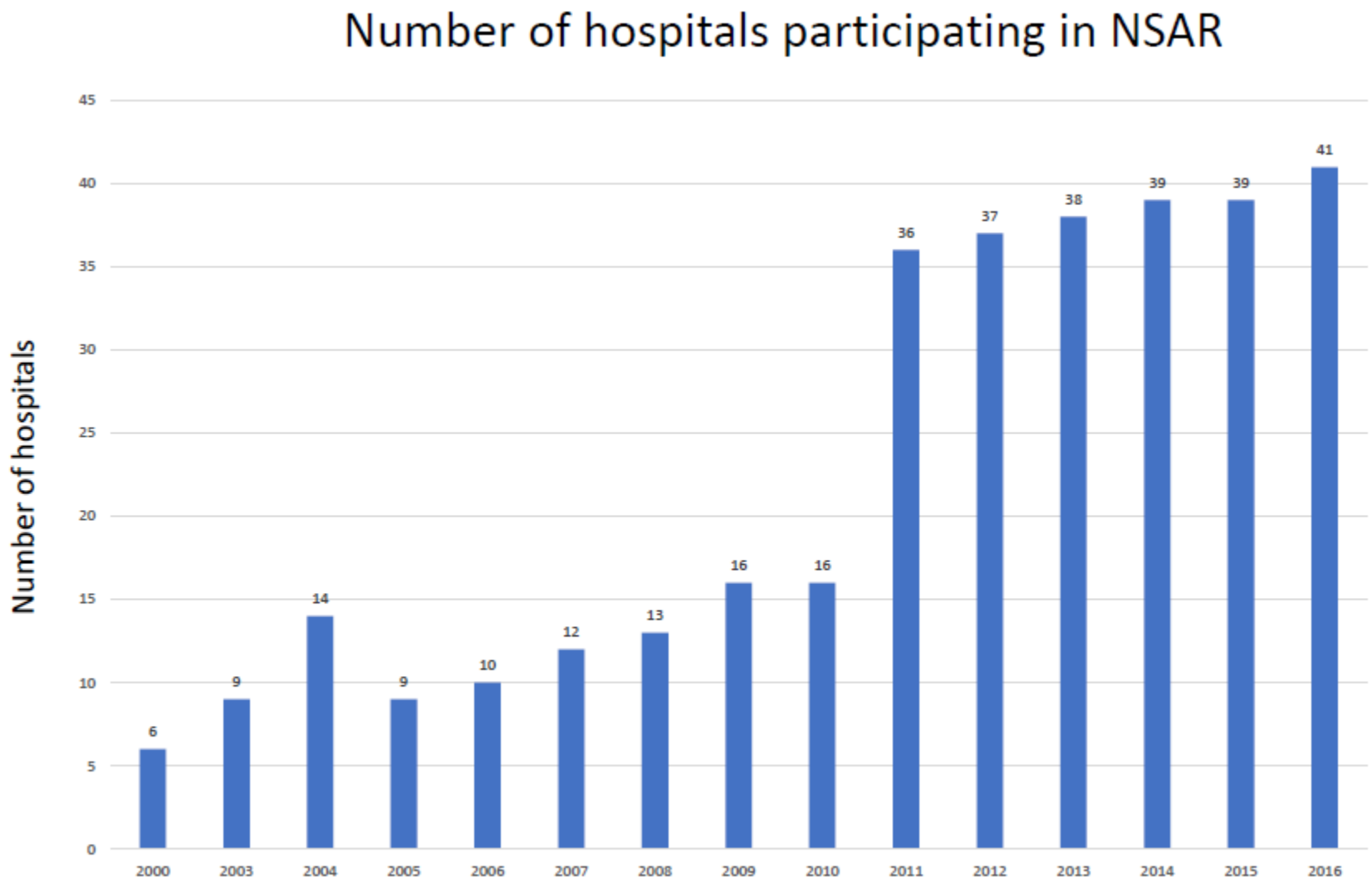
NATIONAL ANTIBIOTIC GUIDELINE
Mobile Application



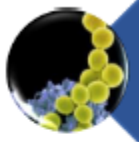
Cathether Related Infection
Candida Endocarditis
Infective Endocarditis Empirical Treatment
Infective Endocarditis HACEK microorganisms
Infective Endocarditis Staphylococcus aureus
Infective Endocarditis Culture-Negative
Suspected Bartonella
Viridans Streptococci Endocarditis
Streptococcus Bovis Endocarditis
Enterococcus Endocarditis
Peacemaker
Empirical Therapy for Sternal Wounds
Acute Meningitis
Chronic Meningitis
Tuberculous (TB) Meningitis
Cryptococcal Meningitis
Neurosyphilis
HIV Related CNS Infection
Haemophilus Influenzae
Streptococcus Pneumoniae
Neisseria Meningitis
Prophylaxis for Meningococcal Meningitis

