Column

INN: an essential tool

A drug’s INN is its internationally recognised scientific name. Employed both by patients and healthcare professionals the INN frees users from the commercial names used by the drug companies.

INNs restore each player to his or her proper role: the prescriber can concentrate on patient care, the pharmacist on monitoring drug treatments, and the patients on the informed use of drugs.

With consumers and patients being bombarded with advertising for brand names (TV commercials for direct-to-consumer advertising in the United States), it is high time for healthcare professionals, consumers and healthcare providers to unite and promote not-for-profit education that uses drugs’ real names, i.e. INNs.

ISDB bulletins can play a great role in favor of INN use (see results of ISDB survey on INN use pages 2-14).

INN prescribing and dispensing should be professional practice; it contributes to rational drug use, reduces waste, and prevents medication errors. In short, it promotes better care (see “Think INN, Prescribe INN, Dispense INN” pages 5-10).

Trying to teach INN use to readers is an important issue. Pijus Sakar in Bodhi’s March-April editorial couldn’t have been clearer: “How many doctors in our country use on principle INNs in their prescriptions? The number by all estimates must be microscopic and that it is a pity. (...) Some prescribers yield to the prevailing culture and toe the line. We want to remind them that it is not merely a question of using one name for another. It is on the other hand, a conflict of two cultures; a choice between the role of a stooge of some giant pharmaceutical companies and the still small voice of conscience. (...) Let us start using INNs in our prescriptions. Let us make the commitment today, for tomorrow may be too late.”

Campaigning for INN use is spreading thanks to ISDB bulletins (see “Bulletin Roundup” on pages 12-13). It will take more than a few months for INNs to be widely adopted, and it will take determination, patience and persuasion. With INNs, everything is simpler, clearer and more precise. Let’s continue to regularly push in favor of INNs!

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USE OF INTERNATIONAL NONPROPRIETARY NAMES (INNs) AMONG MEMBERS

An ISDB survey

A number of ISDB members have launched a campaign to raise awareness among healthcare professionals and the public about the need to use INNs. The aim of this ISDB survey is to get a clearer picture of INN use in ISDB bulletins and in their countries.

Methods

5 questions were asked to ISDB members via the ISDB forum:

1. Do you use INNs, trade names, or both, for designating drugs in all of your articles? If so, do you use special prints (italics, CAPITAL letters, else?) to distinguish INNs from trade names? Please specify your editorial policy if any.
2. Have you encouraged healthcare professionals to use INNs instead of trade names, or do you intend to do so? How?
3. Do you encourage patients and consumers to become aware of INNs? If so, what kind of actions have you undertaken?
4. In your country, is the medical/pharmaceutical communication INN- or trade name- oriented (in academia, professional meetings, continuing education, public health bodies)?
5. Have you got any comment on your experience, success and/or difficulties linked to the use and acceptability of INNs?

The answered were collected in August/September 2006.

Results and discussion

The answers were collected come from 24 different countries worldwide and from 31 different bulletins. You’ll find below the main trends as shown in answers (see appendix to this Newsletter pages 20-27 for complete answers to the questionnaire, country by country and bulletin by bulletin: available in the full text version of this Newsletter; to be downloaded from the “Member only section” of ISDB Website).

A majority of ISDB bulletins prefer INNs for designating drugs in their articles, but also help the reader with corresponding and well known trade names. Almost all ISDB members have a clear editorial policy and use INNs in their articles (one exception for mandatory reason: a drug agency bulletin has to use trade names (Sweden); one bulletin prefers trade names in 3 exceptional cases: combination drugs, medical devices, and vaccines).

ISDB bulletins try to make INNs particularly visible to readers. Different methods are used: style (italics, bold, or even capital letters (1 bulletin), colors (3 bulletins), etc.

ISDB bulletins are aware that readers often know only trade names. A majority of bulletins systematically mention trade names the first time the INN is used for designating a drug. The trade name is in most bulletins written in brackets, with the first letter in capital (or entirely in capital letters in 2 bulletins), and accompanied by a sign in subscript (® or °) (in one case the trade name is also followed by the name of the drug company). 3 bulletins chose to not use any trade names in their reviews; they use corresponding tables at the end of their articles, listing the main trade names corresponding to the INNs cited.

Some bulletins have specific rules, according to 2 types of constraints: space and editorial policy.

Limitation of space doesn’t allow all trade names to feature in tables at the end of short articles: they use INNs accompanied with trade names in brackets the first time INNs are mentioned in the article.

Editorial policies can differ from section to section of the same bulletin. Editorial policies often reflect the editorial aim in a specific context. For instance, some bulletins prefer trade names when the text refers to specific aspects of a product or when they have to deal with major adverse drug reactions, or in case of litigation.

Many ISDB bulletins encourage healthcare professionals and/or consumers to use or get accustomed to INNs. The answers to questions 2 and 3 are presented together in the following table, classifying the bulletins according to the mean used to encourage INNs: articles dedicated to INNs or generics (read page 11 of this Newsletter “INNs and Generics: different things”), workshops, campaigning in favor of INN use.
Bulletins that wrote specific articles on INN issues seem to be more likely to campaign and to encourage INN use in patients and consumers, even if their readers are mostly healthcare professionals.

Several joint campaigns are underway (3 ISDB bulletins together in Italy, Medecines in Europe Forum together with consumers and health professionals in France).

