Improving the Safety of International Non-proprietary Names of Medicines (INNs)

Position Statement 2011

The International Patient Safety Network

- The International Medication Safety Network (IMSN) is an international network of safe medication practice centres established with the aim of improving patient safety
- This is achieved by operating medication error reporting programmes and producing guidance to minimise preventable harms from medicine use in practice
- IMSN promotes safer medication practice to improve patient safety internationally

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

Names errors : with INNs too

Lists of pairs of confused drug names
are published and regularly updated

by IMSN members and patient safety agencies:

- ISMP
- ISMP Spain
- Pennsylvania Patient Safety Reporting System (PA-PSRS)
- Ireland
- Australia

by medicines and healthcare products agencies:

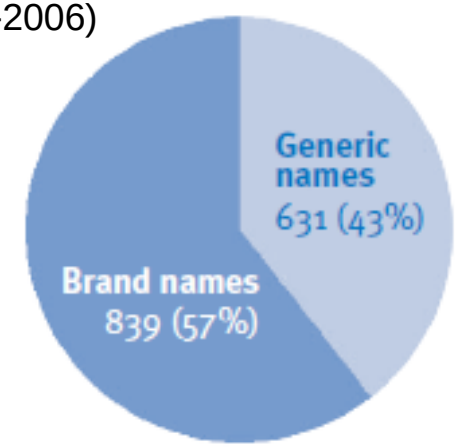
- US FDA
- French agency

These LASA or SALAD lists include INNs

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

INN-related medication errors

Findings from 26 604 LASA errors reported to MedMarx° programme and to USP-ISMP MERP (2003-2006)



The *USP Similar Names List* now contains 1,470 drugs that have been involved in look-alike/sound-alike medication errors. Of the reported names, 839 (57%) are brand (proprietary) names and 631 (43%) are generic names.

Examples of serious confusions

- *morphine # hydromorphone*
- *epinephrine # ephedrine*
- *sufentanyl # fentanyl*
- *mirtazapine # mianserine*
- *risperidone # ropinirole*
- *dactinomycine # daptomycine*
- *sulfadiazine # sulfasalazine*
- *cyclophosphamide # cyclosporine*
- *valganciclovir # valaciclovir*

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

Paradox
INNs are designed to be clear and safe!

INNs are designed to identify active pharmaceutical substance drug names easily and unequivocally all over the world, allowing:

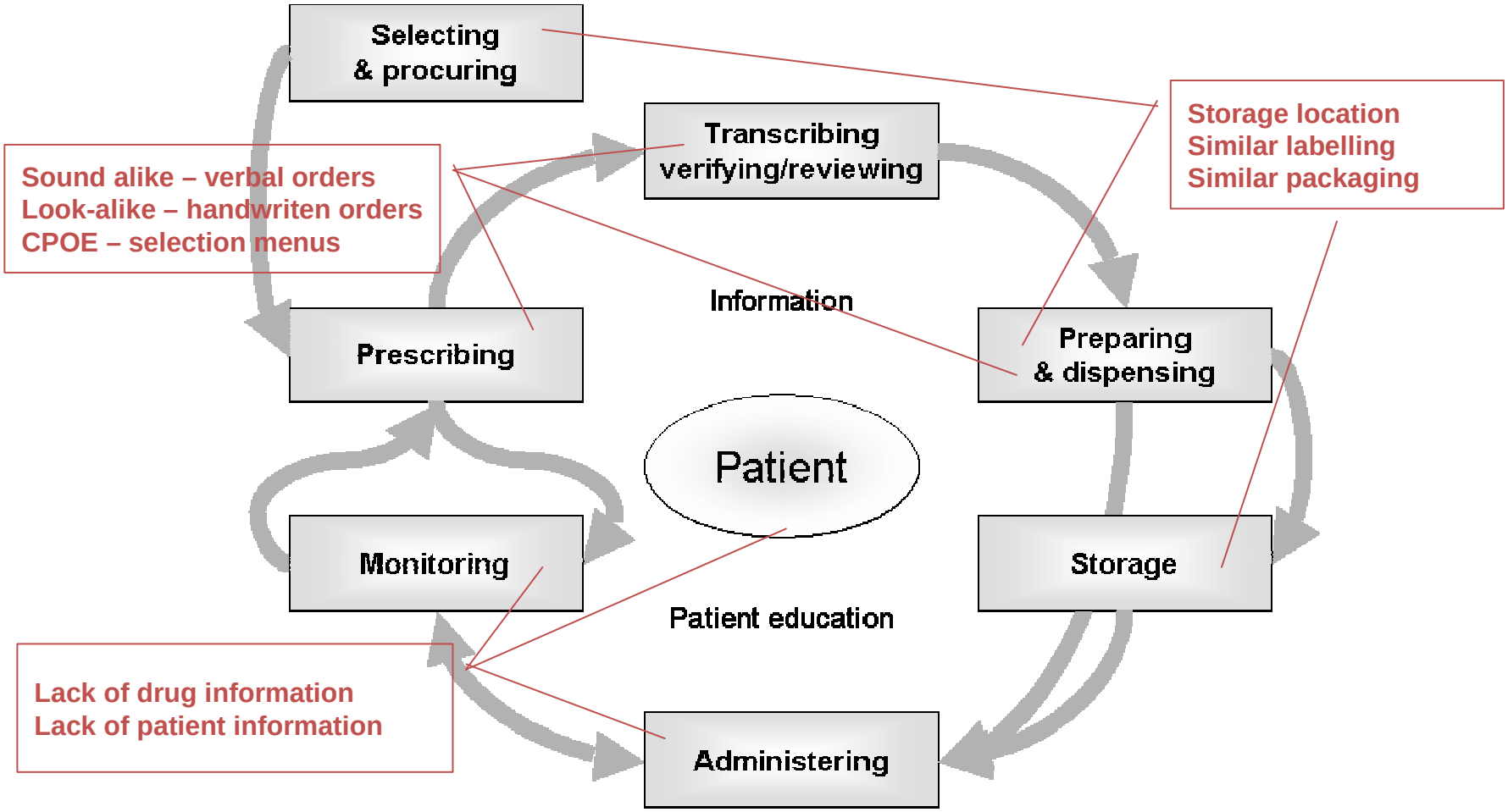
- communication and exchange of information
- understanding of a similar therapeutic activity, a specific mode of action or a chemical or biochemical feature on the basis of a common stem