AMR SURVEILLANCE IN HUMAN

National Surveillance of Antibiotic Resistance (NSAR)	• AST data from hospitals
National Infection Control Surveillance	• MDRO surveillance • CRE surveillance
National Surveillance on Antibiotic Utilization	• Hospital based • Community based


Number of hospitals participating in NSAR
Number of hospitals
45
40
35
30
25
20
15
10
5
0
6
9
14
9
10
12
13
16
16
36
37
38
39
39
41
2000
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016

Multi-Drug Resistant Organism (MDRO) surveillance



MRSA

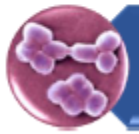
ESBL K. pneumoniae

ESBL E. coli

2000

Carbapenem resistant Enterobactericeae (CRE)

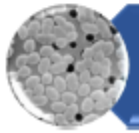
2013



Acinetobacter baumanii

2014

31 hospitals

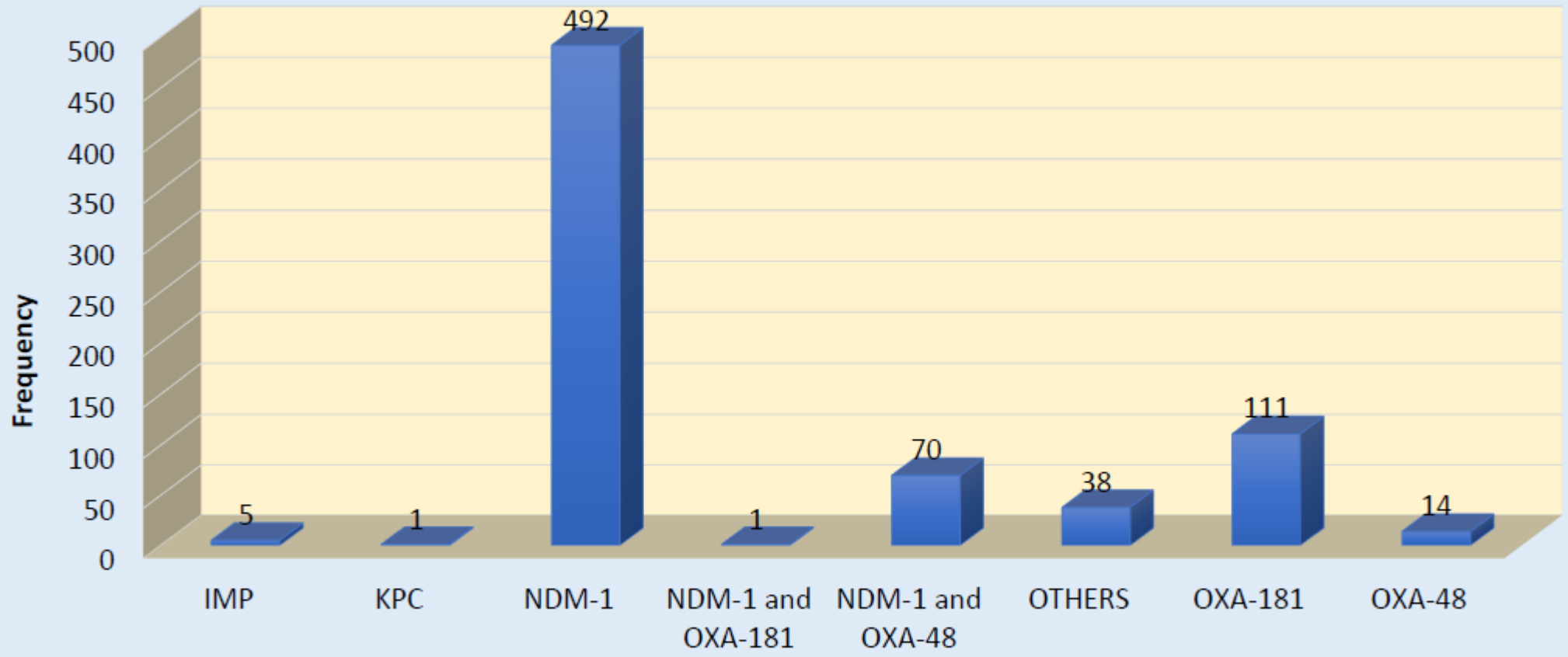


Vancomycin resistant Enterococci (VRE)

