

# WAHO evidence-based healthcare initiative – a role for the Cochrane Collaboration and evidence synthesis

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# What is...Evidence-based healthcare?

## *Evidence-based Medicine (EBM) ...*

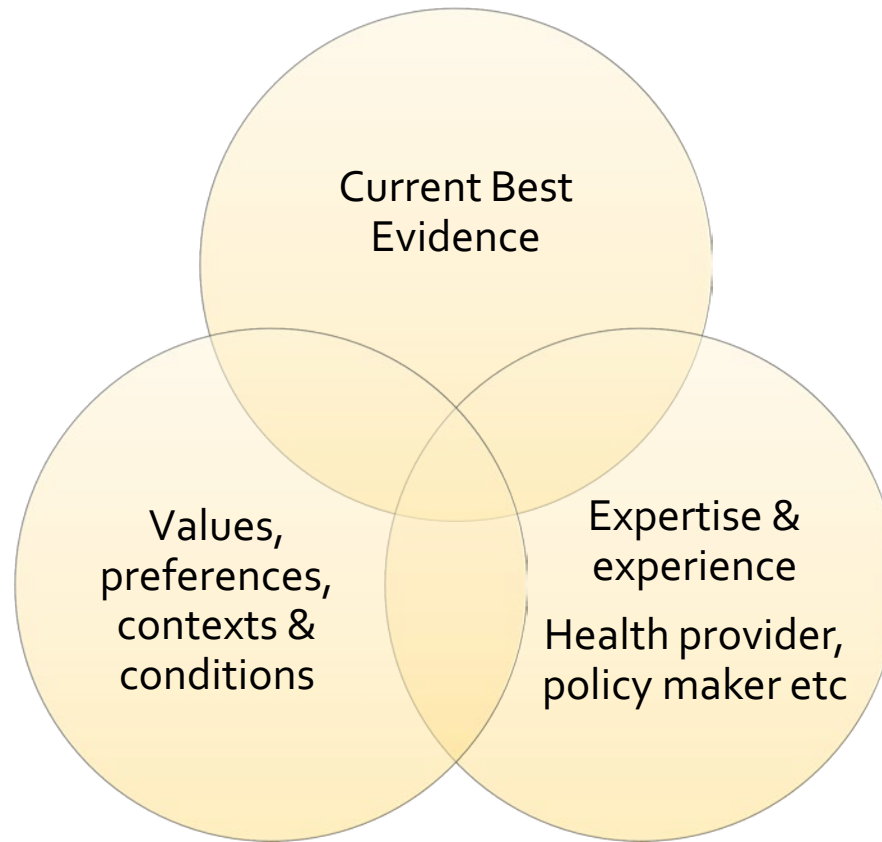
“the conscientious, explicit and judicious use of **current best evidence** in making **decisions** about **individual patients**.”