Medical/pharmaceutical communication worldwide: the private sector is mainly trade name oriented, due to pharmaceutical companies influence. All over the world (except in the UK), trade names are mainly used in the "private sector" (healthcare professionals meetings, trainings, continuing education, etc.). Of note, the influence of pharmaceutical companies was explicitly mentioned 7 times to explain the use of trade names in communication (sponsoring meetings and advertising). Prescribing assistance software that compels prescribers to use trade names make INN use very difficult if not impossible.

In the “public sector”, scientific publications and educational basic books are mainly INN based. In some countries with an Anglo-Saxon culture (Australia, Canada, England, New Zealand) and in other countries (Nepal, Nicaragua, Croatia, Czech Republic, Slovenia), academia uses mainly INNs, often for practical reasons (the drug lists in hospitals is in INNs, etc.) or because it’s mandatory in the “public sector” (Nicaragua). In other countries academia and hospitals tend to use mainly trade names (France, India, Netherlands, etc.).

Drug regulatory agencies or their equivalent use both trade names and INNs in the majority of countries. On this issue, one underlying impression is that: “in academia, professional meetings, continuing education and even public health bodies tend to use INN especially in dealing with adverse reactions/events and ineffectiveness of a special drug. But when they deal with the positive aspects of a medicine, they tend to prefer brand names.”

The role of policies in favor of generics facilitating INN use was pointed out (Australia, Germany, Switzerland, etc.), with a risk of confusion between INNs and generics.

The importance of labeling and drug packaging was underlined as a key issue to improve INN visibility. On drug packaging, INNs are usually mentioned in smaller size than brand names. Even with generics, which usually mention the INN followed by the name of the company, there is a tendency in some countries (Germany, Australia, etc.) to brand the name in order to improve marketing communications.
INN acceptability: difficulties mainly reported by healthcare professionals and proposals for improvement. Many answers cited the same difficulties for INNs to be widely accepted by healthcare professionals, particularly specialists and general practitioners.

Healthcare professionals’ resistance mainly comes from:
- a confusion between INN names and generic products (mentioned 5 times). In some cases, doctors do not wish to allow pharmacists to choose among several copies of a drug that is available as generic on the market, forgetting that they could write the trade name in brackets next to the INN to prevent the pharmacist from replacing. Confusion with generics can also slow down INN use in a doubtful generic quality context (see “Being Convinced that Generics are Better” page 12 in this Newsletter).
- pharmaceutical company influence (mentioned 4 times): financial advantages for pharmacists or doctors linked to the use of trade names may slow down healthcare professionals’ interest in INNs.
- habits (difficulty to change mentioned 3 times).

INN prescribing faces some limits: drugs with narrow therapeutic margins, formulations (combinations, insulins etc.), patients at particular risk of memory disorder (elderly).

Unlike healthcare professionals, consumers seem to appreciate initiatives in favor of INNs, leading to more transparency and understanding of the drugs used. The confusion with generics can also be an obstacle to INN use for consumers which have experienced repeated changes in generics, which prevent the INN to be identified.

Many simple improvements to overcome these obstacles were proposed. Among them the roles of regulatory bodies and policy makers (amending regulations, etc.) were stressed (4 times). Drug regulatory agencies should use INNs instead of trade names in their communications and on websites, and INN prescribing should be lawful in countries where it is not, etc.). Another simple improvement cited was a bigger labeling size of INNs on drug packaging in order to avoid confusion.

Conclusion

Nearly all ISDB members use INNs in their articles. INN prescribing is sometimes confused with generic prescribing, which can be an obstacle to INN use, clarification is therefore needed. The need to encourage INNs is accepted by the majority of ISDB members. Research testing acceptability of INNs and regulatory changes are underway in a number of countries. ISDB bulletins can play a major role in raising awareness and campaigning for INN use. Improvement in health policies and regulations would help increase INN use in many countries.

Christophe Kopp and Florence Vandevelde
THINK INN, PRESCRIBE INN, DISPENSE INN

Good professional practice

Abstract

- International nonproprietary names (INN) for drugs were invented about fifty years ago, under the aegis of the World Health Organisation, to provide a common language for health professionals and patients worldwide.
- No country forbids INN prescriptions. Some countries actively recommend using INNs.
- INN prescription empowers prescribers and pharmacists in their choice of treatment.
- The choice between a prescription based on the INN or the brand name will depend on the type of treatment (short term or chronic), the nature of the drug (especially its therapeutic margin) and any specific risks related to the patient (age, disease condition, allergy, and adherence).
- A pharmacist’s decision to dispense a brand name drug from an INN prescription must be based on usual dispensing precautions.
- Adopting INN prescribing means having to reflect on one’s knowledge of drugs, and to challenge the quality of one’s initial and continuing education in pharmacology and therapeutics. The INN system is a means of improving prescribing and dispensing practices: it involves paying more attention to the patient, explaining the treatment in greater detail, and respecting his/her choice.
Chapter 1 - The INN system: a clear, international language

Synthetic and semisynthetic substances are designated in several ways, in addition to the internal coding system used by the company: - the chemical name, which is often incomprehensible to the non-specialist and may vary according to the interpretation of the chemical nomenclature; - the chemical formula, which can be used to calculate the molecular weight, but is otherwise not very useful; - the entire formula, which is a graphic representation of the chemical composition; its significance is clear for the chemist but not for the non-specialist; - the Chemical Abstracts Service registration number, or CAS RN, which is attributed to all products mentioned in reports published since 1965; it is a good identifier but is also somewhat obscure; - registered trademarks, which can be numerous, differ from country to country, and suggest little or nothing of the nature of the substance or its properties; - finally, the international nonproprietary name, or INN (a)(1).

