

AMS: Why and where are we at now in the region?

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UN Draft Declaration on AMR (Sep 2016)

“**Acknowledge** that the resistance of bacterial, viral, parasitic and fungal microorganisms to antimicrobial medicines that were previously effective for treatment of infections is mainly due to:

1. The **inappropriate use** of antimicrobial medicines in the **public health, animal, food, agriculture and aquaculture sectors**
2. Lack of access to health services, including to diagnostics and laboratory capacity
3. And antimicrobial residues into soil, crops and water

Resistance to antibiotics, *which are not like other medicines*, **is the greatest and most urgent global risk**, requiring increased attention and coherence at the international, national and regional levels”

Plan.....Global Interagency Group: WHO/UN and World Org for Animal Health (OIE)



After the UN declaration on AMR, what comes next?



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Chris Dall | News Reporter | CIDRAP News | Sep 28, 2016



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developing nations use antibiotics as a substitute for sanitation, hygiene, and medical care. Asking them to reduce antibiotic use essentially removes a critical tool from their healthcare arsenal.

This is where organizations like the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and the World Organization for Animal Health (OIE) will play a significant role. But how these UN bodies will ensure every country is holding up its end of the bargain remains an open question.

The challenge of implementation

"Implementing this will not be easy, at all," said Gian Luca Burci, JD, former legal counsel for the WHO. The UN declaration calls for the creation of a body that will coordinate the efforts of the WHO, FAO, and OIE. But coordination will be a challenge, Burci explained, because those organizations represent different constituencies with different priorities.

The declaration has no set goals and is non-binding

Require implementation support: Africa, Americas, Eastern Mediterranean, Western Pacific regions

