APUA GLOBAL CHAPTER NETWORK

Global Antibiotic Resistance Partnership (GARP) Inaugural Meeting
8-9 February, Stellenbosch, South Africa

CDDEP
THE CENTER FOR
Disease Dynamics,
Economics & Policy
WASHINGTON DC • NEW DELHI

APUA
ALLIANCE FOR THE PRUDENT USE OF ANTIBIOTICS

Global
Antibiotic
Resistance
Partnership

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APUA Global Chapter Network
Network of Local Resources & Expertise

Central & South America
Costa Rica
Cuba
Dominican Republic
El Salvador
Guatemala
Honduras
Mexico
Nicaragua
Panama
Argentina
Bolivia
Brazil
Chile
Colombia
Ecuador
Paraguay
Peru
Uruguay
Venezuela

Europe
Austria
Azerbaijan
Belarus
Bulgaria
Croatia
Georgia
Greece
Italy
Kazakhstan

Kyrgyzstan
Lebanon
Moldova
Poland
Romania
Russia
Serbia
Montenegro
Spain
Sweden
Turkey
Ukraine
United Kingdom

Africa
Ethiopia
Gambia
Kenya
Mozambique
Namibia
Nigeria
Senegal
South Africa
Tanzania
Uganda
Zambia

Asia
Bangladesh
China
Fiji Islands
India
Indonesia
Nepal
Pakistan
Philippines
South Korea
Taiwan
Vietnam

Australia

- Coordinates local expertise
- Evidence to guide treatment and policy
- Global platform for research and action
- "Local Champions" - (David Bell, CDC)
- "Uniquely valuable resources" - (Toni Boni, USAID)

★ Headquarters: Boston, MA   • Chapters

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Role of the APUA Country Chapter within the National AMR Containment Action Plan

- It is a network of resources
- It is multi-disciplinary and multi-sectorial
- It is a source of expert advice
- It complements the work to be done;
- It avoids duplication of efforts;
- It advocates for continuity and sustainability of efforts;

Chapter Functions (1)

- awareness about the problem of resistance within a country and about the dangers of incorrect antibiotic usage and faulty prescriptions;

- communicating information on proper antibiotic usage;

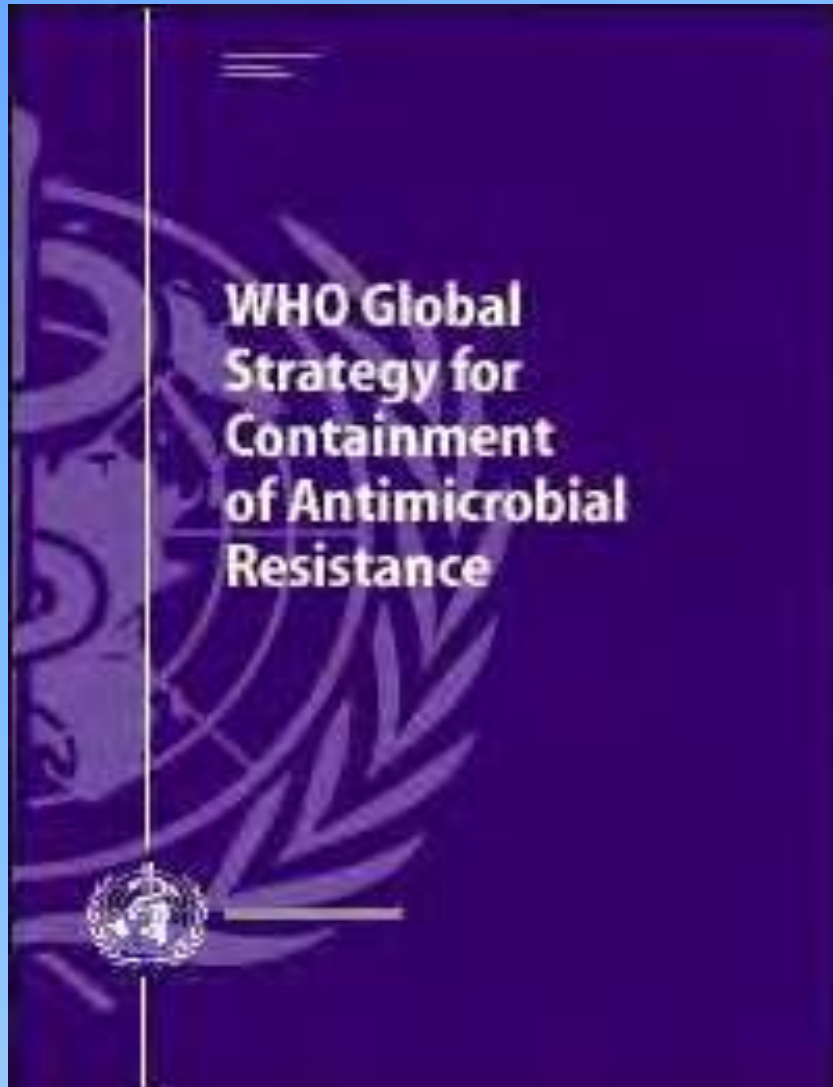- fostering related research and educational projects;