A WHO mission. The explosion in chemical synthesis of drugs in the early twentieth century rapidly led to problems of nomenclature. The first attempt to coordinate nomenclature programmes in the United States, the United Kingdom, Scandinavia and France was in 1945 (2). Following a resolution by the World Health Assembly in 1950, the World Health Organisation (WHO) was charged with setting up an INN system by 1953 (b)(3).

Currently, INN claims are submitted to WHO by national nomenclature commissions or directly by pharmaceutical companies. They are accompanied by precise information on the chemical nature of the substance, its pharmacological activity and its field of use (3, 4).

A precise code. After examining each application, the WHO expert group on the International Pharmacopoeia and pharmaceutical preparations proposes an INN that:
- is clearly recognisable, both when written and spoken;
- is short;
- is unlikely to be confused with other commonly used names;
- comprises a key segment (suffix, prefix or mid-segment) common to all substances of the same group, and based on pharmacological activity or chemical structure;
- is adapted to the largest possible number of languages (the letters “h” and “k”, “ae” and “oe” are avoided; the letter “f” is used instead of “ph”, etc.) (c).

The candidate INN is published in the WHO Drug Information Bulletin,  ▷▷

........................................

a- National nonproprietary names, such as the British Approved Name (BAN) or United States Adopted Name (USAN), are not mentioned here, because they are increasingly being replaced by INNs.

b- This task was conferred to WHO as part of its constitutional mandate to develop, establish and encourage the adoption of international standards for foodstuffs and pharmaceutical and biological products (ref 3).

c- INN lists are published by WHO in six versions: English, Latin, French, Spanish, Russian and Arabic (a Chinese version is planned), but differences between versions are minimal.

### Naming drug substances: the examples of paracetamol and bromazepam

<table>
<thead>
<tr>
<th>International non proprietary name (INN)</th>
<th>paracetamol</th>
<th>bromazepam (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>chemical name</td>
<td>4'-hydroxyacetanilide or N-(4-hydroxyphenyl) acetamide</td>
<td>7-bromo-1,3-dihydro-5-(2-pyridyl)-1,4-benzodiazepin-2-one</td>
</tr>
<tr>
<td>empirical chemical formula</td>
<td>C9H9NO2</td>
<td>C14H10BrNO2</td>
</tr>
<tr>
<td>empirical chemical formula</td>
<td><img src="image1" alt="Chemical structure of paracetamol" /></td>
<td><img src="image2" alt="Chemical structure of bromazepam" /></td>
</tr>
<tr>
<td>Chemical abstracts service registration number (CAS)</td>
<td>103-90-2</td>
<td>1812-30-2</td>
</tr>
<tr>
<td>proprietary names</td>
<td>in France (2): Aféradol®, Claradol®, Compralcol®, Dafalgin®, Dolfiash®, Doliprane®, Dolko®, Efferalgin®, Fébractol®, Gelupran®, Oralgan®, Panadol®, Paracétamol Bayer®, Paracétamol Biogaran®, Paracétamol GNR®, Paracétamol Merck®, Paracétamol RPG®, Paralucy®, Sédarène®</td>
<td>in France: Anxyrex®, Bromazépam MSD®, Bromazépam-Ratiopharm®, Bromazépam RPG®, Lexomil®, Quételine® – in other countries: Bromiden®, Gily® 6®, Lexostad®, Lexotanil®, Normoc® (3)</td>
</tr>
</tbody>
</table>

1- The suffix -azepam generally corresponds to anxioyltic diazepam derivatives in the WHO list of key segments.
3- We only cite a few European examples to illustrate the diversity ("Bromazepam"). In: Martindale - The Complete Drug Reference, 32 ed, The Pharmaceutical Press London 1999: 643).
and any comments and criticisms are collected over a 4-month period (d). The finalised candidate INN becomes a recommended INN (rec. INN) and, once published, is definitive (5). A list of proposed and recommended INNs is published regularly (e).

According to the WHO department responsible for the INN system, the selection process has become more complex in recent years owing to the multiple mechanisms of pharmacological effects and specificities claimed by pharmaceutical companies. New concepts have been adopted to designate biotech products (f)(4,6).

Despite its critics the INN system continues to play a crucial role, by simplifying identification of pharmaceutical substances worldwide in a common and fixed language.

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d- The main criticism is that some INNs may be confused with brand names of competing substances (ref 5). However, confusion between INNs is less likely to occur than between proprietary names (see note h, page 189).
e- The INN list is available from http://mednet.who.int
f- The key segment “mab”, for example, which designates monoclonal antibodies, has sub-keys to indicate the source of the product (for example, xi for chimeric) and the target disease or population (for example, ci for cardiovascular), giving rise to strictly coded INNs. Abciximab, for example, is a monoclonal antibody of chimeric origin for cardiovascular indications (ref 13).

Chapter 2
INN prescribing has pharmacotherapeutic limitations

A given drug formulation, dose and treatment duration is chosen to obtain a specific positive effect. All drugs carry a risk of adverse effects, which must also be taken into account.

When prescribing or dispensing a drug, everything should be done to maximise efficacy and minimise risks, notably by discussing the treatment with the patient. INN prescribing can facilitate these goals, but may be inappropriate in certain circumstances.