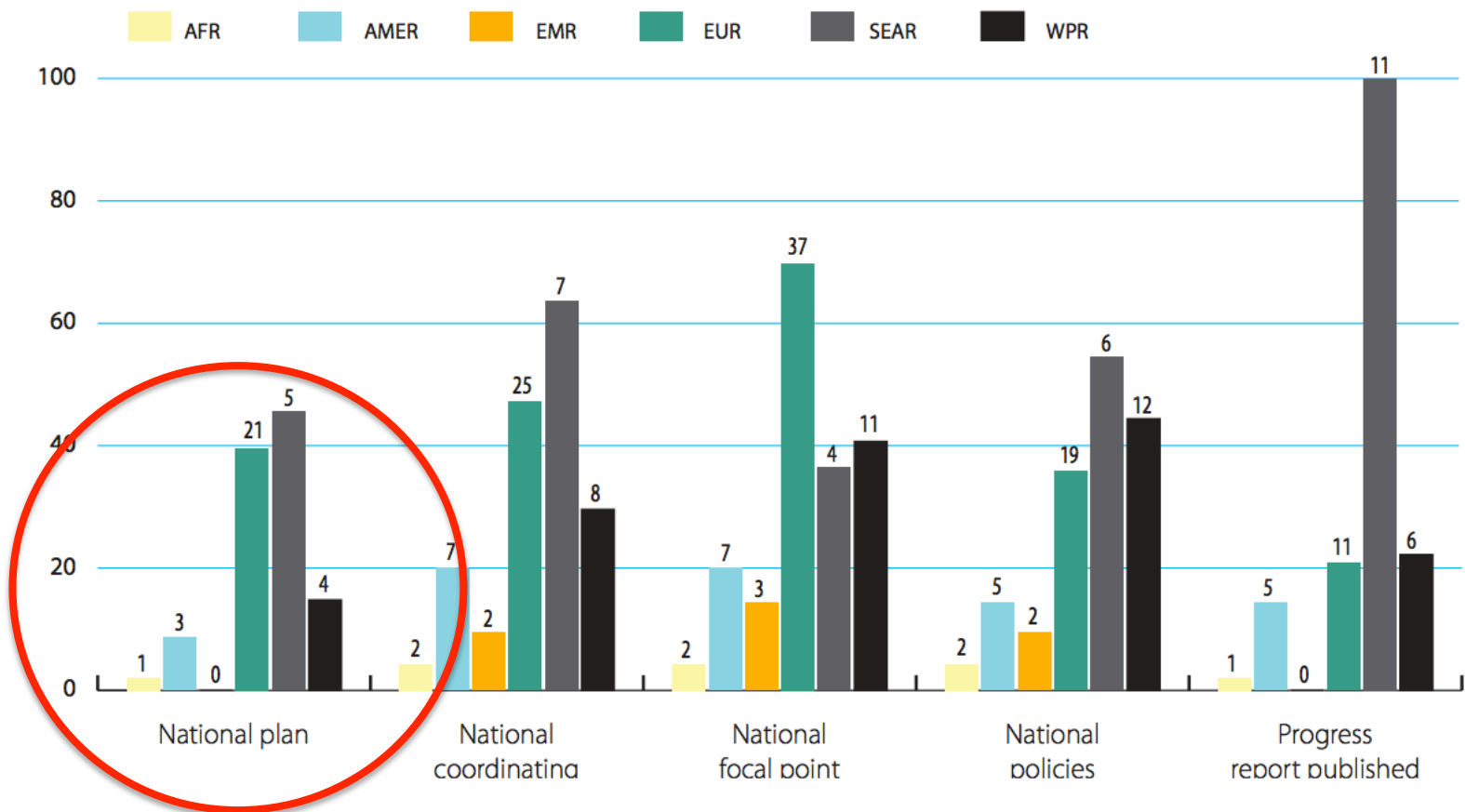


Figure 1.2 – Percentages of Member States that had a national plan for antimicrobial resistance, a coordinating mechanism, a focal point, a policy or a strategy and had prepared a report in the previous 5 years, by region (Note: numbers above the bars represent the numbers of participating Member States that answered “yes”)

AFR, WHO African Region; AMER, WHO Region for the Americas; EMR, WHO Eastern Mediterranean Region; EUR, WHO European Region; SEAR, WHO South-East Asia Region; WPR, WHO Western Pacific Region

Where does AMS sit in the region?



- WHO: Essential Medicines

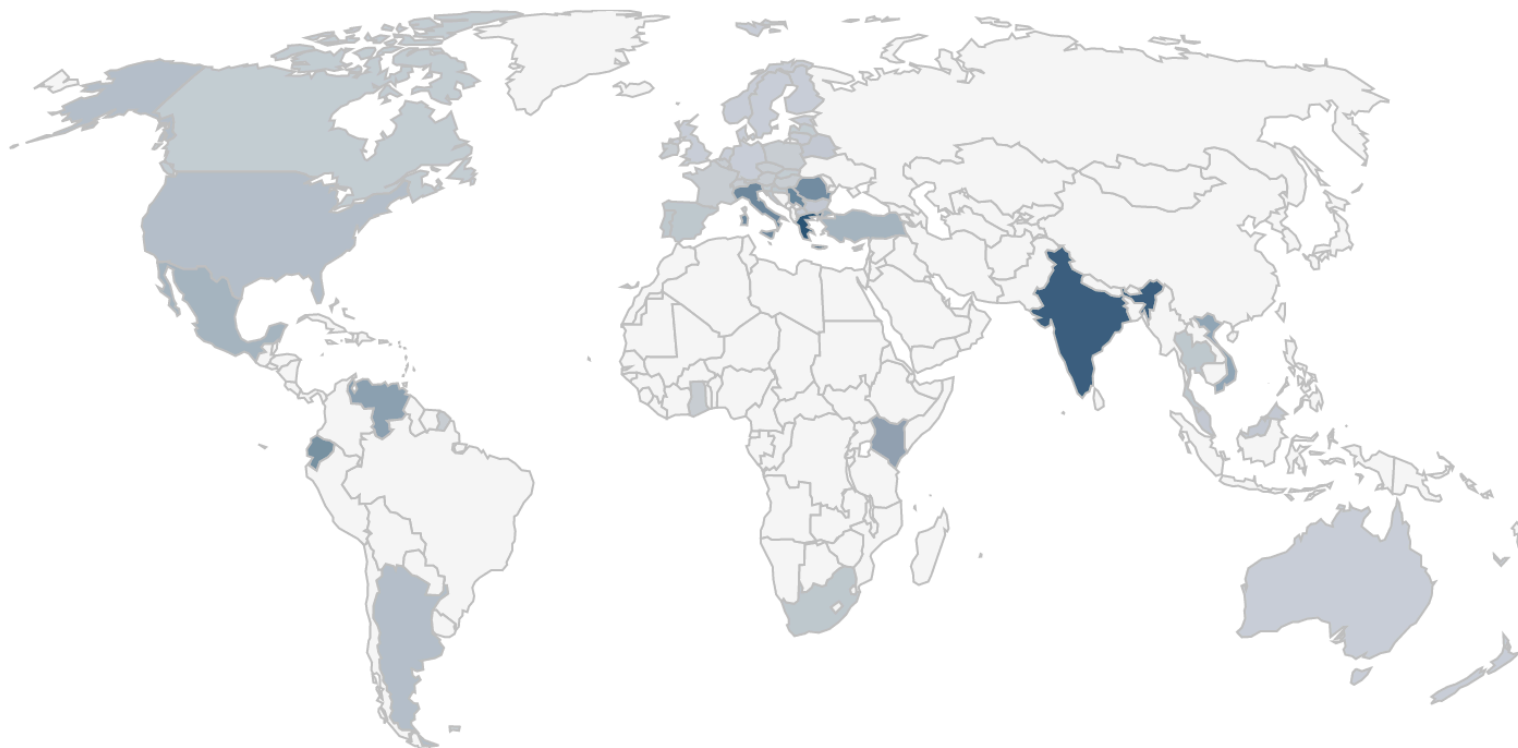
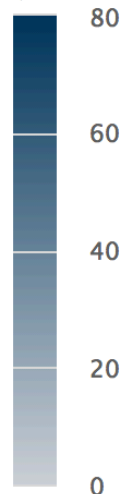
BUT

