Developing a DRP classification - a never ending story? -

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The processes in drug use
• Prescribing
• Dispensing
• Use

No error but not the desired outcome

• Something wrong in the process
  Medication Error

(Potential) impact on outcome
• Drug-related problem

Error but no (potential) impact on outcome
Topics

- Defining a DRP
- Finding a DRP
- Classifying a DRP
- Validating a DRP system
- Conclusion
Definitions and terminology
What influences the definitions

• General cultural factors: role of disease and treatment in society
• Underlying healthcare system
• Language
Terminology 1

• **Drug Related Problem**

  *A drug related problem is an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes (PCNE 1999)*

• **Other terms:**

  *Medication related problem*

  *Pharmaceutical Care Issue*

  Basically Outcome oriented
Terminology 2

• Medication Error

Any preventable event that may cause or lead to inappropriate medication use or patient harm while medication is in the control of a health care professional, patient, or consumer (National Coordinating Council for Medication Error Reporting and Prevention, NCC MERP, USA)

More process oriented
A DRP classification

- Classifies drug related problems that are caused by:
  - The drug(s) itself
  - The health system
  - The drug-use or administration

Report Univ. Utrecht Feb 2001
Aim of a DRP classification

• Document drug related problems encountered in daily (pharmacy) practice
• Document DRP information when providing pharmaceutical care (including causes)
• Utility: documenting Interventions
• Enable Research into nature, prevalence and incidence of DRPs
• PCNE Classification: Facilitate international cooperation in the field of DRPs and exchange of data
Identifying DRPs

• Collecting information on the patient
  – Gender, age
  – Allergies
  – Clinical parameters
  – Hospitalizations

• Performing a drug use evaluation

• Talking with the patient/user especially when 2\textsuperscript{nd} prescription is dispensed
Heplers’ cycle to prevent, detect & correct drug related problems

1. Record & interpret patient information
2. Record therapeutic objectives
3. Assess Therapeutic plan
4. Design Monitoring plan
5. Dispense & communicate
6. Implement Monitoring plan
7. Recognise problem (if any)
8. Respond to problem
DRP systems
Basis for DRP classifications

• Classifies drug related problems that may find their origin (cause?) in:
  – The Prescribing Phase
  – The Dispensing Phase
  – The drug-use or administration phase

Van Mil et al. DAZ 2001
The scenery of Drug Related Problems

Drug Related Problems

1. Physician
   Prescribing problem

2. Pharmacy
   Dispensing problem

3. Patient
   Behaviour problem
   Self-medication problem

Real DRP
   Manifest
   and influencing outcomes

Potential DRP
   Not manifest
   but possibly influencing outcomes

Unavoidable Problem
Avoidable Problem
DRP’s in the pharmacy

(Potential) Error
with impact on outcome

Transcribing Error
(wrong label or)
computer entry error

Dispensing error
(wrong patient)

Filling Error
(wrong drug or dosage form)

Information error
(none or wrong information)

Drug to patient
Requirements for a good classification (1)*

• Suitable for both scientific studies and use in the pharmacy
• Easy to use in daily routine
• Minimally consisting of three parts: problem, intervention, and the degree to which the problem could be solved
• Structured like a decision tree (main groups and sub-groups) supporting computer aided use.

Schaefer M, Pharm World Science 2002
Requirements for a good classification (2)

• Open structure enabling introduction of additional coding levels without changing the basic structure
• Problems defined should be clear and lead to one choice of coding only
• Focus on the problem itself not on its cause or consequence.
• Suitable for the documentation needed for the remuneration of cognitive services

Schaefer M, Pharm World Science 2002
Available systems (1)*

• ADRs
  – WHO ART (Adverse reaction terminology)
  – COSTART (Adverse reaction terms)
  – MeDRA (Med. Dictionary Registration Activities)

• Prescribing
  – Folli et al. Hospital oriented
  – Rupp et al. Community Pharmacy oriented
  – Lesar et al. Mainly hospital oriented

Available systems (2)

Examples of available DRP classifications
- Strand/Cipolle/Morley (USA)
- PAS (NL, Not in use, patient focussed)
- PI Doc (Schaefer, Germany)
- PIE system (Germany, Ganso et al 2009: for hospital)
- PCNE-V5.01 (Europe)
- Kriska et al. (UK)
- Mackie (Pharmaceutical Care Issues, UK)
- Granada consensus (now based on 2nd consensus)
- SHB-SEP (Netherlands)
- Westerlund system (Sweden)
- ASHP (USA)
# DRP systems for PhC

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<th>System</th>
<th>No of main categories</th>
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<th>Causes separated*</th>
<th>Validated*</th>
<th>Intervention classification*</th>
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* N=No, I=Integrated, Y=Yes, ± Not fully
Points of discussions

• Are problems always caused by errors?
• Do all errors cause drug-related problems?
• Do all problems have a cause that is related to the prescribing-dispensing process or the patient behaviour?
• Is ‘Indication without a drug’ a drug related problem?
• Are non-avoidable side effects DRPs?
• Validation issues
**Drug-related problem**

- **Prescribing error**
- **Dispensing error**
- **Administration/drug use error**

*No problem*

**Medication error**  
(= human *cause*)

- Drug–drug interaction
- Drug–food interaction
- Dose too low
- Dose too high
- Wrong drug selected etc.

**Adverse drug event**  
(= drug *cause*)

- Potential
- Manifest
  - Adverse drug reaction
  - Ineffectiveness
  - Toxic reaction

- No adherence
- Wrong timing etc.

23. PCNE DRP Symposium
Validation, why?

• Do users/pharmacists code similar cases similarly?
• Are there Problems, Causes, or Interventions missing in the system
• Is there an overlap between the different DRPs
• How easy can the system be used in practice
Validation (1)

*Internal consistency*
Are causes indeed causes, and problems indeed problems. Are there missing problems, causes and interventions?

*Construct validity*
Is the separation between two or more problems – causes- interventions clear.
If a levelled system, is the attribution of problems – causes – interventions to specific domains correct?
Validation Conclusion (2)

*(International) reliability*
Do all users code similar cases similarly, also when the classification is used in other countries?

*Usability in research and practice settings*
Perhaps the system is very valid, but how practical is it for daily use, or use in research.
Topics

• Defining a DRP
• Finding a DRP
• Classifying a DRP
• The PCNE-DRP system
  – Validation
  – Version differences
• Conclusion
Conclusion

• The scenery of drug related problems and their causes has been well set. But different classifications still are not optimal nor valid.

• There is a difference between a medication error and a drug-related problem. It looks like the errors are the causes for DRPs.

• Validation of most published DRP systems often limited to usability in practice. That is not enough.
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