Short term versus chronic prescriptions

What matters when treating an acute condition, such as traumatic pain or an infection, is the choice of the active substance and dose regimen. Short term treatment is the ideal setting for INN prescribing.

INN prescribing is also appropriate when starting long term therapy. As in the above setting a proper formulation can be chosen easily, taking into account problems with excipients and the patient’s preferences. One considerable advantage is that the patient may find it easier to obtain the same drug when travelling abroad. The same drug can be used for as long as necessary if it is safe and effective.

Switching to an INN can be done at the time of the first repeat prescription but pharmacokinetic, psychological and practical problems may favour continuation of a brand name product.

Remember the excipients

Both adults and children may dislike excipients with certain tastes or smells and may not continue to take treatments that include them. Other patients, for personal, cultural, religious or other reasons, prefer one formulation rather than another (solid versus liquid, topical cream versus solution, non alcoholic formulations, absence of animal gelatine, etc.). Some patients may have trouble dealing with certain types of packaging, such as tricky stoppers or poorly labelled unit dose pipettes.

Prescribers and pharmacists should also check that the preferred formulation does not expose patients to unjustified risks (intramuscular injection versus oral intake, for example).

Some patients must avoid excipients such as saccharose, ethanol, sodium and potassium (contraindication or risk of interaction); or preservatives such as mercury derivatives and quaternary ammonia (in eye drops), injected sulphites and topical lanolin (known allergy). In these cases prescribing a brand name may be safer.

Psychological factors

INN prescribing can empower patients and increase their confidence in the treatment and the professionals. Some patients may be reluctant to use INNs, however. Indeed, familiarity with a given trade name may facilitate adherence by some patients. In these cases the prescriber or pharmacist should ask the patient if he/she has any particular preferences.

Bioequivalence

In France, bioequivalence between two drugs is defined in the Public
Health Code as “the equivalence of bioavailability”, and bioavailability as “the rate and degree of absorption, from a pharmaceutical formulation, of the active substance or its therapeutic fraction, designed to be available at the target site”.

The European Court of Justice considers that two drugs are bioequivalent if they are “equivalent or alternative pharmaceutical products” and if “their bioavailability (degree and rate) after administration, at the same molar dose, is so similar that their effects (efficacy and safety), are essentially the same” (7).

Strict bioequivalence is rarely necessary. But, in some circumstances overdose or inadequate dosing should be avoided. This is particularly important for drugs with narrow therapeutic margins, and for some patients with particular risk factors (see inset page opposite) (9)(8).

Although reports of clinical problems linked to a lack of bioequivalence are rare, recommendations may vary from country to country, ranging from maintaining the same formulation for such drugs and patients, to close monitoring and detailed information for the patient when switching to INNs (8).

The bioequivalence of some pharmaceutical formulations and routes of administration is difficult to demonstrate by conventional methods. This is especially the case when plasma concentrations are low (topical preparations, metered-dose inhalers). In these cases it is best to continue with the same formulation. The same applies to preparations that require training of the patient (inhalers, spacer devices for example), given the risk of errors (8).

**Changing the appearance of a drug may worry the patient**

Opponents of INN prescribing often argue that elderly patients and those with mental disorders are particularly at risk and that such patients may be perturbed by an abrupt change in the colour of his or her pills.

It is up to prescribers, pharmacists and other care-givers to inform the patient and to take any such problems into account. This also applies to proprietary drugs whose occasional changes in packaging, colour and shape are not always clearly announced by drug companies.

**The patient’s preference**

It is perfectly reasonable that a patient bearing an INN (or brand name) prescription should be able to choose among the different preparations containing the same substance, at the same dose, for the same route of administration, according to the drug’s shape, taste and price.

This particularly applies to common analgesics (e.g. paracetamol) and frequently prescribed antibiotics (parents may prefer some amoxicillin presentations for their children, because of familiarity with a particular measuring device). Some patients will prefer the least costly preparation.

Provided the above-mentioned pharmaco-therapeutic risks are taken into account, there is no reason to refuse such requests. This may pose storage problems for the pharmacist, whereas INN prescribing generally allows stocks to be reduced. A reasonable compromise can usually be found with the patient.

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### Pharmacotherapeutic limitations on INN prescription

The following list is by no means exhaustive. It takes into account international publications and recommendations (1), and chiefly aims to highlight potentially risky circumstances which require extra care on the part of the prescriber and pharmacist. In these situations it may be preferable to prescribe or dispense brand names.

**Drugs with narrow therapeutic margins:**
- anticonvulsants: carbamazepine, phenytoin, sodium valproate, primidone;
- digitalins: digoxin, digitalin;
- theophyllines;
- quinidine;
- oral anticoagulants;
- diuretics (especially in very elderly patients).

**Formulations:**
- solutions or powders for metered-dose inhalers (especially when the patient has difficulties handling the device);
- sustained-release formulations, including patch delivery systems (especially when there are different types, with different proprietary names, containing a given substance, in which case an INN prescription may lead to confusion (2));
- topical forms (for highly active substances).

**Patients at particular risk if a drug is switched:**
- epileptics;
- very elderly persons (especially those with heart disease);
- diabetic patients (when treatment monitoring is inadequate);
- asthmatic patients (when they are not yet used to handling the different drugs);
- persons with known allergy to certain excipients.

This list does not consider the psychological or psychosocial aspects that can also influence the decision to prescribe by INN.