- AMS straddles Infection Prevention, Quality and Safety, *and* Essential Medicines
- 3 separate governance arms
- Focus has been on usage surveillance & AMR surveillance
- Many national AMR strategies set targets for MRO rates. Is this the best outcome?



Resistance of *Klebsiella pneumoniae* to Carbapenems

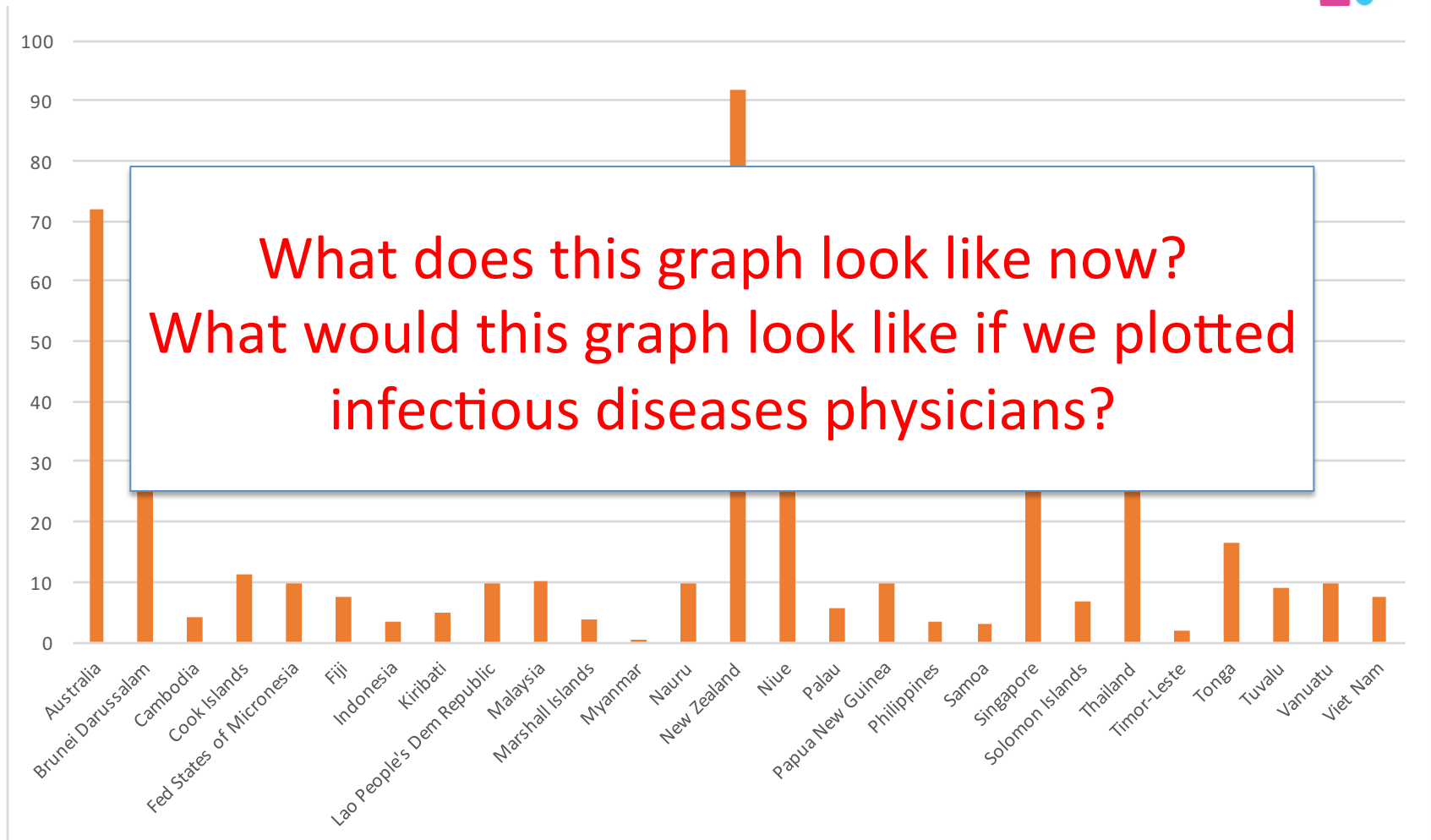
% Resistant
(invasive isolates)