INN built-in safety is based on several principles involving human and cognitive factors:

- standardisation
- differentiation
- redundancy
- facilitation of logic checks, etc.

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

INN-related medication errors occur at all stages of the medication-use system



IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

INN-related medication errors contributing factors

- Perception errors:
  - look alike or sound alike
  - insufficient legibility (labelling, computer screen)
- Short-term memory error: slips & lapses
- Motor coordination error: selection error
- Cognitive problems
  - work overload
  - distracting environnment
  - lack of knowledge of INN'meaning

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

Causes of INN-related medication errors

- Similarities between confused INNs
- Simultaneous similarities between brand names
- Similar pharmaceutical forms
- Similar dosing or range of dosing
- Similar frequency of administration
- Similar packaging and labelling (generics)
- Lack of INN legibility
- Lack of drug information
- Lack of patient information (indication)
- Lack of knowledge : pharmacology, galenic, posology, early symptoms in case of overdose

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

Reducing the risk

Improving the legibility of INNs

- drug labelling at every packaging level, including the immediate packaging of each unit of use
- dispensing labels
- package leaflets
- drug formularies
- computerized drug lists

In case of confusion among INNs

- alerting (list of confused names, computerized reminders, etc.
- referring to a drug by both its INN and its brand name (+indication)
- improving differentiation among error-prone INNs ('Tall Man' lettering)

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

Revising INNs with the highest risk of error

- IMSN urges healthcare policy makers, drug regulatory agencies and patient safety agencies to address the problem to the WHO every time they are informed of serious consequences of INN-related errors. IMSN and its members are prepared to notify them of such incidents.
- IMSN calls upon the WHO INN programme and national drug naming committees to systematically implement risk analysis methods, particularly after errors have been reported, in order to examine whether the INN should be changed.

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

Effective and lasting prevention of INN-related errors

- IMSN calls on healthcare professionals to take part in the critical analysis of proposed INNs in WHO public consultations, even though the properties of substances under development are uncertain and their harm-benefit balance has not yet been established.
- IMSN stresses the importance of healthcare professionals' learning about INNs and common stems during their undergraduate training, with particular emphasis on the systematic use of INNs in pharmacology and pharmacotherapy teaching.

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK

In summary

- The use of INNs instead of brand names in medication practices should be promoted with a view to improving medication safety. Therefore, IMSN advocates the systematic use of INNs rather than brand names.
- However, the safety of INNs can only be improved through better understanding, better education, better differentiation, and rapid resolution of any identified confusion.
- IMSN is aware of the difficulties of designing INNs and their common stems, and is keen to take action to make them safer. IMSN urges everyone to be vigilant and declares its readiness to cooperate with all organisations concerned, starting with the WHO INN programme.

IMSN INTERNATIONAL MEDICATION SAFETY NETWORK