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1. Prescrire supplement “Les médicaments génériques - De la pharmacologie à une politique rationnelle”.
Chapter 3
Four good reasons for INN prescribing

INN prescribing avoids both the need to remember, and to choose from, a plethora of proprietary names. This leaves the prescriber free to focus on diagnosis and treatment, and, of course, on good prescribing practice.

Getting to know drugs

The database of the French data sheet compendium contains about 11,000 references corresponding to CIP bar-codes, each of which represents a proprietary name with a specific pharmaceutical formulation, dosage and presentation (9). There are about 6,500 different brand names. In contrast there are only about 1,700 INNs on the French market (9). There is clearly a higher risk of error with 6,500 brand names than with 1,700 INNs (h).

Beware educational tools. From medical school onwards, pharmaceutical education often focuses on brand names, in lectures, books and electronic media. Continuing medical education also tends to use brand names more often than INNs. Conferences, workshops, brochures, professional journals, web sites, etc. also mainly use brand names.

This is the inevitable consequence of widespread funding by pharmaceutical companies which, in exchange, expect to see their brand names used on prescriptions. As a result, health professionals do not always know the composition of drugs they prescribe or dispense.

INNs facilitate access to independent information. “Thinking INN” helps one to become more familiar with the active substances one prescribes or dispenses. This avoids, for example, inadvertently prescribing combined drugs hidden behind a single brand name (10). It also helps to avoid errors when the composition of a given preparation changes without a corresponding change in the brand name (and vice versa) or when the same proprietary name is used for a range of preparations with different compositions.

To some extent, thinking in terms of INNs also frees the health professional from the influence of pharmaceutical advertising campaigns. By rejecting educational material that uses brand names in favour of comparable information based on INNs, prescribers, pharmacists and other health professionals can improve their knowledge of therapeutic strategies.

Drugs are designated first (and often solely) by their INN in reliable sources of comparative information, treatment guidelines, recommendations, clinical trials and meta-analyses, whatever the country. Health professionals who do not know drugs by their INNs cannot seriously expect to keep up to date with the latest independent information.

Prescribers and pharmacists: division of roles

It is up to pharmacists to check prescriptions (errors, dose regimen, interactions with concomitant treatments, etc.), and to explain (or re-explain) to the patient the modalities and precautions for use.

The following information should be noted on the prescription:
- the patient’s name and sex (it is not always the patient who comes to the pharmacy), age and, often, body weight (especially for children, and very thin or overweight patients), and even the body surface area in some cases;
- the INN, leaving it to the pharmacist and patient to choose a specific product (this may be explicitly mentioned on the prescription).

If the prescription mentions a brand name, for a medically good reason, the pharmacist should state it explicitly. The pharmacist must then dispense the prescribed product, unless he or she finds an error or problem that places the patient at risk.

- the dose regimen and treatment period: once the substance has been chosen, the prescriber can choose the formulation and dose regimen (unit dose, daily number of intakes, timing of intakes, and duration of treatment) (i).

It’s not for the prescriber to worry about how many drops there are per vial, or whether boxes contain 28 or 30 tablets: the pharmacist has all the necessary information to hand.

INN prescribing allows the pharmacist to limit the number of otherwise identical preparations he/she stocks, in both community and hospital pharmacies. This is one of the practical reasons for INN prescribing mentioned in the British National Formulary (11).

Towards a common international drug terminology

At present in France, prescriptions in hospitals may be written in either the INN or the brand name. The patient receives a drug with a brand name (sometimes different from the one prescribed), and the nurse who administers the drug may be used to another brand name.

The same patient, on returning home, is generally prescribed the same treat-
ment, usually under a brand name (sometimes different from the one received in hospital), and the drug he or she receives from the community pharmacist can bear yet another brand name.

One of the patient’s acquaintances may be taking the same drug, but under another brand name, or a very different drug with a similar proprietary name. In the family medicine cabinet, several boxes may contain the same substance under different brand names.

Use of the INN system throughout the health service would facilitate communication among health professionals and patients provided, of course, that INNs are clearly legible on packaging. When travelling abroad, it is important for patients to know the INN of any drugs they are taking, mainly so that they can obtain them more readily if necessary (j). This is one reason that led the WHO to promote the INN system.

### Improving communication between health professionals and patients

The prescription is not just a “shopping list” or an accounting source for health insurers: it can also be used to note advice on the mode of administration, accompanying cautions and events to watch for during treatment. By using the INN system the prescriber should be encouraged to spend more time explaining the treatment to the patient, being less concerned with the choice of drug names and different costs.

Use of the INN system also frees the prescriber from the pressures created by drug lobbyists, who sometimes make advertising slogans sound like therapeutic guidelines. A patient who knows the INN of the drug he or she is taking can identify it in other preparations (prescription and non prescription drugs), and thereby avoid potentially dangerous concomitant treatments (12).

Providing patients with clear information is also a mark of respect.

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**Literature**

Our literature search was based on continuous prospective scrutiny of the main international journals likely to deal with drug names, prescription and replacement, and on reference textbooks and databases in chemistry and pharmacy. We reviewed foreign and French pharmaceutical regulations, and WHO documentation on international nonproprietary names published since the creation of the revue Prescrire in 1981.

8. Prescrire supplément “Les médicaments génériques - De la pharmacologie à une politique rationnelle”.
DEFINITIONS

INNs and generics: different things

The INN is a drug’s true name, the name of the active substance; a generic is a copy of a drug.