Lots of missing data

Validity of data (e.g. only sickest patients get microbiology)

Workforce capacity for AMS in South East Asia



Pharmacists working per 100,000 population (as at 2004)

Worldmapper.org

Source data from 1998-2004

A reality check



CAS

Antimicrobial stewardship

Safe and appropriate antimicrobial prescribing is a strategic goal of the clinical governance system.

This criterion will be achieved by:	Actions required:
3.14 Developing, implementing and regularly reviewing the effectiveness of the antimicrobial stewardship system	<p>3.14.1 An antimicrobial stewardship program is in place</p> <p>3.14.2 The clinical workforce prescribing antimicrobials have access to current endorsed therapeutic guidelines on antibiotic usage⁴⁵</p> <p>3.14.3 Monitoring of antimicrobial usage and resistance is undertaken</p> <p>3.14.4 Action is taken to improve the effectiveness of antimicrobial stewardship</p>

Standalone accreditation criteria

2013

Update 2018

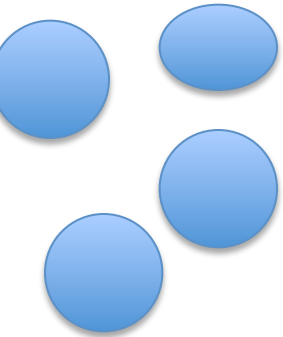
NAPS introduced 2013

Web portal 2014

Appropriateness & Guidelines concordance

Adults and paed

Key partner for national AMR strategy 2015



Pre 2008

Few leaders in AMS

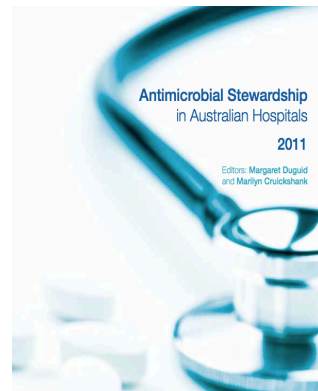
RMH – approval 2008

system

implemented

2005

Triggered formation of AMS working party with ACQSHC



AMS Book 2011
Revised version 2018 to include community, indigenous, aged care etc.

NAUSP
 Adult DDDs

2015...



Clinical Care
Standards

Clinician Fact Sheet: Antimicrobial Stewardship

The goal of the Antimicrobial Stewardship Clinical Care Standard is to ensure that a patient with a bacterial infection receives optimal treatment with antibiotics. This means that patients are offered the right antibiotic to treat their condition, the right dose, the right route, at the right time and for the right duration. This should be based on accurate assessment and timely review as to lessen the risk of adverse effects and reduce the emergence of antibiotic resistance.

UNDER THIS CLINICAL CARE STANDARD



A patient with a life-threatening condition due to a suspected bacterial infection receives prompt antibiotic treatment without waiting for the results of investigations.



A patient with a suspected bacterial infection has samples taken for microbiology testing as clinically indicated, preferably before starting antibiotic treatment.



A patient with a suspected infection, and/or their carer, receives information on their health condition and treatment options in a format and language that they can understand.



When a patient is prescribed antibiotics, whether empirical or directed, this is done in accordance with the current version of the *Therapeutic Guidelines* (or local antibiotic formulary). This is also guided by the patient's clinical condition and/or the results of microbiology testing.