Chapter Functions (2)

- providing a multidisciplinary approach to interventions;

- fostering scientifically sound solutions;

- affording a local platform for input and feedback into global planning efforts; and

- providing international networking opportunities to enhance their knowledge and effectiveness at the country level.

APUA Global Chapter Network

Priority Areas

- Surveillance of resistance

- Advocacy mobilization

- Provider Education and Training

- Consumer Education

- Policy and Regulation

- Research

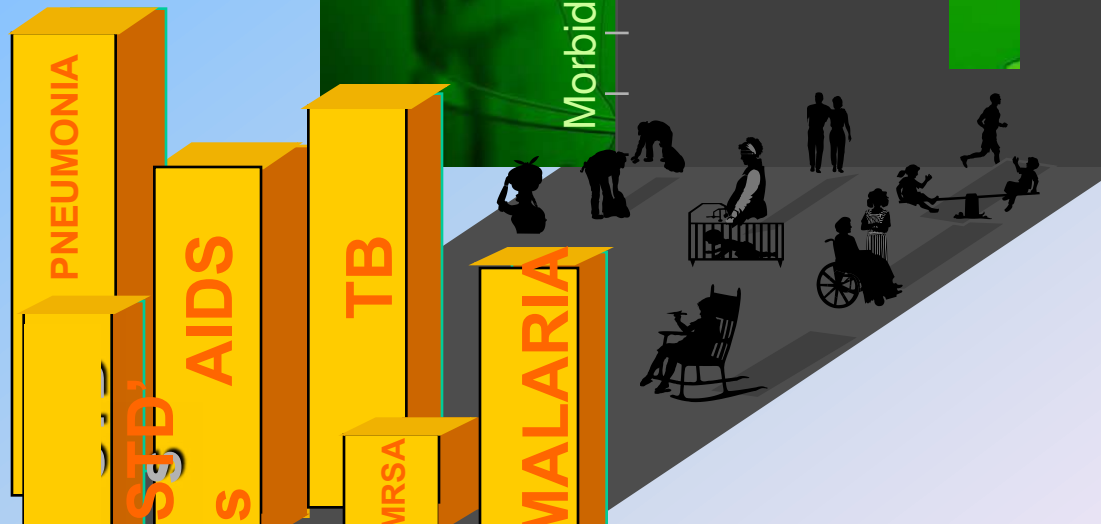- Ecology (antimicrobial/antibiotics in agriculture, animal husbandry and aquaculture)

Global Partnerships - 2001

WHO Global Strategy for Containment of Antimicrobial Resistance

Antibiotic resistance: synthesis of recommendations by expert policy groups

Alliance for the Prudent Use of Antibiotics

World Health Organization

APUA

Pan American Health Organization - PAHO
WHO Regional Office

Prevention and Control of Antimicrobial Resistance in the Americas, 1996-2009

Partners:

21 Countries in the Americas; APUA, ADI, CDC, ASM, MSH, & USA; & Canada Health.

Pathogens under Surveillance: 2000-2009

Hospital

- *Enterococcus* spp.
- *Klebsiella pneumoniae*
- *Acinetobacter* spp.
- *Pseudomonas aeruginosa*
- *Staphylococcus aureus*
- *Escherichia coli*
- *Enterobacter spp.*

Community

- *Salmonella* spp.
- *Shigella* spp.
- *Vibrio cholerae*
- *Escherichia coli*
- *Neisseria meningitidis*
- *Streptococcus pneumoniae*
- *H. influenzae*

