

Antimicrobial Resistance

The National and Regional Context

Dr Abdul Ghafur

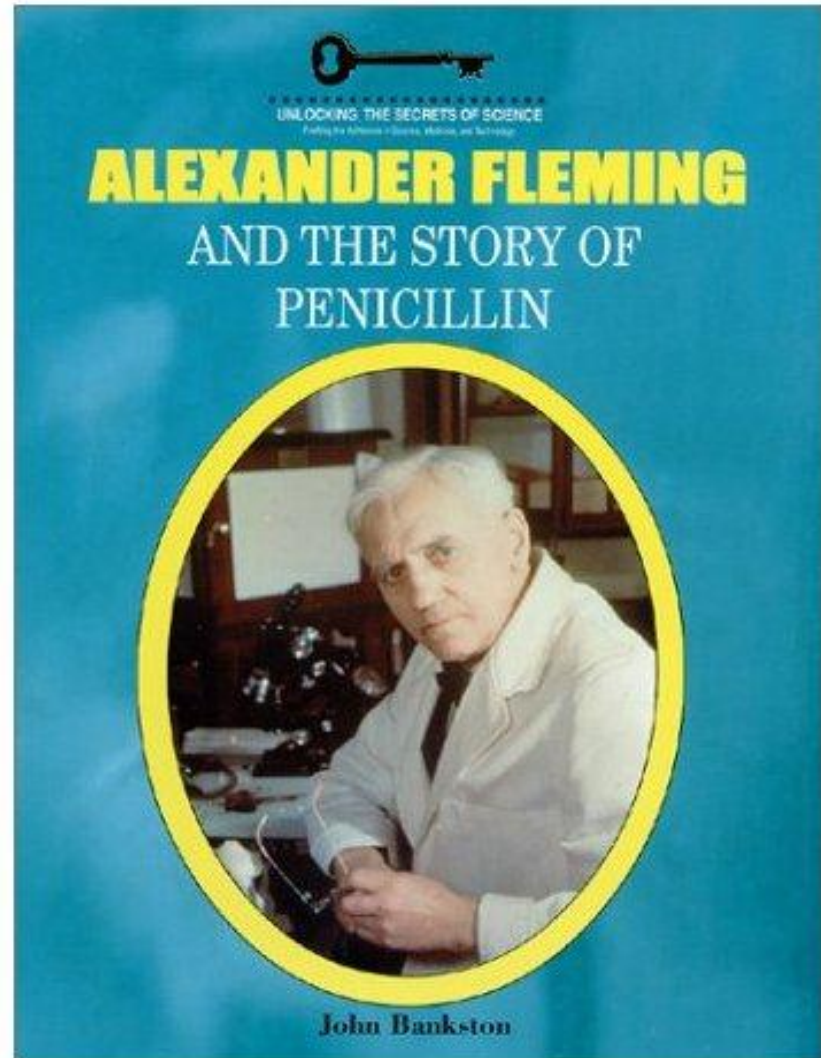
Coordinator, “Chennai Declaration”