## *Evidence-based Health Care (EBHC) ...*

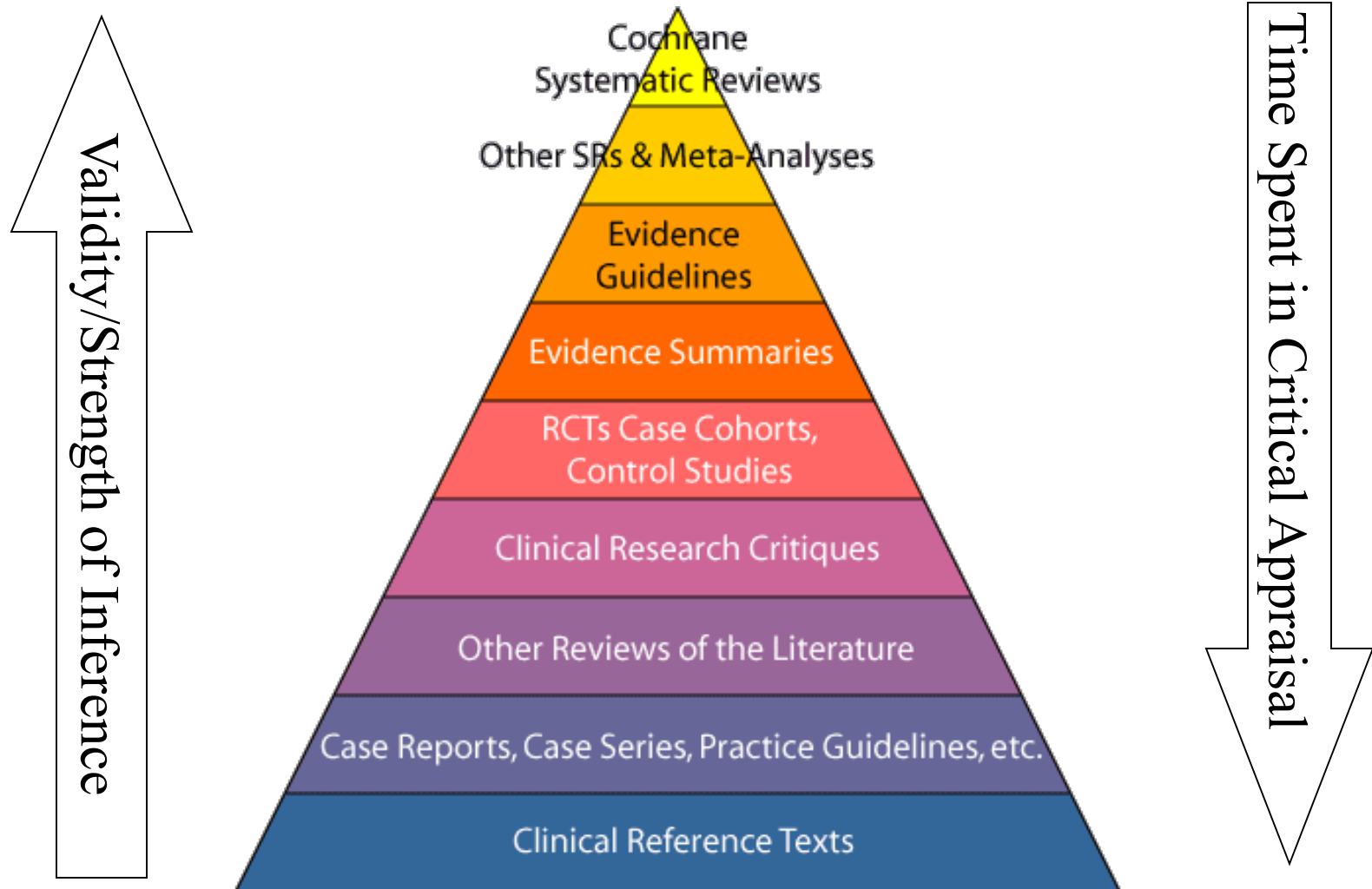
“the evidence-based decision process applied to the wider spectrum of health care to include public health practice, health management, policy, legislation.”

Adapted from: Sackett DL, Straus SE, Richardson WS, Rosenberg W, Haynes RB. Evidence-based medicine. How to practice EBM. Edinburgh: Churchill Livingstone; 2000.

# Building blocks of Evidence-based Healthcare



# The Evidence Pyramid



# The Cochrane Collaboration

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- An international network of individuals and institutions committed to preparing, maintaining and disseminating systematic reviews of the effects of healthcare interventions
- Founded in Oxford, UK, in 1993

# Goal of the Cochrane Collaboration

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To help people make well informed decisions about health care by preparing, maintaining and ensuring the accessibility of *systematic reviews of the effects of health care interventions*

# What is a Systematic Review?

**Systematic review:** A review in which pre-specified, scientifically appropriate methods have been used to identify, appraise, and summarise studies addressing a focused question.