- *Gonococci*
- *Campylobacter*
- *S. β hemolytic*
- *S. aureus*

PAHO/WHO

Small Grants Program for Chapter Research 2002
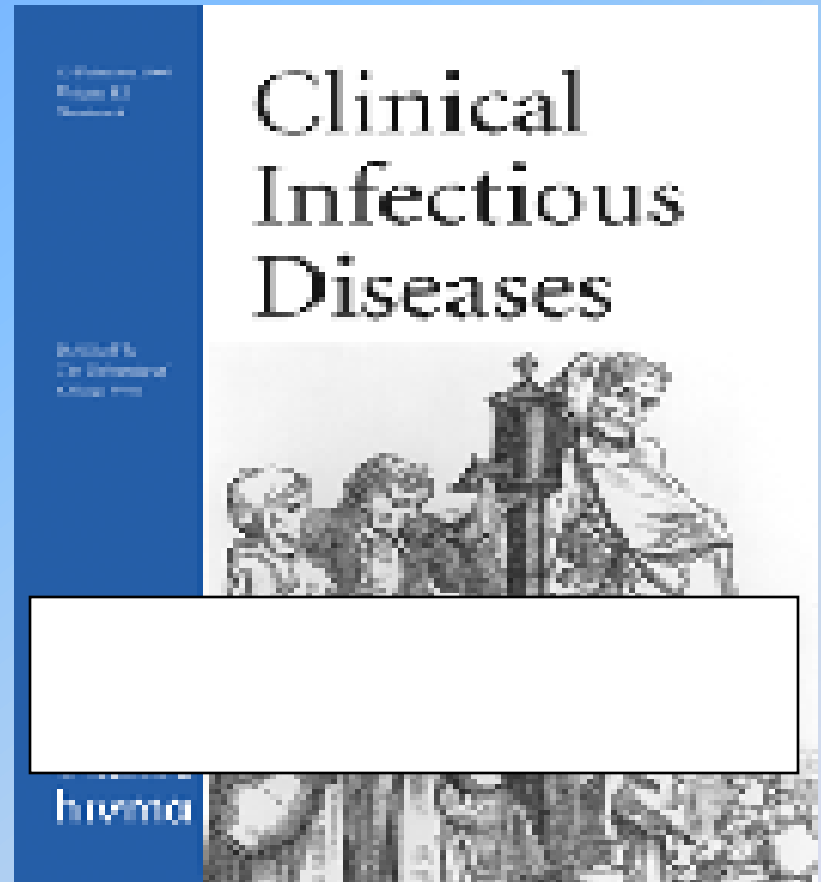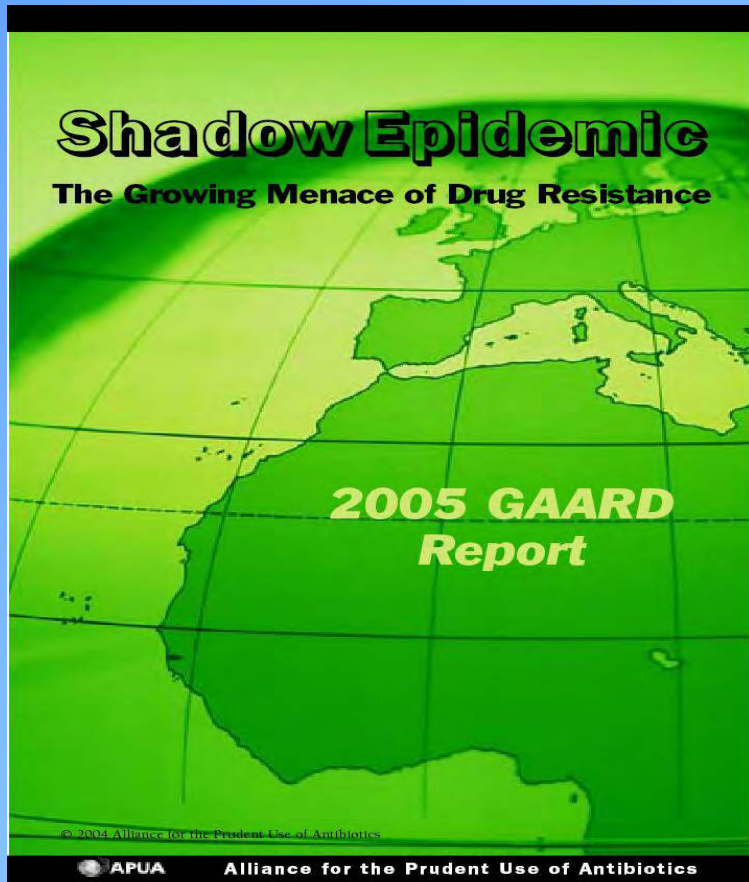
To investigate the local impact of antibiotic usage and resistance, and the effects of local interventions on a country's health