Consultant in Infectious Diseases

Apollo Hospital, Chennai

India

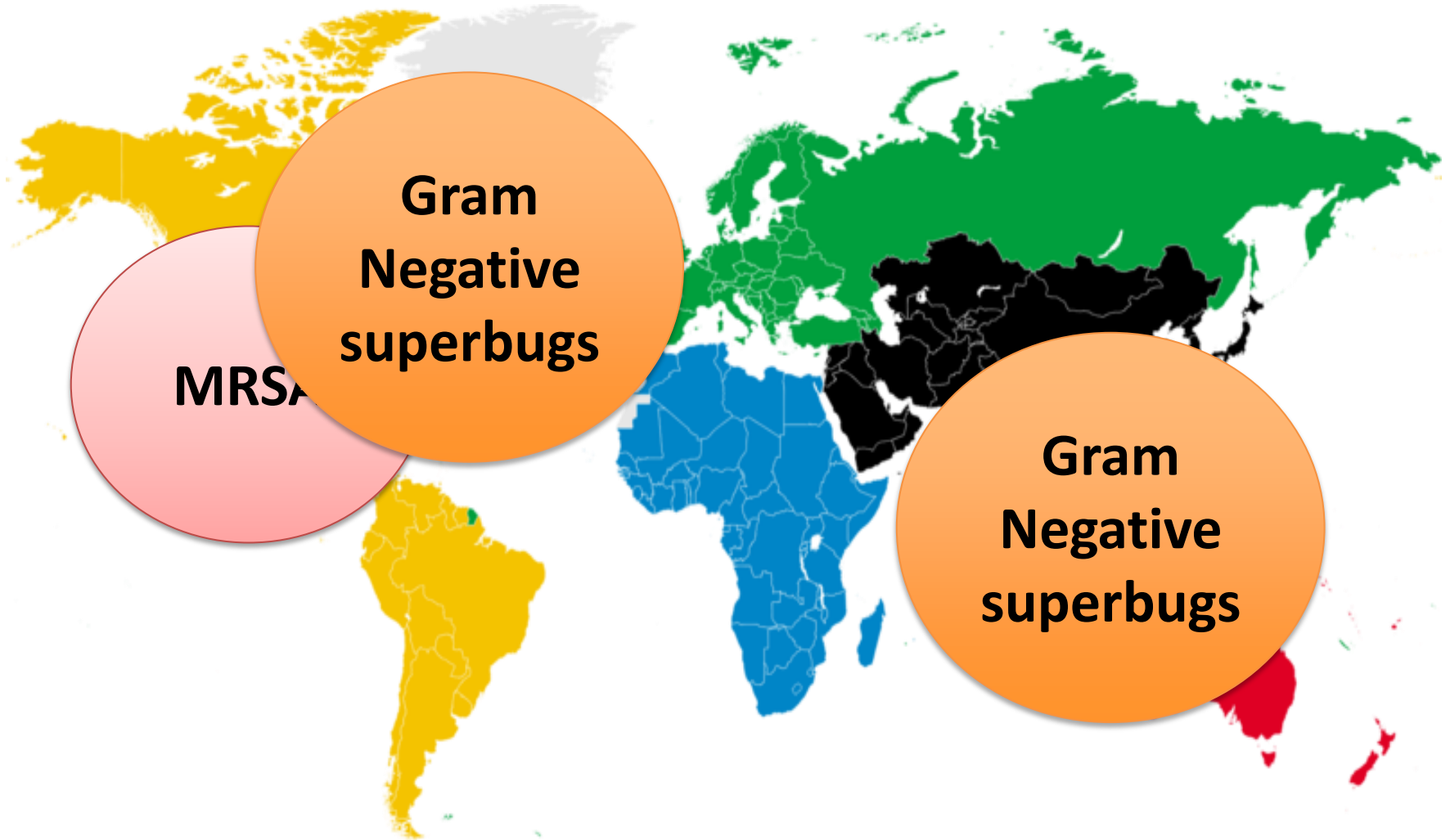
Penicillin-The miracle molecule



Global crisis



Superbug crisis



Multidrug resistant Gram negatives 2008

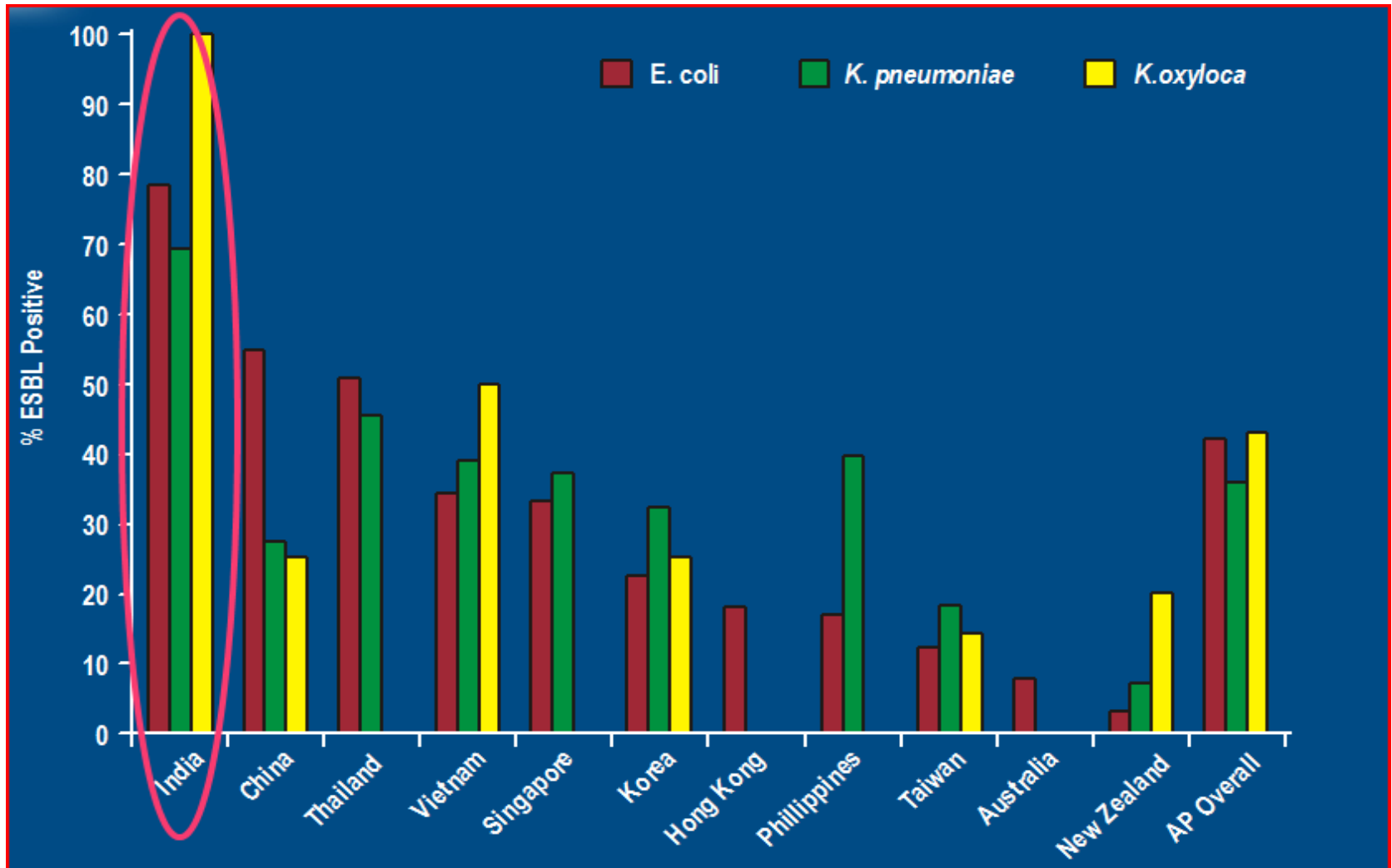
Klebsiella

amikacin	R
cefepime	R
imipenem	S
ceftazidime	R
Cefo-sulb	S
cipro	R
Pip taz	R
gentamicin	R
colistin	S