***Meta-analysis***, is the statistical approach for pooling the results of several studies in a single estimate.

[A systematic review may or may not include a meta-analysis]

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Evidence for healthcare decision-making

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**For Researchers**

The internet has given us instant access to a huge amount of research, but the large volume of available information is a problem in itself. [More](#)

**For Patients**

Healthcare consumers and patients need high-quality evidence about the effectiveness of treatments. [More](#)

**For Policy Makers**

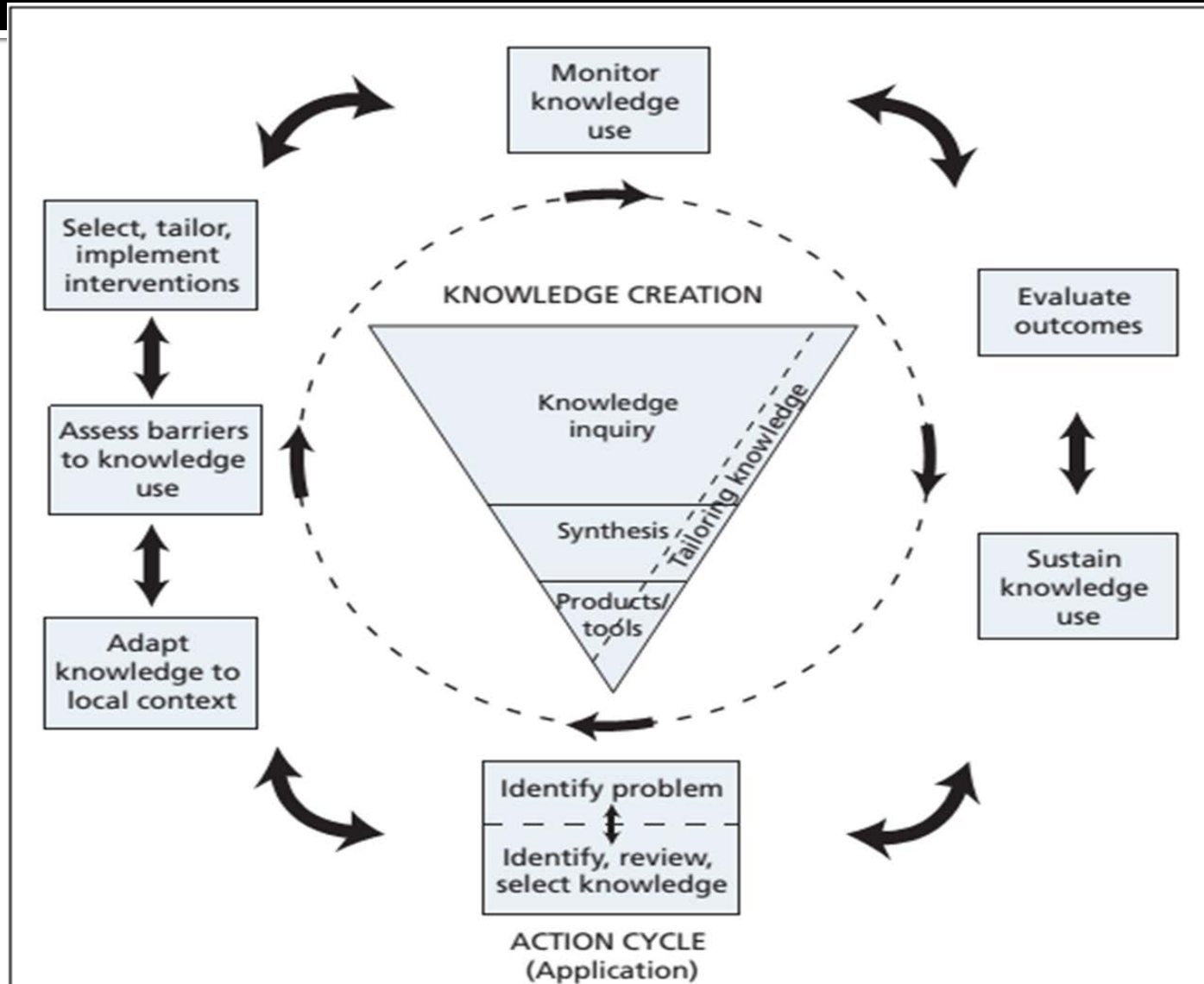
As a policy maker or healthcare manager you are a generalist in search of high-quality information across a broad range of issues. [More](#)