When a patient is prescribed antibiotics, information about when, how and for how long to take them, as well as potential side effects and a review plan, is discussed with the patient and/or their carer.



When a patient is prescribed antibiotics, the reason, drug name, dose, route of administration, intended duration and review plan is documented in the patient's health record.



A patient who is treated with broad-spectrum antibiotics has the treatment reviewed and, if indicated, switched to treatment with a narrow-spectrum antibiotic. This is guided by the patient's clinical condition and the results of microbiology tests.

National Centre for Antimicrobial Stewardship (NCAS)

The NCAS is a new NHMRC-funded Centre of Research Excellence that will investigate the evidence gaps in what is known about the relationships between antibiotic use in humans and animals and antibiotic resistance.

The NCAS represents the first One Health collaboration where researchers, scientists and clinicians working on antimicrobial resistance within the human world and the animal world have formally come together to investigate the same key research questions as they apply to livestock, veterinary care, community settings and hospitals. general

2015: Australia's First National Strategy to address Antimicrobial Resistance



Objective One

Increase awareness and understanding of antimicrobial resistance, its implications and actions to combat it, through effective communication, education, and training

Implement effective antimicrobial stewardship...animal and human

settings to
als

Develop nationally coordinated One Health surveillance of antimicrobial resistance and antimicrobial usage



Objective Four

Improve infection prevention and control measures across human health and animal care settings to help prevent infections and the spread of resistance

Objective Five

Agree a national research agenda and promote investment in the discovery and development of new products and approaches to prevent, detect and contain antimicrobial resistance

Objective Six

Strengthen international partnerships and collaboration on regional and global efforts to respond to antimicrobial resistance

Objective Seven

Establish and support clear governance arrangements at the local, jurisdictional, national and international levels to ensure leadership, engagement and accountability for actions to combat antimicrobial resistance

Structures and processes to support AMS in Australia (.....in hospitals)



- Australian Commission on Quality and Safety in HealthCare
 - National accreditation program includes AMS as a stand-alone criterion
 - National observation & medication chart (between the flag)
 - Implementation workbooks and toolkits
 - A national clinical care standard for AMS
- National guidelines for AB prescribing – endorsed by accreditation (Therapeutic Guidelines)
- High quality Infection Prevention/Medical care
 - BUT....average hand hygiene compliance, especially doctors
- National Antimicrobial Prescribing Survey
- Tight regulation of drugs/quality
- Well established AMS models (approvals, post prescription review)
 - BUT issues in rural and regional sites
- Already low rates of gram negative resistance, MRSA declining
 - BUT.....high rates of VRE

