Developing a DRP classification

a never ending story? -

J.W.F. van Mil

Pharmacy Practice Consultant PNE Professional Secretary Zuidlaren, the Netherlands





Topics

- Defining a DRP
- Finding a DRP
- Classifying a DRP
- Validating a DRP system
- Conclusion







and icrminology



4

What influences the definitions

- General cultureal 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 CONSUMET (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 2nd prescription is dispensed

Heplers' cycle to prevent, detect & correct drug related problems





02-11-2009

PCNE DRP Symposium





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



DRP's in the pharmacy



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

* Source: Y.S.Yuen. Classificatie van geneesmiddelgerelateerde problemen [Classification of drug related problems], Science shops, University of Utrecht, 2001. ISBN 90-74772-53-6



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) Krska 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

System	No of	Hierarchical	Causes	Validated*	Intervention
	main	problem	separated*		classification*
	categories	classification*			
ASHP	13	Ν	Ι	Ν	Ν
Cipolle et al	7	Ν	Ν	Ν	Y
Granada	6	Ν	Ι	Ν	Ν
consensus					
Hanlon	10	Ν	Ι	Ν	Ν
Hepler/Strand	8	Ν	Ν	Ν	Ν
Krska et al	13	Ν	Ν	Ν	Ι
Mackie	13	Ν	Ν	Ν	Ν
NCC-MERP	14	Ν	Ι	Ν	Y
PAS	5	Y	Y	土	Y
PCNE V5.1	6	Y	Y	±	Y
PI-doc	6	Y	Ι	Ν	Y
PIE-system	6	N	Y	±	Y
SHB-SEP	10	Y	Y	N	Y
Westerlund	13	N	Ι	±	Y

* 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





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 ther 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

Developing a DRP classification

a never ending story? -

J.W.F. van Mil

Pharmacy Practice Consultant PNE Professional Secretary Zuidlaren, the Netherlands