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# Knowledge translation

## – Evidence to action model



# Examples of - knowledge products and tools

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- Clinical practice guidelines
- Policy briefs
- Health technology assessment
- Consumer information aids

# Definition of HTA (WHO, 2015)

- *"Health technology assessment (HTA) refers to the systematic evaluation of properties, effects, and/or impacts of health technology.*
- *It is a multidisciplinary process to evaluate the social, economic, organizational and ethical issues of a health intervention or health technology.*
- *The main purpose of conducting an assessment is to inform a policy decision making"*

# Standards for Trustworthy Clinical Practice guideline (#3 & #4)

## 3. Guideline development group

- multidisciplinary and balanced, comprising a variety of methodological experts and clinicians, and populations expected to be affected by the CPG.
- Patient and public involvement – include at least a current or former patient and patient advocate or consumer organization as CPG group member

## 4. Clinical practice guideline – Systematic review synergy

# Systematic Reviews and Clinical Practice Guidelines Improve Healthcare Decision Making

Click on any text  
for more information

We need better evidence  
and guidance to make  
informed healthcare choices

Define Clinical  
Problem

Assemble  
Multidisciplinary  
Team

DEVELOPMENT  
OF SYSTEMATIC  
REVIEWS

Identify, Assess, and  
Synthesize Evidence

Produce Systematic  
Review Report

Appraise  
Systematic Reviews  
and Other Evidence

DEVELOPMENT OF  
CLINICAL PRACTICE  
GUIDELINES

Assemble Guideline  
Development  
Group

Produce Clinical  
Practice Guideline

Incorporate Expert Opinion  
and Patient Preferences  
and Characteristics

Use Guidance to  
Make Better  
Informed Decisions

Improved health  
outcomes and  
quality of care



# What we do at Cochrane Nigeria

- Training in systematic review methodology
- Promoting use of reliable evidence for policy and practice
  - Practice guidelines – professional groups; ministry of health (CRS);
  - Contributing Systematic reviews for WHO guidelines
  - Working with consumers – partnering with journalists, Cochrane consumer network

# Effective Health Care Research Programme Nigeria

— An Evidence Based Health Care Newsletter —

## Evidence Based Medicine And Effective Healthcare

**L**ife is precious and should be treated with great care. Decisions that impinge on health should be taken on the basis of strength of scientifically sound evidence.

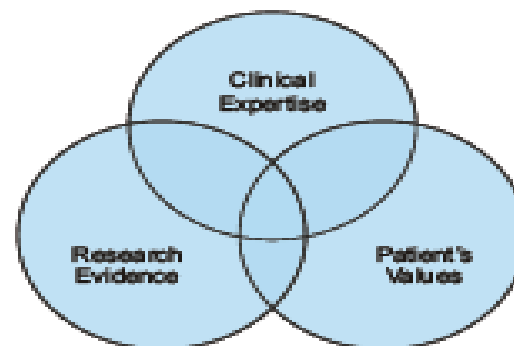
It is true that no health worker intends to do harm to the patient. In the absence of reliable evidence from current research a health worker may do more harm to the patient than good.

The Practice of evidence based medicine (EBM) would help doctors and other health care providers to do their jobs more efficiently and do more good than harm.

Evidence-Based Medicine (EBM) is defined as the "conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients." This entails integrating doctor's clinical expertise, the best available external clinical evidence from systematic research and patients' values or preferences.