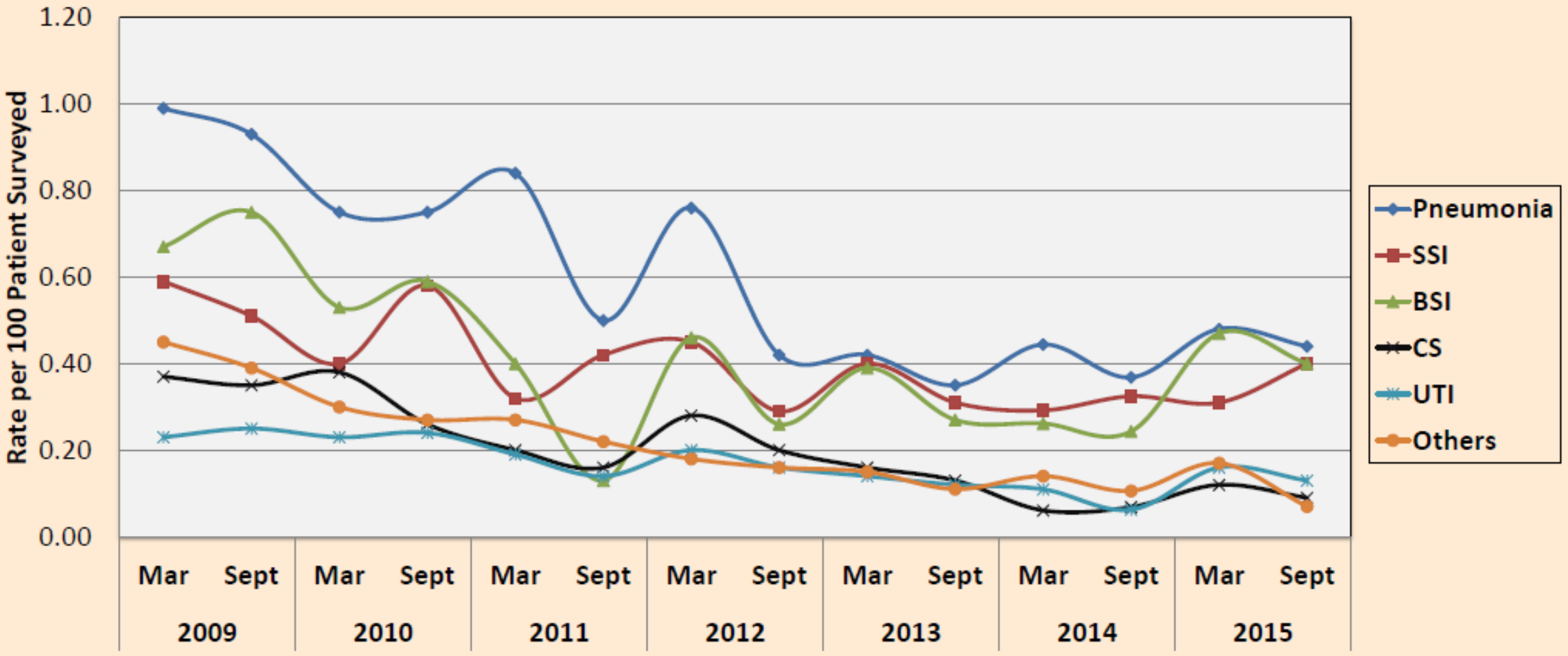
2016

Carbapenem Resistant Enterobacteriaceae (CRE) Surveillance

Distribution of CRE Cases by Gene, 2015

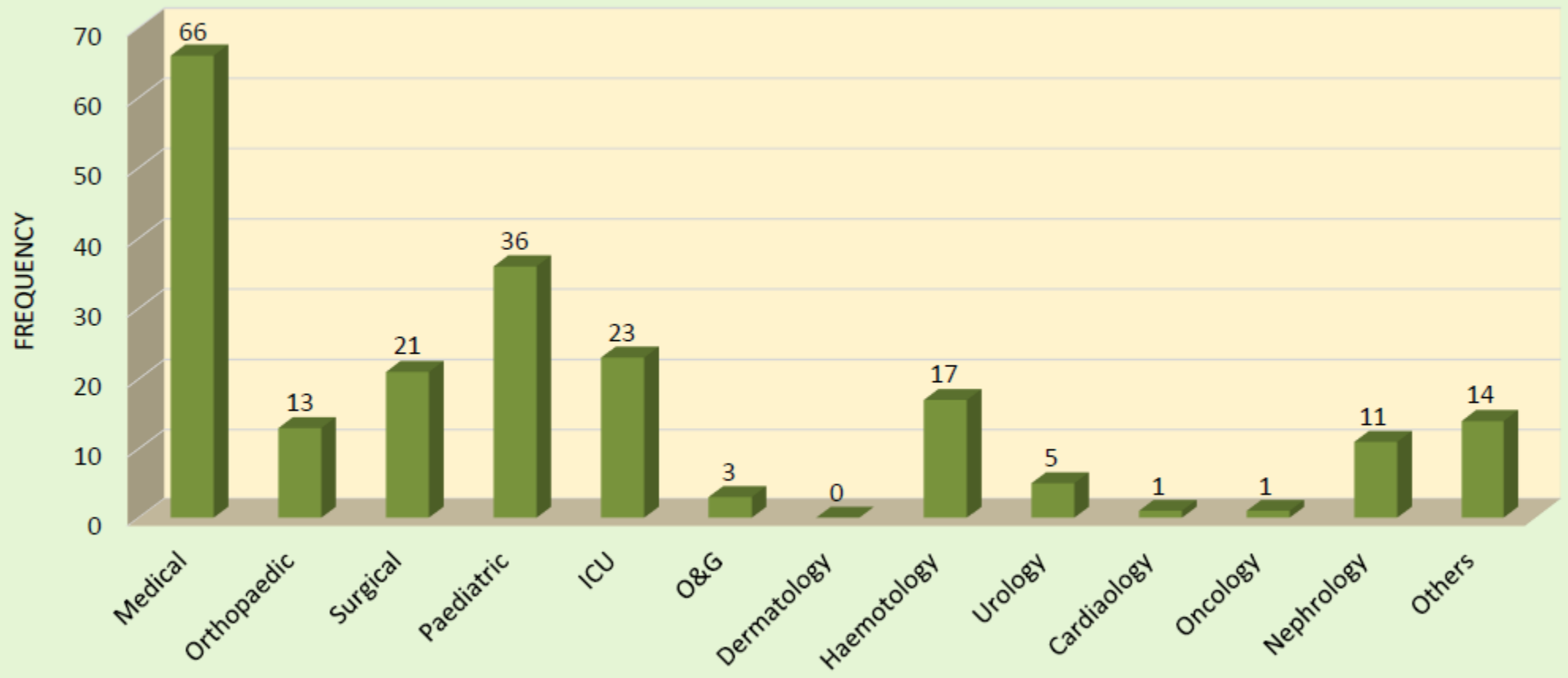


Trending of HCAI Prevalence by Type of Infection, 2009-2015



HEALTHCARE ASSOCIATED BLOOD STREAM INFECTION (HA-BSI) SURVEILLANCE

DISTRIBUTION OF BSI ACCORDING TO DEPARMENT, OCT 2015



Antibiotic Audit on Surgical Prophylaxis Phase 1 (August 2014)

Pharmaceutical Services Division
Puan Rosminah Mohd Din
3rd March 2015

Methodology

- Study sites – 19 MoH Public Hospitals
  - 14 state hospitals
  - 5 major specialist hospitals
- Sampling period–
  - 5 working days in August 2014
- Data collector–
  - Pharmacist/ward pharmacist coordinated by trained pharmacist
- Study Design–
  - This is a open-label, historical chart review of patients undergoing surgical procedures in 19 selected hospitals.
  - Data were collected from surgery list of respective study sites for 5 days in the month of August, 2014.
  - Pharmacist/pharmacists reviewed the required documentation of all patients listed for surgeries in those 5 days.

Acknowledgements

- Dr Suraya Amir, Head of Infection Control Unit, MOH
- Dr Norazah Ahmad, Chief Microbiologist, Institute of Medical research Malaysia
- Puan Hazimah binti Hashim, Deputy Director, Pharmacy Development Unit, MOH
- Prof Sasheela Sri La Sri Ponnampalavanar, Head of Infection Control Unit, UMMC

Quality Control Program

Institute for Medical Research

- distribute well characterized cultures
- 69 participating hospitals
- 3 x per year until 2014; 2 x per year since 2015

Hospital Laboratories

identify the cultures, perform the antibiotic susceptibility testing

send the results back to IMR

analyse results using in-house computer program and send reports back

Hospitals take necessary remedial action