Activities in Rational Drug Use within the International Clinical Epidemiology Network (INCLEN)

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Abstract

Problem Statement: Most INCLEN members are physicians with clinical practices within university hospitals in developing countries. With roles as educators, researchers and practitioners, they have a unique opportunity to influence antimicrobial use.

Objectives: To document the degree to which INCLEN faculty have been involved in drug research and in continuing education activities in this field, including rational drug use and antimicrobial resistance.

Design: Convenience sample of research and continuing education activities by INCLEN members.

Setting and Population: Search of the database at the INCLEN Trust executive office; research abstracts published in program books of three INCLEN Global Meetings; and virtual information requests to heads of Clinical Epidemiology Units. Continuing education sessions conducted at the national level, and at the global level in the last two INCLEN Global Meetings.

Outcome Measures: Examples of research in six areas: drug utilization, rational drug use, pharmacovigilance and pharmacoepidemiology, antimicrobial resistance, ethics, and pharmaco economics. Content and facilitator description of continuing education sessions.

Results: Sixty-one studies were identified between 1987 and 2003, with 50% in the last 5 years. Over 40% have been published in peer-reviewed journals indexed in MEDLINE, and 7% have been accepted or submitted for publication. Most were conducted in the fields of rational drug use (30%) and pharmacoepidemiology (26%). Some of these have been editorials and position papers for peer-reviewed journals. Research has involved community-based studies, studies in primary health care settings, and hospital-based research. A number of studies have dealt with intervention studies to minimize inappropriate drug use. In 2001, the Chinese Clinical Epidemiology Network conducted a three-day workshop on “Problem-based pharmacotherapy teaching in China” under the support of WHO and INCLEN. At the global level in 2002, a workshop was held on Rational Drug Use co-sponsored by WHO/EDM. In 2003, at the Global Meeting in Kunming, a symposium co-sponsored by WHO/EDM was conducted on pricing of essential medicines.

Conclusions: INCLEN has produced and disseminated relevant research aimed at anti-microbial resistance, with the potential to change policy and practice patterns of physicians and physicians-to-be in the developing world, and has recurrently identified this area as a priority for capacity building. With its network of regional and national networks, INCLEN has the built-in infrastructure to become a major player in developing countries in concerted efforts to promote rational antimicrobial drug policies.
Background

• INCLEN aims to improve health in disadvantaged populations through research and training that promotes equity, efficiency and quality in health care.

• INCLEN faculty, in their multiple roles as university medical educators, practitioners and researchers, have a unique opportunity and responsibility to influence antimicrobial use.

• INCLEN, with its network of regional and national networks, has the built-in infrastructure to promote a concerted and articulated effort to promote rational antimicrobial drug policies at the global level.
Study Aim

• To document the extent to which INCLEN faculty have been involved both in drug research and in continuing education activities in this field, including, but not limited to, rational drug use and antimicrobial resistance.

• This project describes the results of a rapid survey of the research work of INCLEN members in this field.
Methods

• Convenience sample of drug-related research through:
  • Initially search of the INCLLEN database of researches
  • Inclusion and retrieval of any article that related to the general subject of drug use

• Convenience sample of research abstracts in three INCLLEN Global Meetings:
  • Bangkok, Thailand (2000)
  • Penang, Malaysia (1997)
  • Victoria Falls, Zimbabwe (1995)
  • Inclusion of abstracts where an INCLLEN member was the primary or secondary investigator
  • Authors contacted for published paper
Methods

• Review of titles and abstracts by a clinical epidemiologist; categorized into six broad areas:
  • Drug utilization studies
  • Rational drug use
  • Pharmacovigilance and epidemiology
  • Antimicrobial resistance
  • Ethics in drug research
  • Pharmaco-economics

• Review & description of continuing education sessions in this field within the last three years
  • National level: China, 2001
  • Global level: INCLEN Global Meetings in 2002 and 2003
Results

• 61 examples of INCLEN research projects on drug utilization, 1987 – 2003
  • More than half coming from the past 5 years (full list and abstracts are available from the authors on request)

• > 40% of these studies published in peer-reviewed journals indexed in MEDLINE

• 7% accepted or submitted for publication (available on request).
Figure 1: Distribution of INCLEN’s drug-related studies, 1987-2003 (n = 61)
Figure 2: Sample descriptions of INCLEN studies

- **4 editorials/position papers on inadequate & inappropriate availability of drug-related info in LDCs; ethics of clinical research/trials in LDCs**
- **Drug use in diverse settings: households, PHC, tertiary hospitals. Focused on antibiotics in 78% of studies.**
- **Mainly done in India & SE Asia. >10- years surveillance of invasive bacterial infections in India**
- **Mainly on reporting of infrequent adverse events**
- **70% on appropriateness of OPD prescriptions. 44% on interventions to modify inappropriate practices. Focused on antibiotics in 67%.**
- **Full economic analysis on strategies for preterm delivery; cost-minimization studies on generic vs. branded drugs**

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**Pharm’epidemiology**

**Pharm’economics**

**Drug Utilization**

**AMR**

**RDU**
Results

• Topic areas, no. (Figs. 1 & 2):
  • Rational drug use: 18 studies
  • Pharmaco-vigilance / pharmaco-epidemiology: 16 studies
  • Drug utilization studies: 9
  • Antimicrobial resistance: 9

• All INCLEN regional networks were involved in drug-related research. Most studies were done in:
  • Southeast Asia: 34%
  • Latin America: 21%
  • Canada-USA: 20%
Results

Educational activities:

- **2001**: Workshop on “Problem-based pharmacotherapy teaching in China”
  - Hosted by the China Clinical Epidemiology Network; co-sponsored by WHO/EDM
  - Aim: to improve teaching and research on Good Drug Prescribing in China

- **2002**: Workshop “Rational Drug Use”
  - Held at the INCLEN Global Meeting XVIII in Sharm El-Sheik, Egypt; co-sponsored by WHO/EDM
  - Aims: to describe the extent of the problem of misuse and abuse of drugs;
    to identify evidence-based interventions that can effectively promote RDU in developing countries.

- **2003**: Plenary session on “Evidence-based selection of essential medicines” and a symposium on “Pricing of essential medicines: How are prices of essential medicines determined?”
Summary of Findings

• Wide breadth of RDU research by INCLEN faculty, spanning all regions of INCLEN.

• INCLEN faculty have been invited to write editorials and position papers in this field for peer-reviewed journals.

• Researches have involved community-based studies, studies in primary health care settings and hospital-based research.

• A substantial number of their research has dealt with intervention studies to minimize inappropriate antibiotic use.
Conclusions

• INCLEN has the capacity to carry out multi-disciplinary research related to RDU.

• INCLEN has demonstrated actual successes of interventions to reduce inappropriate antibiotic use.

• Its indigenous scientists can facilitate the translation of research findings into policy and practice in developing country settings through strong partnerships with policy makers, health providers, patient groups and like-minded networks.