As the figure shows, availability of valid external clinical evidence from systematic research is an essential component of EBM. Healthcare decisions should be based on information obtained from sources that have been verified through systematic research. Decisions that are not based on current and valid best evidence could mislead practice. There is need then to have access to current available evidence. This, however, can be difficult and costly in some settings. Availability of

### Three components of EBM



conducted systematic reviews, be it in the area of causation, diagnosis, treatment, prevention or prognosis of a disease. Systematic reviews of randomized controlled trials offer the most comprehensive and reliable evidence on the effects of therapeutic or preventive health care interventions.

To ensure an improvement in the healthcare delivery process, evidence obtained from well-conducted systematic reviews should be translated into clinical practice, health policies and planning by ensuring that findings from systematic reviews are summarized and disseminated to stakeholders in the healthcare delivery

recommendations, with a definite intent to influence what clinicians do. The suggestions in clinical guidelines however, go beyond a simple presentation of evidence, costs, or decision models. They should reflect value judgments about the relative importance of various health and economic outcomes in specific clinical situations.

Evidence based medicine also plays a significant role in healthcare policy and planning, helping policy-makers to make informed decisions on the best way to allocate scarce resources to competing health care needs for the good of the public. The availability of reliable research evidence therefore enables policy-makers to make policies which are consistent with best quality standards while promoting efficiency and cost effectiveness.

The level of awareness and practice of EBM is growing in Nigeria, thanks to the modest efforts of some local and international organizations. Between August 2006 and July 2007, the Effective Health Care Research Programme (EHCRP NIGERIA) in conjunction with the Nigeria Branch of the South African Cochrane Centre (NBofSACC), held 5 EBM workshops at various health institutions in Imo, Akwa Ibom, Abia, Abuja and Kaduna states targeted at health care professionals, trainees and researchers. Much still needs to be done to entrench EBM as practice norm



# Evidence at your fingertips

(Derived from Cochrane Systematic Reviews)

## Technical Summary

### Antibiotics for Community Acquired Pneumonia in Children

#### Background

Pneumonia is the leading cause of mortality in under-five children. It is responsible for about 3 million deaths of children in developing countries every year. Early treatment of pneumonia using appropriate antibiotics leads to a better outcome.

#### Review Objectives

To compare various antibiotics in the treatment of community acquired pneumonia (CAP) in children, in ambulatory and hospital settings, in order to determine the most effective.

#### Main Results

- The review was based on twenty randomized controlled trials involving over 8000 children. The participants were all children below 18 years with CAP treated in ambulatory setting or hospital.
- Based on the studies, co-trimoxazole was not as effective as amoxycillin (failure rates odds ratio (OR) 1.33; 95% CI 1.05 to 1.67) or procaine penicillin (cure rates OR 2.64; 95% CI 1.57

to 4.45).

- Co-amoxycylavulanic acid was better than amoxycillin alone (cure rates OR 10.44; 95% CI 2.85 to 38.21).
- A combination of penicillin and gentamycin was found to be better than chloramphenicol alone (re-hospitalization rates, OR 1.61; 95% CI 1.02 to 2.55).
- There were no differences between the following drugs:
  - Injectable penicillin and oral amoxycillin (failure rates OR 1.03; 95% CI 0.81 to 1.31).
  - Cefpodoxime and co-amoxycylavulanic acid (cure rates OR 0.69; 95% CI 0.18 to 2.60).
  - Azithromycin and erythromycin (cure rates OR 1.17; 95% CI 0.70 to 1.95).
  - Azithromycin and co-amoxycylavulanic acid (cure rates OR 1.02; 95% CI 0.54 to 1.95, failure rates OR 1.42; 95% CI 0.43 to 4.66).

#### Implications for Practice

Amoxycillin is better than co-trimoxazole for ambulatory treatment.

For hospitalized patients, procaine penicillin is better than co-trimoxazole, and a combination of penicillin and gentamycin is better than chloramphenicol alone.

