

## The International Network for Rational Use of Drugs (INRUD)

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[INRUD](#) is a network of multi-institutional groups that share a common vision for promoting the safe, effective, and cost-effective use of medicines. A key distinguishing feature of INRUD is its multidisciplinary focus on drug use and behaviour change linking clinical and social sciences. Primary emphasis is placed on measuring the use of medicine using standardised indicators and then understanding the behavioural aspects of medicine use, particularly the beliefs and motivations of providers and consumers and the barriers to behaviour change, before designing and assessing interventions. INRUD intervention research, education, and advocacy have been based on this behavioural framework. Efforts have been focused on patients, providers and policy makers in all sectors—public and private, formal and informal—.

Apart from the interdisciplinary focus and emphasis on understanding behavioural aspects of medicines use, key principles are that INRUD encourages rational use of medicines in low and middle income countries with both the promotion of well-designed research studies to understand these behavioural factors, leading to reproducible evidence-based interventions to improve medicine use; and the development of useful tools for research, including standard methodologies, validated collectable indicators, simplified sampling and data collection techniques, and user-accessible computer software. INRUD has also been involved in developing training materials and promoting many courses on improving use of medicines.

INRUD was formed in 1989 and at that time was comprised of ten groups from Africa and Asia. Presently 26 groups from 21 countries are members including: 7 in Africa, 12 in Asia, 1 in Latin America, 3 in Europe and 2 in North America. Over the years INRUD has been supported by a succession of donors. The first was the Pew Charitable Trust, followed by the Danish International Development Assistance, (DANIDA) the United States Agency for International Development (USAID) and now by the Swedish International Development Cooperation Agency (Sida). The INRUD Secretariat has been housed throughout in Management Sciences for Health (MSH), Center for Pharmaceutical Management. Key support organizations over the last 20 years have been and are: the Division of International Health (IHCAR) of the Karolinska Institute, Harvard Medical School Drug Policy Research Group, the World Health Organization, Department of Essential Medicine and Pharmaceutical Policy and Management Sciences for Health from the USA

INRUD has been associated with several activities and products with ongoing global relevance:

- Presently a major activity is the **INRUD Initiative on Adherence to Antiretrovirals (INRUD-IAA)**. This five year project, funded by Sida is coming to a close and has learnt methods to assess and improve facility performance in the adherence of their patients to antiretroviral therapy. A description of the program can be seen on the [website](#). The need for monitoring adherence is described in an editorial of the Journal of Acquired

Immune Deficiency Syndrome (Chalker et al., 2009) and indicator assessment and validation can be read in two articles (Ross Degnan et al 2011 and Chalker et al 2011). Articles on system interventions to improve adherence will also shortly be available.

With partners INRUD has held three major international conferences in 1997, 2004 and 2011 called the **First, Second and Third International Conferences for Improving Use of Medicines**. The proceedings of these three conferences can be found on the [website](#). These three conferences have helped to shape evidence-based policy recommendations and create a future research agenda on these topics. The conferences have been highly interactive and designed to produce actionable results. Their focus has been on presenting and summarizing knowledge about ways to improve medicines use and health, especially for vulnerable populations.

- One outcome of the conferences has been a **research agenda** which has been worked on in the following years. A good example of this is the research published by the Uganda INRUD group with funding from USAID where a whole supplement of the East African Medical Journal in 2004 was printed to publish their work (East African Medical Journal, 2004)
- Topic summaries of the ICIUM 2011 conference which include both recommendations for policy implementation and knowledge gaps in need of research are available at the website. A summary of summaries are also available.

## Guidelines

- **Guidelines for measuring outpatient drug use indicators** through prescription analysis, (WHO, 1993). This sets out a developed, simple and reliable methodology for gathering essential data on drug use patterns and prescribing behaviour in health facilities. The methodology, which has been widely tested in a number of developing countries, centres on the use of twelve core indicators to gather pertinent data on the drug use situation. The manual also explains how these twelve indicators, which measure prescribing practices, the quality of patient care, and the availability of drugs, can be used as a simple tool for gathering objective, useful data quickly, easily, and in a reproducible manner. This standard set of drug-use indicators can be used to assess the problems of clinically or economically inappropriate drug use, to make comparisons between groups or to measure changes over time, as a supervisory tool to identify individual prescribers or health facilities with especially poor patterns of drug use, and to measure the effect of interventions.