ESBL



Frequency distribution of ESBL-positive isolates in the Asia-Pacific (AP) region during SMART: 2009



Mediterranean countries- **The minor epicentre of Gram negative** **resistance**



Acinetobacter-
carbapenem (R)
up to 85% in ICU

Euro Surveill 2008;13(47).

40% of Klebsiella in Greece resistant to carbapenems.

Resistance Potential



1 billion(1000 million)



• 10 million

Global war on Microbes



Extremely Drug Resistant Bacteria 2010(Super bugs)

Klebsiella

amikacin	R
cefepime	R
imipenem	R
ceftazidime	R
Pip-taz	R
cipro	R
meropenem	R
gentamicin	R
colistin	S



Carbapenem Resistant Superbugs

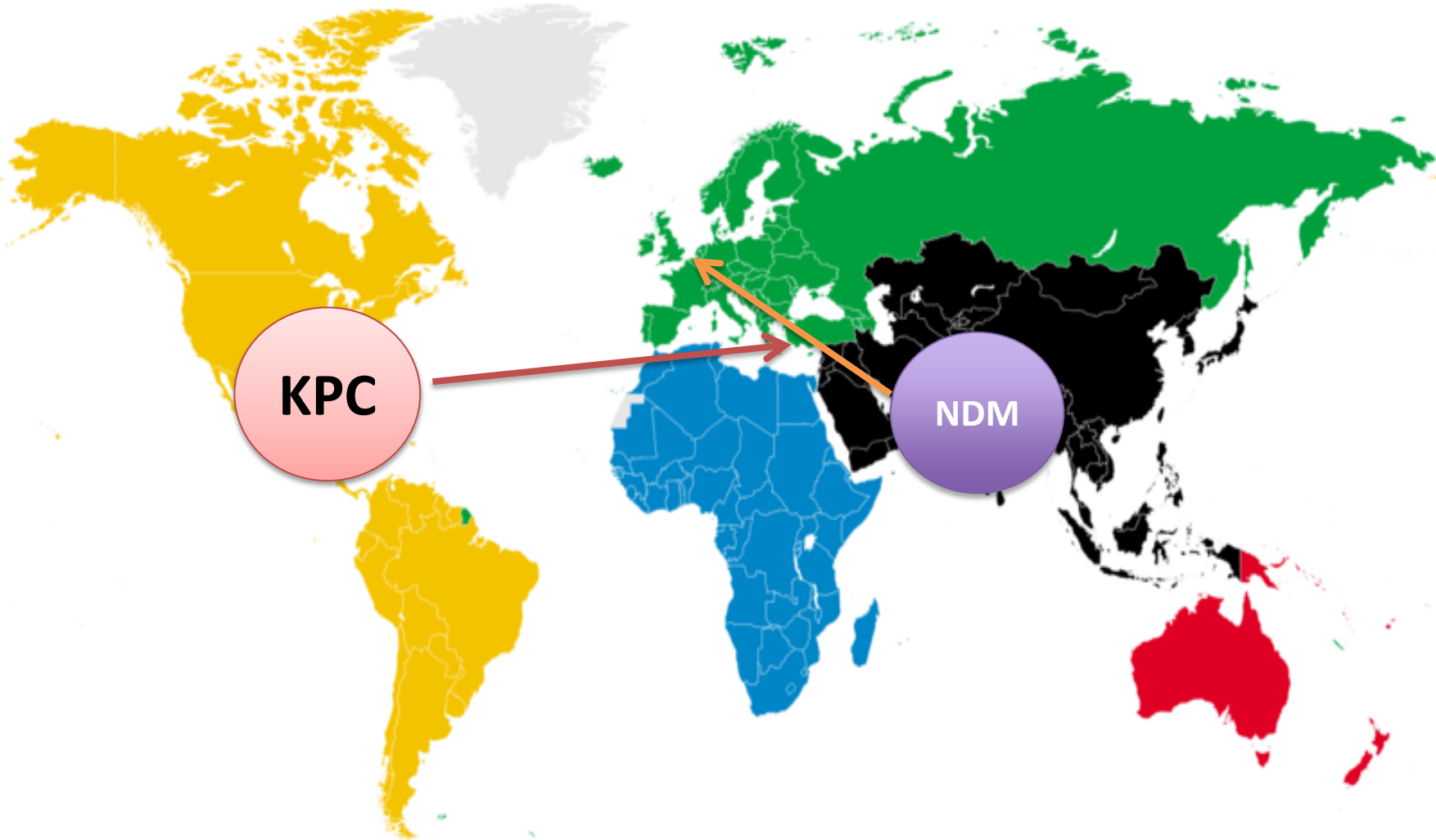
2010

E.Coli- 1%

Klebsiella- 3%



Global spread of carbapenem resistance



The first major paper on NDM-1

Hinduja Hospital paper on NDM-1

22 NDM-1 producing Enterobacteriaceae,
in just 3 months and a single hospital

Deshpande P, : JAPI 2010, 58:146-148



An obituary- On the Death of antibiotics!