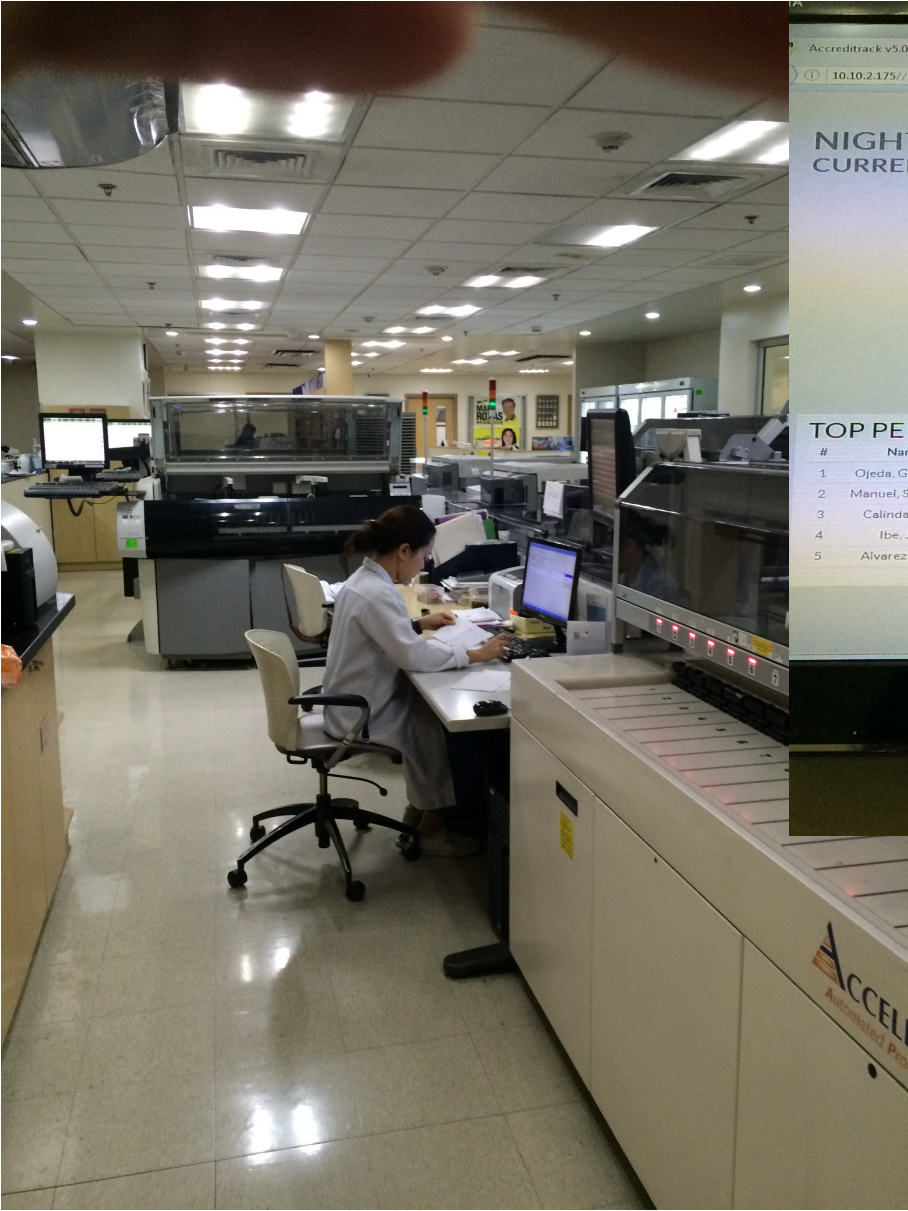
The Philippines as a case study



NCAS visit to WPRO May 2016
Site visits in Manila
Purpose: Assess organisation
readiness, identify gaps, and
provide recommendations

The health care system

- Large private sector provides 30% pop and 70% of HCW
- Good links between private and public (supportive
- 4 levels of hospitals (only 20% level 3 or 4 with micro)
- Licensed hospitals *automatically* granted accreditation (being driven by universal health insurance)
- Inequity of access to health services/large out of pocket expenses
- National AMR policy 2015
- Administrative order for Includes AMS but funding only for IPC practioners 1: 100 beds
- Several AMS champions
- No dedicated funding for AMS
- No AMS training programs
- National guidelines being developed but no implementation plans
- AMR surveillance 24/1800 sites (undertakes credentialing activities) (ARSP)- WHONET
- National drug formulary- 6 antibiotics – tied to reimbursement but only for ARSP accredited hosp
- 3rd generation cephalosporins and FQ unrestricted
- No antimicrobial usage surveillance



Accreditrack v5.0.1
10.10.2.175//Acct Search

NIGHT COMPLIANCE CURRENT SHIFT

Compliance Rate
63.22%

TOP PERFORMERS

#	Name	Staff Type	Compliance
1	Ojeda, Giselle Aliza	Nurse	90%
2	Manuel, Sigrid Marie	Nurse	79%
3	Calindas, Krissel	Auxiliary	71%
4	Ibe, Joped	Nurse	67%
5	Alvarez, Eugene	Nurse	60%

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SONY

- ID physicians
- Well funded IPC
- Specialist AMS pharmacist in training
- Fully automated microbiology
- Antimicrobial surveillance
- Some restrictions
- BUT No drug charts**



1500 bed university hospital
AMS program in place (HEALS)

- ID expert
- Pharmacist

Nurse to patient ratio 1:20

Poor IT infrastructure

Only basic patient record systems

A few clinical pharmacists

Some clinical guidelines/
pathways (e.g Dengue, CAP)

Microbiology reports hand
delivered to wards once per day

No real-time notification of +BC

PHYSICIAN'S ORDERS

Pls. indicate Lic. No. w/ Printed Name & Signature

- > P lumbar puncture ✓
- > Secure consent for procedure ✓
- > Please prepare the following ✓
- spinal needles 922 # 2 ✓
- gloves 1/2 # 2 ✓
- mask # 1 ✓
- specimen container # B ✓
- Urethane 22 # 1 ✓
- > Start Amphotericin B ✓
- 50g + 10W 100 u ✓
- to run over 4hrs @ 24H ✓
- 7 pre- & 2 post hydration ✓
- ANSS 100 u ✓