- **INN:** The INN (International Nonproprietary Name) is quite simply a drug’s real name: it is the name of the active substance. Created by the World Health Organization (WHO), the INN system is used throughout the world. It allows healthcare professionals and patients to identify a drug precisely and with confidence, and to avoid potentially serious adverse effects due to confusion between drugs.

- **Generic:** A generic is a copy of the drug that arrives on the market a few years later, after the patent providing for a number of years’ exclusivity has expired. All generics are copies of the originator product and contain the same active substance (named by an INN), and have the same effects.

Some generics have brand names including the INN, such as Diclofenac Wonder® or Diclofenac Gold®, but others like Voldal® and Xenid® don’t.

Every drug has its own INN, but not all drugs have generics.

References:
Prescrire Editorial Staff “The generic name is not the same as the INN” (leaflet) (freely available from: http://www.prescrire.org/cafiers/dossierDciAc cueilEn.php)
Donald J. Birkett “Generics - equal or not?” Aust Prescr 2003 ; 26 : 85-7 (freely available from: http://www.australianprescriber.com/magazine/26/4/85/7/)

INN use: proposals for improvement

Increase in INN use is under the responsibility of all actors of the health field.

- **Pharmaceutical companies:**
  - drug packaging with bigger INNs than trade names (the INN should supersede the trade name);

- **Regulators (Health authorities and other related bodies):**
  - put public health first and showing the lead by systematically using INNs (drug lists; websites; publications);

- **Ministry of Health:**
  - promoting INN use in healthcare professionals (initial education in academia) and consumers (campaigns in favor of INNs instead of generics);
  - banning trade name use in advertisings and in continuing education;

- **WHO:**
  - providing easy to remember and coherent INNs;
  - improving transparency of the decision process leading to the choice of INNs;

- **Healthcare professionals:**
  - Think in INNs: remembering a few hundred INNs (and only the useful ones) is easier than remembering thousand brand names;
  - Prescribers: write and explained their prescriptions using INNs (trade names can also be mentioned if necessary);
  - Pharmacists: systematically highlight the INN on drug packaging when dispensing.

- **Patients and consumers:**
  - being more involved in their treatment, paying attention to the drug they take.
ABOUT INNs AND GENERICS
IN ISDB BULLETINS

The following texts were selected in ISDB bulletins received at the ISDB library in 2006. If we did not identify articles you wrote on INN or generic issues due to language difficulties (or lack of attention…), please feel free to post their references on ISDB website with contact details (name and e-mail) so that people could ask you for the text. Thank you!

Langage: English
Available on request: Pijus Sakar

“Being Convinced that Generics are Better”

There are many medical professionals who wholeheartedly support the idea of INN (also called generic names) in prescriptions, but suffer from a lingering doubt in their mind as to how far it is practicable and how far it will be beneficial.

Even more than that, they have a question as to whether this noble effort—rational, logical and scientific - could somehow prove counter-productive for the patient. After all it is the best interest of the patient that the doctor ought to have in his or her mind. And a situation where the medicine shop has dispensed a product (not of the best quality) because the doctor used a generic name as prescription would be most unfortunate. Well then, why not prescribe in a brand name - of a “reputed” pharmaceutical company.

Why then would the product dispensed by the medicine shop not be of the best quality?

First, the product could be spurious. It is true that there are a large number of spurious products in the market. So the product dispensed from the medicine shop could be spurious. But manufacturers of spurious drugs are naturally more interested in producing spurious varieties of those brands that sell more. By this logic, the brand name product of big and reputed pharmaceutical companies are naturally more interested in producing spurious varieties of those brands that sell more. By this logic, the brands of big and reputed pharmaceutical companies are the most vulnerable of having spurious products in the market.

Second, the product of a less-known pharmaceutical company could be less efficacious. But how does the prescribing doctor reach this conclusion? Has he really found lack of response when the brand from the less-known company was used? If the fact cannot be substantiated, then the doctor would continue to be suspect for having undue favoritism (!) or preference for a particular company? If the fact can be substantiated, then serious interventional measures would be required from drug regulatory authorities to ensure that the products allowed to be marketed as medicinal preparations are of adequate standard. This cannot be the job of the practitioner.

Third, there is a trend in recent times (with a tendency to increase with passage of time) for large national or international companies to have their products manufactured by smaller companies. There are now defined rules for such business collaboration, but the system will stay. By this system, applied to manufacture of medicinal products, it is quite possible that the reputed pharmaceutical company whose products are considered superior have actually been manufactured by the smaller company whose own products might have been considered inferior by the practitioner (See the accompanying table).

Fourth, there is an unfortunate mindset that less costly products are less efficacious. When this thought process is applied to prescriptions, the effect could be disastrous. The mindset is unfortunate because it is wrong, and even the person with this mind set would agree in private that cheap things can be good. So long that all preparations coming under a generic name (INN) are not standardized in terms of quality and good manufacturing practices, it may not be irrational to suggest an alternative system.

This is to write the names of two or more different brand names for any medicine prescribed. It covers the drawback of “backing” (preferring) a particular company’s product. There are doctors who get gratification (in material terms) out of favoring particular pharmaceutical companies. There is no denying of this fact. The public has little scope to decide whether a particular doctor belongs to this category or not. So the public holds all doctors as suspect. Even the doctor who is not gratified may be presumed to be corrupt. Why should the ‘good’ doctor share a blame meant for
the ‘bad’ doctor? Well one way for the ‘good’ doctor to set himself apart from the ‘bad’ doctor could be by following the principle of generic prescribing. He should do so with full conviction that it is rational, logical and beneficial. He would probably do so with greater conviction after the inputs of this editorial.