Abdul Ghafur K



LANCET NDM PAPER

Beauty and Dignity



Attitude!



Attitude is a little thing that makes
a big difference-Winston Churchill



**NATIONAL POLICY FOR
CONTAINMENT
OF
ANTIMICROBIAL RESISTANCE
INDIA**



2011

Policy put on hold by the Honorable Health minister

For the right reasons, mostly.....

- The National policy published in 2011 has been put on hold due to non implementability of major recommendations.^{1,2}

1. <http://ibnlive.in.com/news/antibiotic-policy-put-on-hold-indefinitely/192878-17.html>.

2. <http://www.dailypioneer.com/nation/10933-lack-of-foresight-antibiotic-policy-bites-dust.html>

Once bitten! Twice shy!!



Initiatives-2011

- New Delhi Call to Action-GARP
 - Well intentioned- published an excellent document.
 - Did not result in a serious initiative.



- Jaipur Declaration- by WHO

Ended up in a paper



Carbapenem Resistant Superbugs

2012

E.Coli- 10%

Klebsiella- 30%



More than a billion!



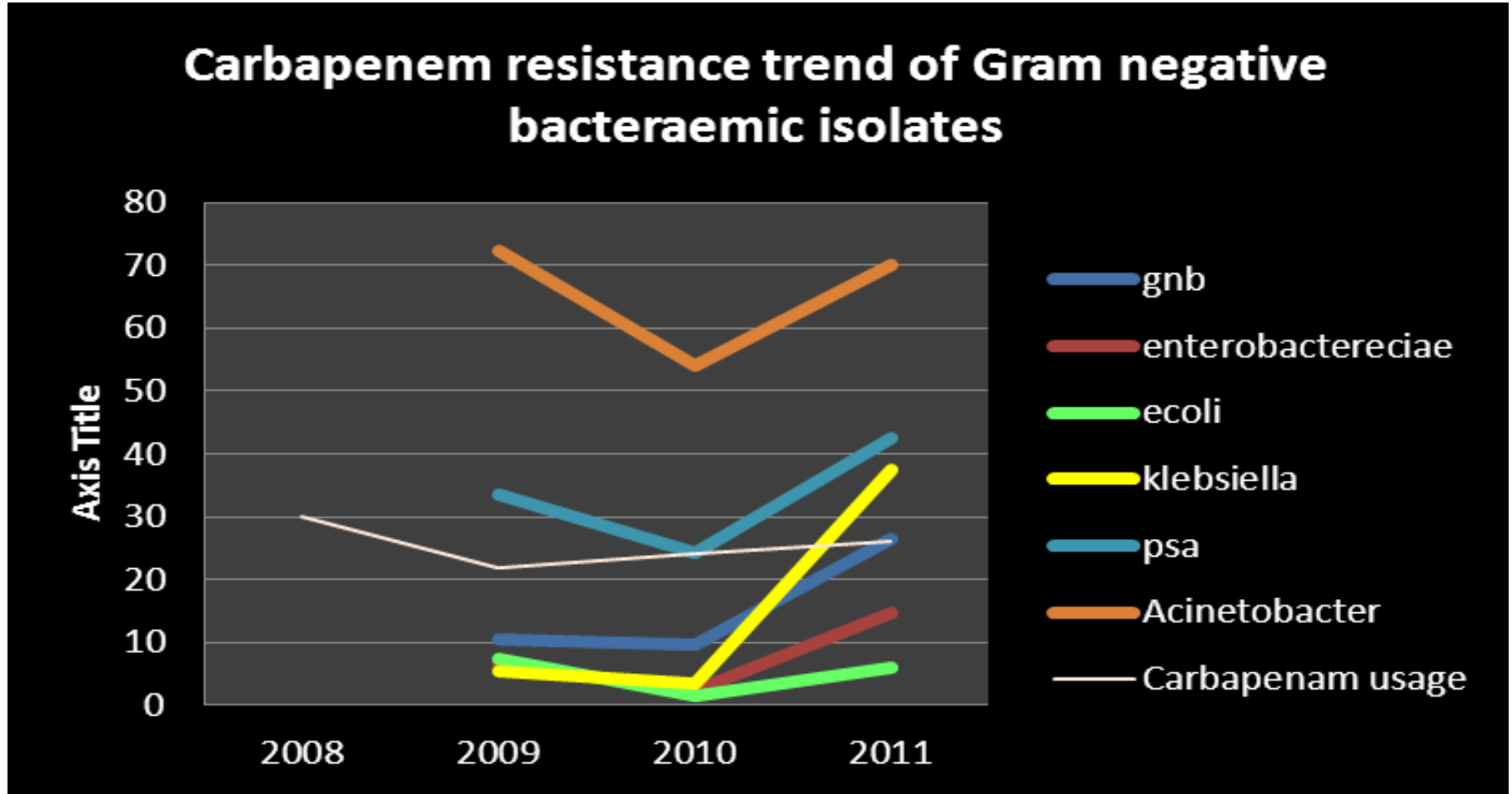
There are more billionaires in India than in UK!!