Country	Project
Uruguay	Cost of *S.aureus* hospital infections
Bulgaria	Survey of Antimicrobial Resistance in Bulgaria
Russia	Inventory of Antibiotics in Home Medicine Cabinets
India	Sensitivity Patterns and Cost Effectiveness of Newer Antibiotics
Belarus	A Study to Correlate the Use of Antibiotics for Acute Intestinal Infections
Moldova	Survey of Pediatricians Prescribing Practices
Guatemala	Risk Factors for Antibiotic Resistance of *S.pneumoniae* among Guatemalan Children
Poland	Cost-effectiveness of Antibiotic Resistance in Primary Care Hospitals
Brazil	Epidemiology and Treatment of Persistent Diarrhea in Northeastern of Brazil
Nepal	Development of National Antibiotic Guidelines

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Shadow Epidemic
The Growing Menace of Drug Resistance

2005 GAARD Report

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Clinical Infectious Diseases

hivma

FOCUS: ANTIBIOTIC RESISTANCE IN THE DEVELOPING WORLD

APUA Nepal Ushers In Antibiotic Guidelines

Bimal M. Shrestha, Dept. of Drug Administration, Nepal

Eurek Ranjit, Patan Hospital, Nepal Pharmaceutical Association

To understand the challenges of rational antibiotic use in Nepal — a South Asian country with a population of 23 million — it helps to consider a few revealing statistics. The adult literacy rate is 36%. Only one physician is available to serve every 13,000 citizens. And the entire nation boasts only 400 qualified pharmacists.

In such a setting, rational antibiotic use is immensely difficult. By providing technical assistance and aid in developing treatment guidelines, APUA-Nepal has helped remedy the problem.

In 1978, Nepal instituted the Drug Act to: prohibit the misuse or abuse of drugs and allied pharmaceutical materials; control information about efficacy and application of drugs; and regulate and control the production, marketing, distribution, export-import, storage and utilization of drugs.[1] The Act also requires that antibiotics be dispensed, sold, or distributed only in the presence of a pharmacist or a professional, and only with a prescription from a qualified medical doctor.

Clearly, more specific guidelines were needed. In 1999, Nepal's Department of Drug Administration (DDA) recommended the creation of a national antibiotic policy. His Majesty's Government Ministry of Health charged the DDA with preparing a policy draft. In June of that year, APUA-Nepal was founded with the objective of assisting the government in formulating new policies

Resistant Respiratory Infections Threaten Developing Countries

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Widespread resistance to commonly used, affordable antibiotics has complicated the treatment of acute respiratory infections (ARI) — the leading cause of childhood deaths in most developing nations.[1] In these resource-constrained countries, World Health Organization (WHO)-recommended algorithms for recognition and management of childhood pneumonia in the community and in health care facility settings have been essential in preventing ARI deaths.[2,3] These algorithms emphasize early case recognition of severe ARI by community health workers or paramedics, based on the presence or absence of certain signs and symptoms; outpatient management with oral cotrimoxazole or amoxicillin for uncomplicated pneumonia; and hospital referral for children with more severe disease. Over the last two decades, WHO's case-management approach has reduced ARI-related childhood mortality.[4] Sadly, this success may soon be undermined by the emergence of significant levels of cotrimoxazole and amoxicillin resistance among common respiratory pathogens, suggesting a need for alternative and/or additional interventions.

Epidemiology of Antibiotic-Resistant Respiratory Pathogens

While antimicrobial resistance spawned by indiscriminate antibiotic use in developing countries has received much attention, less understood are the epidemiology of antibiotic resistance and factors contributing to regional dif-

ferences.[5-7] Prevalence rates of resistance among nasopharyngeal or bloodstream isolates of *Streptococcus pneumoniae* and *Haemophilus influenzae* from children in developing countries have recently been reviewed.[8-11] The majority of *S pneumoniae* in South Asia are now cotrimoxazole-resistant — raising the question of whether WHO's ARI program should shift from cotrimoxazole to more expensive amoxicillin for treatment of uncomplicated pneumonia.[12-14] In Pakistan, cotrimoxazole therapy has increasingly failed; two studies have found cotrimoxazole to be ineffective in one-third of patients with pneumonia; and children under age 1 year were especially susceptible to treatment failure.[9, 12, 13, 15]

Penicillin resistance among pneumococcal isolates in South Asia has also emerged and is gradually increasing, with 5-10% of isolates currently resistant.[10, 14-17, 19] In India, ampicillin resistance among *H. influenzae* is a significant problem,[18, 19] with reported resistance rates of 40-60% in the prospective Invasive Bacterial Surveillance Studies. Meanwhile, India, Pakistan, and Bangladesh have seen widespread resistance of *H. influenzae* to cotrimoxazole.[9, 18, 19]

Respiratory pathogens in African nations show regional variations in the prevalence of penicillin/ampicillin, cotrimoxazole and chloramphenicol resistance. South Africa and Malawi report