Langage: English
Available on request: Pijus Sakar

**Dialogo sui Farmaci**

“Prescrivere e dispensare per DCI. Luci ed ombre di un linguaggio comune”
http://www.dilogosuifarmaci.it/main.asp

➤ Dialogo sui Farmaci 2006; 3 : 120 - 123

Langage: Italian
Available free

**Informazioni sui Farmaci**

“Prescrivere per principio attivo. Luci ed ombre di un linguaggio comune”
➤ Informacion sui Farmaci 2006; 30 (4): 106-109

Langage: Italian
Available on request: Maria font

**La Lettre du GRAS**

“Papy fait de la résistance”
[Dad puts up resistance]

Follow-up on the INN campaign in Belgium
➤ La Lettre du GRAS 2006; 50 : 29-30

Langage: French
Available on request: Michel Jehaes

**La Lettre du CEDIM**

“Prescrire les médicaments dans un langage clair, précis aussi bien pour les soignants que pour les soignés”
➤ La Lettre du CEDIM 2006; 11 (29): 37-38

Langage: French
Available on request: Clotaire Nanga

**Ricerca & Pratica**

“A matter of principle. Why we should prescribe and dispense using the INN”
➤ R & P 2006; 26 (May-June): 108-113

Langage: Italian
Available on request: Maria font

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**Colophon**

Newsletter editors and coordinators: Christophe Kopp and Florence Vandeveld

The following people contributed to this Special Newsletter issue on INN:

John Dowden; Zahed Masud (*Drug and Health*); Clotaire Nanga; Ciprian Jaunca; Bozidar Vrhovac; Blanka Pospisilova; Wolfgang Becker-Brüser; Jörg Schaaber; Pijus Sarkar; P.K. Lakshmi; Sri Suryawati; Philip Sax; Maria Font; Anita Conforti; Maurizzio Bonati; Rokuro Hama; Baktygul Toktobaeva; Natalia Cebotarenco; K.K.Kafle; Bhupendra B. Thapa; Dick Bijl; Sarita Von Afehlt; Benoit Marchand; Jelka Dolinar; Joan Ramon Laporte; Björn Beerman; Etzel Gysling; Andrea Tarr.

Design and lay out: Nathalie Froment

Illustrations: Olivier Huyghe with Alain Savino
A survey was conducted last year by the ISDB member Bulletin d’Information de Pharmacologie (BIP Toulouse) in a French region. A summary is reprinted below.


Aim. The aim of this study was to evaluate the perceptions of health professionals and non-health professionals with regard to prescribing drugs by their international non-proprietary name (INN) in the Midi-Pyrenees area, France.

Methods. We developed a score to assess the perception of the four criteria that make up therapeutic progress:

- efficacy,
- safety,
- convenience,
- and cost for the National Health Insurance.

Changes in perception under these criteria were scored between 0 and 10 (0 for no change and 10 for maximal change). The questionnaire was answered by 142 general practitioners, 161 pharmacists and 132 healthy subjects (public).

Results. The median value (first quartile to third quartile) for the perceived change in efficacy was 0 (0-3) for physicians and pharmacists, and 0 (0-0) for the public. The median value for the perceived change in safety was 0 (0-3) for practitioners and pharmacists, and 0 (0-5) for the public.

The median value for the perceived change in cost was 6 (3-8) for practitioners, 5 (0-6) for pharmacists and 0 (0-0) for the public.

Conclusion. This study shows that there is generally favorable acceptance of prescribing by INN by those in the health area. However, general practitioners seem to be more reluctant to accept this than pharmacists or the general public.

Full article available on request
Language: French
Contact: Jean-Louis Montastruc (montastruc@cict.fr) for more information on this survey.

A SURVEY ON THE PLACE OF INN IN INITIAL EDUCATION

What was, and what is now, the place of the international nonproprietary names (INNs) in initial education of healthcare professionals in France? There is scarce data available for responding to this question, which is why Prescrire has launched a subscribers’ survey. The results will (anonymously) be published in Prescrire, and will also be assessed in a general practice thesis.

About 4 000 subscribers in France and 1 000 subscribers in other French speaking countries were asked to answer the following questions (2 questions with boxes to be ticked, 3 open questions).

1- In your initial education during classes, medicines were designated mostly with:
   - INNs
   - brand names
   - don’t remember

2- In your daily practice (prescribing, dispensing, advice), you use the INN:
   - never
   - sometimes
   - often
   - very often
   - always

3- Why do you use INNs in your daily practice?

4- What are the problems (if any) that prevent you from using INNs in your daily practice?

5- Could you specify key measures that would facilitate the use of INNs in the daily practice of the medical profession?

6- Free comments
LEAFLETS IN FAVOR OF INN USE

A public campaign entitled "The INN, a drug’s real name" that was launched in France in October 2005 by several organizations. This INN campaign is spearheading as part of the Medicines in Europe Forum, in association with the Fédération Nationale de la Mutualité Française (health care providers) and the Union Fédérale des Consommateurs (UFC) - Que Choisir (consumer group). This campaign aims to raise public awareness and promote the use of the INN, a drug’s real name, using information sheets.

The information leaflets were reprinted in each issue of la revue Prescrire and a number of press release on the subject were sent to the media.