Heterogeneity in Health care system

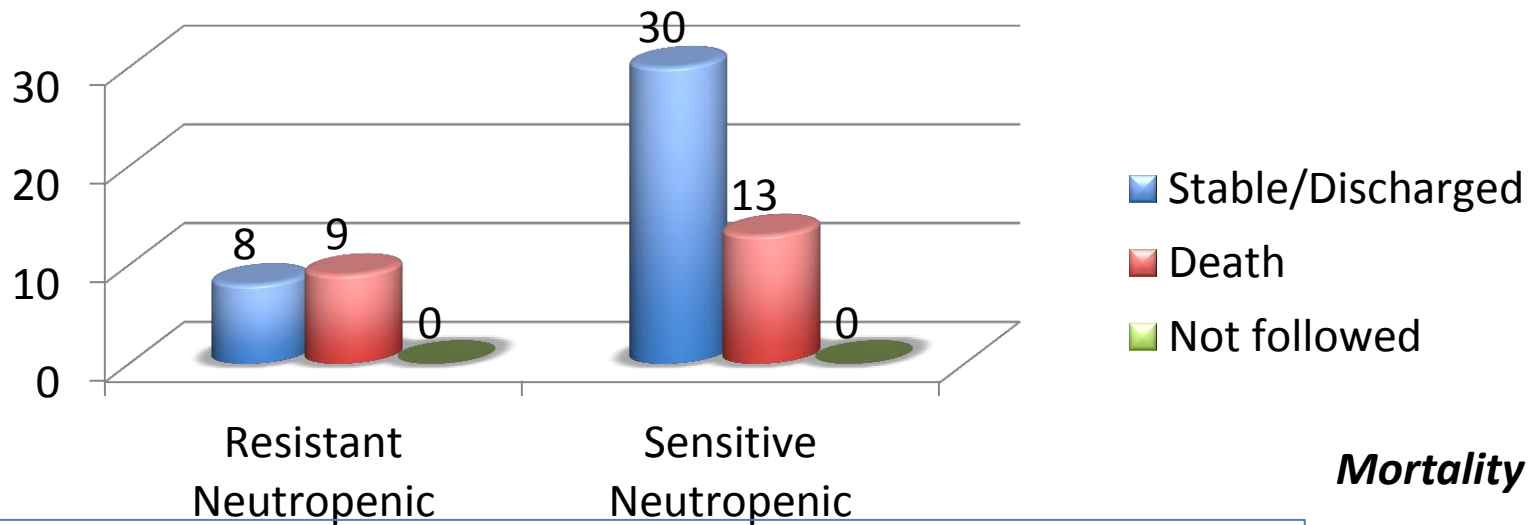


A Tsunami can't be blocked with a barricade!



CLINICAL STUDY ON CARBAPENEM SENSITIVE & CARBAPENEM RESISTANT BACTEREMIA IN NEUTROPENIC & NON-NEUTROPENIC PATIENTS- THE FIRST SERIES FROM INDIA.

Clinical outcome among Neutropenic group



Mortality p Value

-<0.001

30 day mortality

Resistant neutropenic

(52.94%)

Sensitive neutropenic

(30.23%)

Abdul Ghafur et al.
ECCMID Poster No
P1368, Berlin 2013

2012

“Road map meeting of Medical societies in India”

and

**“The Chennai Declaration”
document and initiative.**

“The Chennai Declaration”

Recommendations of “A roadmap- to tackle the challenge of antimicrobial resistance” - A joint meeting of medical societies of India

Ghafur A, Mathai D¹, Muruganathan A², Jayalal JA³, Kant R⁴, Chaudhary D⁵, Prabhash K⁶, Abraham OC⁷, Gopalakrishnan R⁸, Ramasubramanian V⁹, Shah SN¹⁰, Pardeshi R¹¹, Huilgol A¹², Kapil A¹³, Gill JPS¹⁴, Singh S¹⁵, Rissam HS¹⁶, Todi S¹⁷, Hegde BM¹⁸, Parikh P¹⁹

Coordinator, Road map meeting and Antibiotic Stewardship Committee Chairperson, Clinical infectious Diseases Society, ¹President CIDS, ²President Elect API, ³Indian Medical Association, ⁴President, Association of Surgeons of India, ⁵Indian Society of Critical Care Medicine, ⁶DM Indian Society of Medical and Paediatric Oncology, ⁷Secretary CIDS, ⁸Organising Secretary CIDSCSON, ⁹Organising Chairman, CIDSCON, ¹⁰Editor, JAMA, ¹¹Federation of Obstetric and Gynaecological Societies of India, ¹²President, Indian Society of Organ Transplantation, ¹³Indian Association of Medical Microbiologists, ¹⁴Director, School of Public Health and Zoonoses, GADVASU, ¹⁵Chairman, Research Committee, NABH, ¹⁶Member, Board of Governors, Medical Council of India, ¹⁷Panel member of Ministry of Health expert committee STG on Critical Care, ¹⁸Former Vice Chancellor, Manipal Academy of Higher Education, ¹⁹Convenor, Indian Cooperative Oncology Network

A new Approach!