Diagnosis: Ain/Hospital Acquired Pneumonia

REMARKS: DISCHARGED EXPIRED HAMA/TRANSFERRED

DATE DISPENSED: _____

DRUG, DOSAGE, AND FREQUENCY	4/18	4/19	4/20	21	22	23	24	25	26	27	28	29	30	31	5/2
Saltact	1														
Doxin	1			1						1	1				
Rist-HW							2(-1)	2							
Safety Net	1		1												
ALBATEL	1														
Kce			2		2	1	2	2	2	2			2	2	3
PIPTAN 4.5g W 0.8 NIC q8h		3	4	4	4	3-3									
Carimone B	1	4	6	6	6	6	2	6	6	6	6	6	6	6	6
Amphotericin B															

For Amprlo B

RESEARCH INSTITUTE FOR TROPICAL MEDICINE
Fillinvest Corporate City Compound
Alabang, Muntinlupa City

IRTM-ICC-FRM-03
Revision No.: 1

INFECTION CONTROL
ANTIBIOTIC MONITORING FORM

(Please Accomplish in Duplicate)

NAME: _____ DATE: 5/1/16
AGE: _____ SEX: _____
ROOM: _____

CLINICAL DIAGNOSIS: Cryptococcal meningitis

DRUGS REQUESTED:	DRUGS	DOSE/FREQUENCY	DURATION
	Amphotericin B	50mg IV q 24h	14

INDICATION FOR ANTIMICROBIAL USE:
 Prophylactic Therapeutic
 Empiric Definitive

CULTURE AND SENSITIVITY RESULT (If applicable):
 (+) Serum CRAS 1: 10^{3.5} CFU/ml
 CR 2: approx

Requesting Resident/Fellow:

 Signature over Printed Name

Action taken: Approved Disapproved

 Infectious Disease Consultant of the Month

Need basic building blocks in place

Medication charts:
Drug orders and administration

Their national AMR strategy - goals



- Reduce by 30% CRE infections acquired during hospitalization
- Maintain the prevalence of ceftriaxone-resistant *Neisseria gonorrhoeae* to 0%
- Reduce by at least 30% overall MRSA bloodstream infections compared to rates in 2014
- Reduce by 30% MDR *Pseudomonas* spp infections acquired during hospitalization compared to estimates in 2014
- Reduce by 25% ciprofloxacin-resistant non-typhoidal salmonella infections compared to 2014

Is this the right focus? What about patient safety?

Our recommendations (short term)



Theme	Action item	Leading groups
Workforce	Appoint and provide dedicated funding to AMS champions and explore public-private collaboration for education and mentoring	DOH and WHO
Workforce	Clinical pharmacists should be recognised as an essential part of the AMS workforce, with dedicated government level funding provided	DOH
Guidelines	National guideline implementation should be discussed as a matter of urgency and an implementation plan developed	Guidelines Committee and AMS champions
Guidelines	Local hospital guidelines and clinical pathways should be reviewed and brought into line with national recommendations where possible	Hospital AMS/ID clinicians
Education	Develop specific AMS training package for clinical pharmacists, ICPs and clinicians that local hospitals can utilise (and modify as required depending on their local hospital context)	DOH, WHO and AMS champions
Documentation	Introduction of a standardised national medication chart whereby the medication order and administration are directly written onto the same document	DOH
Documentation	Improvements are made to ensure greater transparency and communication of patient alert information	DOH, Hospital executives
Documentation	Adaptation and implementation of clinical practice guidelines for the early recognition and management of sepsis should be a priority for all hospitals	Hospital AMS/ID clinicians
Restriction	Consider the addition of <u>fluoroquinolones</u> and 3 rd and 4 th generation <u>cephalosporins</u> to hospital restriction lists	Hospital AMS/ID clinicians
Audit and review	Use of community dispensed antimicrobials should also be monitored, including an approval form if it is for a restricted antimicrobial	Hospital AMS/ID clinicians
Audit and review	Audit and feedback of antimicrobial prescribing quality should be undertaken, particularly for non-restricted antimicrobials	Hospital AMS/ID clinicians



Thank you



National Centre for Antimicrobial Stewardship
A One Health approach to AMS

*Streams: Tertiary hospital, rural and regional,
general practice, aged care, companion animals
and livestock animals.*

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