The main message of this campaign is that using a drug’s INN is a valuable aid to patients, carers and medical staff. INN helps patients to recognize the real name of a drug they are taking, in order to be able to use that medicine correctly and to avoid adverse effects, especially those due to overdose, interactions, or administration errors.

Three doses of the same drug: too much for Julietta!

Julietta, a young girl, has a severe cough and fever. Her mother goes to the medicine cabinet and gives her a dose of Advil® to lower her temperature. During the night, Julietta awakens with a violent cough. "It's a good thing we have some cold medication left," her mother says, and gives Julietta a dose, but Julietta continues to complain and the doctor can’t come straight away.

"Let’s see something else..." - "Okay, let's try Advil®. That’s the highest recommended dose..."

So her parents decide to give Julietta a dose of Advil® to avoid her pain. Later that night Julietta awakens with a violent cough and her parents are so worried they take her to the local emergency department.

What her parents don’t know is that, before giving Julietta the same drug (Advil®) 3 times, under 3 different trade names, providing information of her stomach irritation and now improving her condition. If they had known what an INN is and if they had been able to identify it on the packaging of each product, they could have avoided harming their daughter.

Using INN reduces the risk of overdose

The INN (International Nonproprietary Name) is a simple, unique name. Created by the World Health Organization (WHO), the INN system is used throughout the world. It allows healthcare professionals and patients to identify a drug precisely and with confidence, and avoids unnecessary adverse effects due to confusion between drugs. With the INN, everything is simple, clearer and more precise.
Nicole would like to understand the INN system
The INN is clearer and less confusing

A holiday trip ends in hospital
The INN: one drug, one name, everywhere in the world

The INN on drug packaging: practical and safe!
Placing INN on drug packaging reduces the risk of error

Avoiding rechallenge with a contraindicated drug
The INN system helps patients to avoid side effects

Fewer drugs make for a safer home medicine cabinet
Using INN reduces the risk of confusion

Leo’s spots: due to a drug
The INN helps to prevent allergic drug reactions

Identifying the INN on drug packaging
Ask your pharmacist to highlight the INN on your medication packaging

The generic name is not the same as the INN
The INN is a drug’s true name, a generic is a copy of drug

Starting treatment without delay
The INN is the only reliable way of identifying a drug

Non informative brand names sometimes hide combinations of several drugs
With the INN system you know exactly what drug(s) you’re taking!

List of other INN leaflets available in English:

- Nicole would like to understand the INN system
  The INN is clearer and less confusing

- A holiday trip ends in hospital
  The INN: one drug, one name, everywhere in the world

- The INN on drug packaging: practical and safe!
  Placing INN on drug packaging reduces the risk of error

- Avoiding rechallenge with a contraindicated drug
  The INN system helps patients to avoid side effects

- Fewer drugs make for a safer home medicine cabinet
  Using INN reduces the risk of confusion

- Leo’s spots: due to a drug
  The INN helps to prevent allergic drug reactions

- Identifying the INN on drug packaging
  Ask your pharmacist to highlight the INN on your medication packaging

- The generic name is not the same as the INN
  The INN is a drug’s true name, a generic is a copy of drug

- Starting treatment without delay
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- Non informative brand names sometimes hide combinations of several drugs
  With the INN system you know exactly what drug(s) you’re taking!

COMMON STEM

In each issue of la revue Prescrire (in French), every month, Prescrire uses a “teasing tool”: a regular box detailing common INN stems. This brief text is dedicated to a stem common to all substances of the same group (based on pharmacological activity or chemical structure). Lists of corresponding trade names are also given. The objective is to help healthcare professionals understand the rationale behind INNs. An example is reprinted opposite.

THE MONTHLY INN STEM

-pressin

The International Nonproprietary Name (INN) of vasopressin-derived vasoconstrictors ends with the suffix -pressin (1).

There are 7 pressin-ending substances in the current list of INNs of the World Health Organization (WHO) (2).

Two of them are marketed in France: desmopressin (Minirin®, MinirinMelt® (that we will present in a next issue), Octim®) and terlipressin (Glypressine®).


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1- World Health Organization “The use of common stems in the selection of International Nonproprietary Names (INNs) for pharmaceutical substances” WHOEDM/QSM 2004: § 100.
WHO INN WEBSITE

A World Health Organization mission: WHO has a constitutional mandate to "develop, establish and promote international standards with respect to biological, pharmaceutical and similar products."

International Nonproprietary Names (INNs) aim to facilitate the identification of pharmaceutical substances or active pharmaceutical ingredients. Each INN is a unique name that is globally recognized and is public property.

The World Health Organization collaborates closely with INN experts and national nomenclature committees to select a single name of worldwide acceptability for each active substance that is to be marketed as a pharmaceutical.

To avoid confusion, which could jeopardize the safety of patients, trade-marks should neither be derived from INNs nor contain common stems used in INNs.

The selection and publication of INNs falls under the responsibility of the HTP/PSM/QSM team of the INN Programme.

The INN programme website section provides more information on these issues:

http://www.who.int/medicines/services/inn/en/

The link to the INN general Guidance:

For more information or to submit proposals for improvement of the INN Website, do not hesitate to contact:

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In the full version you will find:
- News of ISDB: Minutes of last Committee meeting
- Ongoing campaigns: Information on the campaign “Promoting good sources of patient information” – Strategy to counter attack Direct to Consumer Advertising threat coming back in Europe.