- **Step by step approach**
- An **“implementable policy”**
and not a **“perfect policy”**

International Journals

BMJ

JAMA

Clinical Infectious Diseases

THE LANCET Infectious Diseases

MJ  7

Journal of
Antimicrobial Chemotherapy



ANTIMICROBIAL RESISTANCE &
INFECTION CONTROL

International Conferences

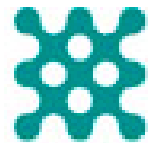
ICPIC  **2013**

ICAAC





RCPE



ESCMID

Infectious Diseases Society of America

International Medical Societies

Chief Medical officer England Annual report

Annual Report of the Chief Medical Officer: infection and the 
rise of antimicrobial resistance

www.thelancet.com Published online March 11, 2013



Indian Medical societies response

Faecal carriage of NDM-1 in hospitalized and non hospitalized patient

- 122 healthy controls and 95 ICU patients
- Faecal carriage was seen
 - 9/122 (7.4%) of Controls
 - 25/95 (27.4%) of ICU patients- carbapenem resistance
 - Day 1- 3/95 (3.2%)
 - Day 4- 13/97 (13.7%)
 - 8/95(8.4%) showed colonisation on both days
 - Mainly E.coli, Mainly NDM-1

HISICON2013 abstract-OC 17
G Mittal et al
Vardhaman Mahavir Medical
College & Safdarjung Hospital, Delhi

7.4 % Controls

ICU

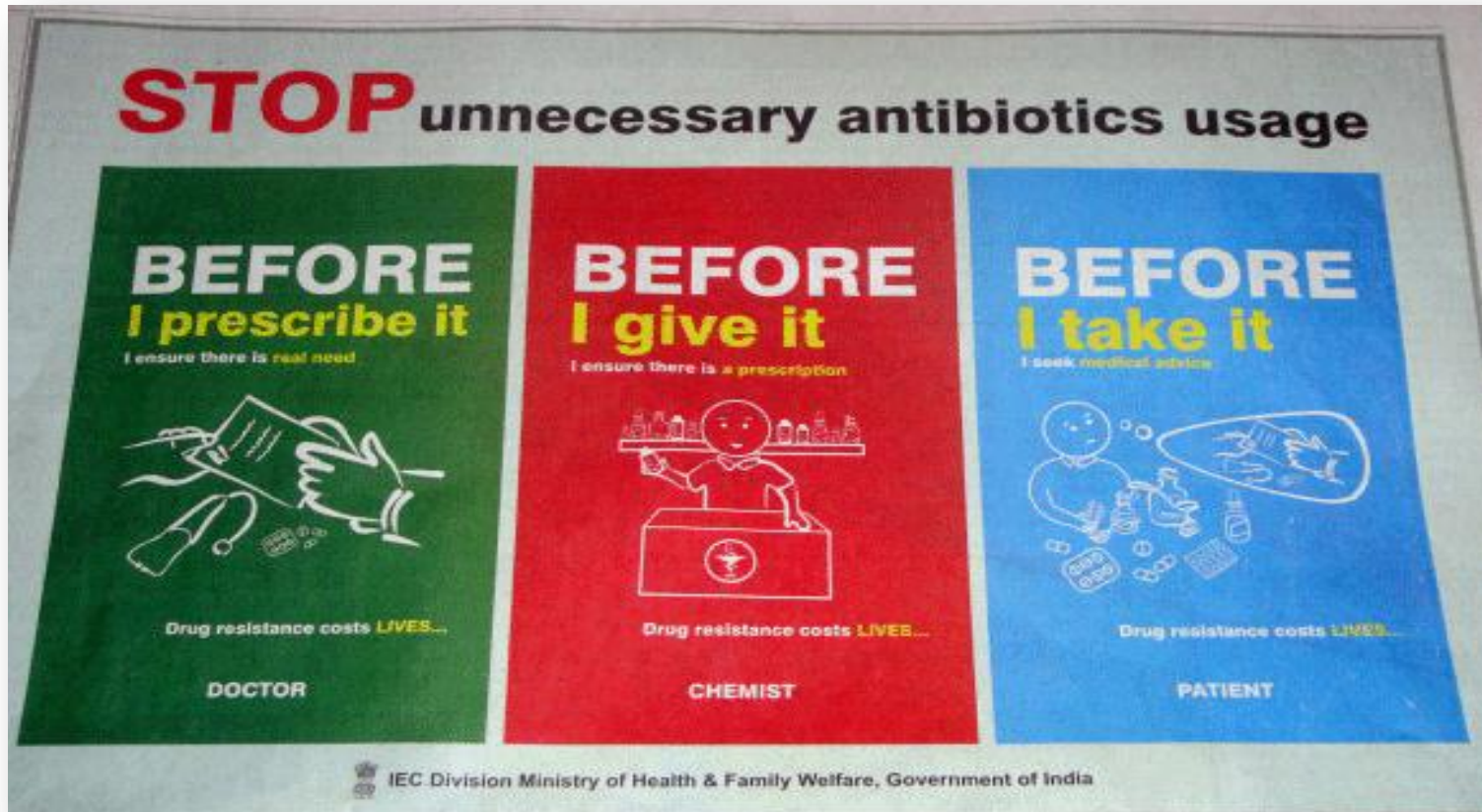
– Day 1- 3.2%

– Day 4- 13.7%

Attitude Change



Government Response



Government Response



Government of India

Ministry of Health & Family Welfare

Department of Health & Family Welfare



Perseverance by “Chennai Declaration”