### **Guidelines for measuring facility performance indicators for patient adherence to antiretroviral therapy. How to Investigate Adherence to Antiretroviral Treatment.**

This manual will enable program managers giving antiretroviral medicines to patients to assess the performance of facilities under their responsibility with respect to levels of adherence to antiretrovirals (ARVs). It is a step by step guide on how to design and carry out a national or facility survey or a program survey. With these methods, managers can

identify facilities where they need to intervene to improve adherence levels. Managers can examine the causes of poor performance and work with the facilities to make improvements and then use the survey methods to assess whether improvement has occurred. The website now contains the following downloadable files:

1. The manual: "***Adherence Indicator Survey Manual***"
2. The data collection forms for country-level customization (password "INRUD"); printing for data collection; and for double data entry: "***Questionnaires***"
3. The form which will automatically consolidate the data: "***Consolidated***"
4. The training slides to train the data collectors: "***Team Leader Role;***" "***Dispensing Records;***" "***Exit Interviews;***" and "***Facility Form***"
5. The report template: "***Adherence Survey Report Template***"

The main purpose therefore is to enable an assessment of:

- How a facility is doing at that moment
- How it is doing over time
- How it compares to other facilities
- The effectiveness of interventions to improve adherence levels

#### **Training materials:**

- **Promoting Rational Drug Use course** in English, Spanish, and French (WHO, 2010). Available on the website [Promoting Rational Drug Use](#). More than 600 people have already benefited from participating in this course which has been held in many locations in Africa and Asia, in collaboration with local INRUD groups and WHO's Department of Essential Medicines and Pharmaceutical Policy.
- Through the global dissemination of its perspectives and the activities of its members, INRUD has also been the springboard for other courses for which it has not sought or been given credit: These include: a Drugs and Therapeutics Committee Course and Manual and a Promoting Rational Drug Use in the Community course.

#### **Data resources:**

- **INRUD bibliography:** The INRUD Bibliography is an annotated database of published and unpublished articles, books reports and other documents focusing on rational use of medicines, mainly in developing countries. It is updated every six months. As of July 2011 the [INRUD bibliography](#) contains more than 9,900 entries and is used widely by researchers for proposals, research reports, or scientific papers.
- **INRUD adherence to antiretroviral medicine bibliography:** As a result of the work of INRUD-IAA and the increasing recognition of the importance of adherence to

antiretroviral therapy, a second annotated bibliography has now been created – the [ART Adherence Bibliography](#). Developed and maintained by the Drug Policy Research Group, the current version of this bibliography contains 700 entries. Updated and expanded versions of both are about to be uploaded.

- **WHO/INRUD database of drug use research.** Monitoring Use of Medicines Globally. WHO has created a database of more than 750 published and unpublished surveys of medicine use, using standard drug use indicators, carried out in developing countries and countries with economies in transition since 1990. Results show that in Africa, Asia, and Latin America, only about 40 percent of all patients at the primary health-care level were treated in accordance with clinical guidelines for many common conditions and that fewer than half of all patients with acute diarrhea were treated with oral rehydration salts, yet more than half were given antibiotics. Just over half the patients with pneumonia were treated with appropriate antibiotics, yet more than half all patients with viral upper respiratory tract infection received antibiotics inappropriately. The data base is not currently available publicly but hopefully will be soon.
- **INRUD website: Tools and Resources.** The [tools and resources](#) listed are a series of links to sites which are meant to offer useful information or help in all aspects of improving use of medicines and are freely available. They are not sites for advertising products and they should provide unbiased information.

### **INRUD News.**

Posted on the website every six months, it provides news stories, group activity updates, and brief summaries of drug use research and key references of published studies on rational drug use to over 3,000 subscribers worldwide. At the time of writing, the last edition came out in July 2011. Available at the website [INRUD news](#).

### **In conclusion,**

INRUD is an informal organization of many interested groups and parties. It has been active for more than twenty years in promoting improved use of medicine through research, advocacy, education, and evidence based policy recommendations. In that time it has stimulated and motivated a great number of people in resource poor countries in Ministries of Health, Universities and Non Government Organizations. It has helped capacity building, and continues to act as a spur to good practice.

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