#### Implications for Research

Research (using similar methodologies and large numbers of patients) is needed to compare drugs such as amoxycillin and co-amoxycylavulanic acid; and amoxycillin with other antimicrobials such as oral cephalosporins and macrolides.

Studies comparing co-trimoxazole with a three-day course of oral amoxycillin (the regular five-day course of amoxycillin is more costly than treatment with co-trimoxazole) will be of benefit to low income countries.

SK Kabra, R Lodha, RM Pandey. Antibiotics for community acquired pneumonia in children. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD004874. DOI: 10.1002/14651858.CD004874.pub2.

## Plain Language Summary

### Electronic Mosquito Repellents for preventing Mosquito Bites and Malaria.

Malaria is an important health problem. It affects over 250 million people and kills more than one million people each year. Those affected are mostly people living in sub-Saharan Africa.

Various methods are used to combat malaria. Among these are mosquito control strategies which aim at preventing mosquitoes from biting humans. These methods may be biological (e.g. larvivorous fish or pathogenic fungi); environmental (e.g. land filling); chemical (e.g.

Mosquito repellents come in different forms. These include pills, coils, ointments, lotions and electronic mosquito repellents (EMRs). Electronic mosquito repellents are small hand-held, battery powered devices which manufacturers claim repel mosquitoes.

This review sought to find out whether EMRs prevent mosquito bites and whether they prevent malaria infection. It was based on 10 studies which consisted of 22 experiments, 15 of which were field experiments. (None

America, Africa and Russia.

All the studies found that EMRs do not repel mosquitoes. In fact in 12 of the 15 experiments, the landing rates of mosquitoes were higher in the group using EMRs than in the control groups.

Electronic mosquito repellents do not repel mosquitoes and their use should not be encouraged. No studies assessing the effect of EMRs on malaria infection rates were found.

AA Enayati, J Hemingway, P Garner. Electronic mosquito repellents for preventing mosquito



# Capacity building –mentorship/ fellowships

- Mentoring program
  - Coordinated matching of experienced Cochrane authors and beginners for ongoing coaching in review methodology
- Systematic review fellowship/course – residential (formerly tagged RAP)
  - Systematic review protocol course
  - Systematic review finishing or update fellowship

# Cochrane –WHO partnership

- Relevant high quality Cochrane systematic reviews inform WHO policy and practice guidelines
- WHO commissions priority systematic reviews to inform WHO guidelines
- Cochrane entities (e.g. Cochrane Nigeria) identify and support experienced Cochrane authors to conduct WHO-commissioned systematic reviews

# Previous WAO-Cochrane joint activities

- WAO workshop on “Knowledge Management for Evidence-based health practice in West Africa”.
  - Participants - Head of Departments of Obstetrics and Gynaecology with training programme accredited by the WACS: 7-10 Sept 2009, Calabar
- WACP/RCPCH Evidence-Based Medicine training workshop
  - 8<sup>th</sup>-9<sup>th</sup> Nov 2008, Abuja

# Potential areas of future WAHO – Cochrane partnership

## **Training in systematic review methodology**

- Short courses and workshops in systematic review methodology
- Support short fellowships in systematic reviewing and meta-analysis
- Pre-serving training: integrating EBHC, KT (including systematic reviewing) into the training curriculum of health professionals in the sub-region

# Potential areas of future WAHO – Cochrane partnership

- Setting priorities for systematic reviews
- Commissioning and supporting development of priority systematic reviews
- Building partnerships in the sub-region to promote evidence-informed policy and practice

# Promote use of essential EBM knowledge products for health policy and practice

- Promote use of evidence-based **clinical practice guidelines** skills in grading quality of evidence - GRADE)
- Promotion of the use of **health technology assessments (HTA)** as an essential tool for policy a
- Evidence-based **policy brief**

**THANKS FOR YOUR ATTENTION!**