Ministry Meeting again...to discuss Chennai Declaration and Antibiotic policy Sept 2013



NATIONAL POLICY FOR CONTAINMENT OF ANTIMICROBIAL RESISTANCE

INDIA



2011

“The Chennai Declaration” Recommendations of “A roadmap- to tackle the challenge of antimicrobial resistance” - A joint meeting of medical societies of India

Ghafur A, Mathai D¹, Muruganathan A², Jayalal JA³, Kant R⁴, Chaudhary D⁵,
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सत्यमेव जयते
भारत सरकार

राष्ट्रीय रोग नियंत्रण केन्द्र

(स्वास्थ्य सेवा महानिदेशालय)

22-शाम नाथ मार्ग, दिल्ली 110054

Government of India

NATIONAL CENTRE FOR DISEASE CONTROL (NCDC)

[Formerly known as National Institute of Communicable Diseases (NICD)]
(Directorate General of Health Services, Ministry of Health & Family Welfare)

22 Sham Nath Marg, Delhi - 110 054

National Antibiotics guidelines

New Indian Rule on OTC

भारत का राजपत्र
The Gazette of India



सत्यमेव जयते

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (i)

PART II—Section 3—Sub-section (i)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं. 441]

नई दिल्ली, शुक्रवार, अगस्त 30, 2013/भाद्र 8, 1935

No. 441]

NEW DELHI, FRIDAY, AUGUST 30, 2013/BHADRA 8, 1935

No more over-the-counter sale of 46 drugs from Saturday

By Jyoti Shelar, Mumbai Mirror | Feb 27, 2014, 11.55 PM IST

- Record the names and addresses of doctors and buyers
- Maintain a record of such sales(for 3 yrs)
- Small-time chemists don't have computers in their shops
- More than 3,000 firms(more than half a million pharmacies)
- Available in more than 20,000 various combinations



H1 drugs no longer available without prescription

Harpreet Kaur, Hindustan Times Hoshiarpur, March 04, 2014

First Published: 22:01 IST(4/3/2014) | Last Updated: 22:34 IST(4/3/2014)

- The seller has to ask for fresh prescription letter if there is a time lapse between the purchase and the date on which the doctor recommended.
- Any violation of the new rule would attract penalty.
- "We are turning away patients who do not bring valid prescription. It is affecting our sales."

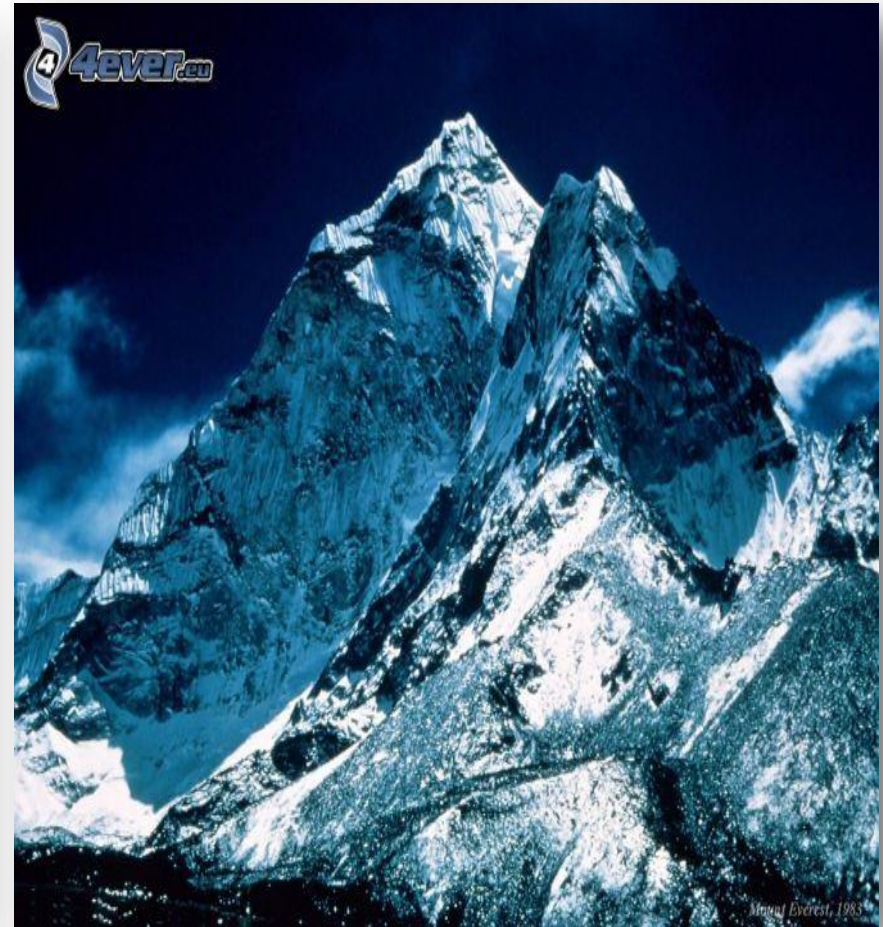
- "It is a mandate and we have to follow it. We have started educating our members on how to execute the directive,"
- "Association is in talks with a few software developers to make the process of feeding in the information simpler."

Prasad Danave, General secretary, Retail & Dispensing Chemists Association (RDCA).



Indian Council of Medical Research - Expanding the Surveillance Network

Chennai Declaration and Tackling Resistance in India



Chennai Declaration Five year plan.....

Chennai Declaration Implementation-Five Year Plan

The “Chennai declaration-five year plan” is designed as a companion document to the original “Chennai declaration”.¹Details on various components of the five-year plan are already elucidated in the declaration document. The proposal provides a time bound action plan to various recommendations of the declaration. Readers are encouraged to refer to “The Chennai declaration” document for details.

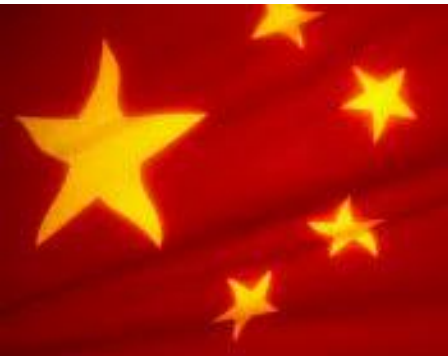
STRATEGY	ONE YEAR	TWO YEAR	FIVE YEAR
OVER THE COUNTER SALE OF ANTIBIOTICS (SCHEDULEH1)¹³ Coordinator: DCGI/State Drug	24 antibiotics included in the Restricted list (as per the modified	60% of all antibiotics to be included in the restricted list	90% of all to be included antibiotics in the restricted list

A near neighbour is better than a distant cousin!

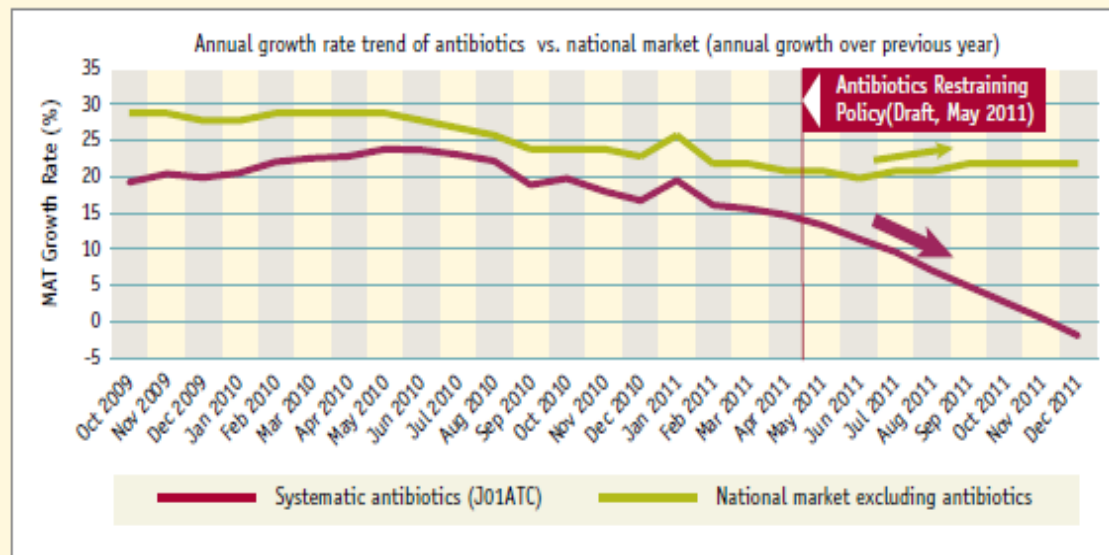


The national Antibiotic Restraining Policy (2012) China

Recent reform in China has reduced antibiotic consumption by 15% over a six-month period



ANTIBIOTIC CONSUMPTION DECREASED BY OVER 15% SINCE THE NATIONAL POLICY WAS RELEASED



Sources: IMS Hospital Audit, 2011; IMS Institute for Healthcare Informatics, 2012.

“Antibiotic Stewardship Initiative in Pakistan (ASIP)”

Statement from Medical Microbiology and Infectious Diseases Society of Pakistan (MMIDSP)



Pan drug resistant *Super Super Bugs*

amikacin		R
cefepime		R
imipenem		R
ceftazidime		R
Pip-taz		R
cipro		R
meropenem		R
tigecycline		R
colistin		R



Antibiotics free period



Research to develop New Molecules



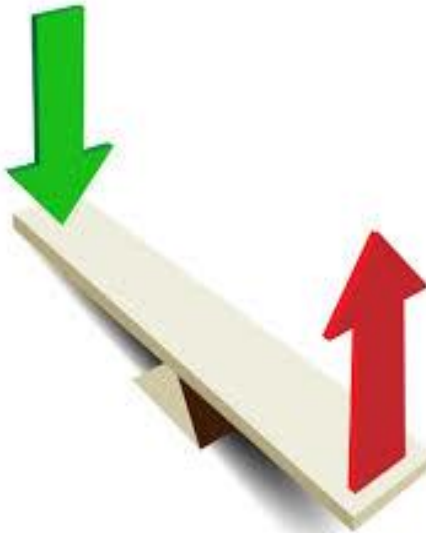
Together, we can win the war!



Pre-Alexander Flemming Era!



Philosophical approach!



Garry Null. BMJ 2000; 320: 1561.1

www.chennaideclaration.org

