

PCNE Classification for Drug related problems

(revised 22-04-03 vm)

V4.00

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This classification can freely be used in Pharmaceutical Care Research and practice, as long as the Foundation is informed of its use and results of validations. The classification is available both as a Word document and a PDF document.

Contact: jwfvmil@planet.nl

This classification should be referred to as 'The PCNE Classification V 4.00'

Introduction

During the working conference of the Pharmaceutical Care Network Europe in January 1999, a classification scheme was constructed for drug related problems (DRPs). The classification is part of a total set of instruments. The set consists of the classification scheme, reporting forms and cases for training or validation. The classification system is validated and adapted regularly. The current version is V4. It is not compatible with previous versions.

The classification is for use in research into the nature, prevalence, and incidence of DRPs and also as a process indicator in experimental studies of Pharmaceutical Care outcomes. It is also meant to help health care professionals to document DRP-information in the pharmaceutical care process.

The hierarchical classification is based upon similar work in the field, but it differs from existing systems because it separates the problems from the causes. The following definition is the basis for the classification:

A Drug-Related Problem is an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes.

The basic classification now has 6 primary domains for problems, 6 primary domains for causes and 5 primary domains for Interventions.

However, on a more detailed level there are 21 grouped sub domains for problems, 33 grouped sub domains for causes and 15 grouped sub domains for interventions. Those sub domains can be regarded as explanatory for the principal domains.

Zuidlaren, April 2003

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The Basic Classification

	Code V4	Primary domains
Problems	P1 P2 P3 P4 P5 P6	Adverse reaction(s) Patient suffers from an adverse drug event Drug Choice Problem Patient gets or is going to get a wrong (or no drug) drug for his/her disease and/or condition Dosing problem Patient gets more or less than the amount of drug he/she requires Drug Use/Administration Problem Wrong or no drug taken/administered Interactions There is a manifest or potential drug-drug or drug-food interaction Other
Causes	C1 C2 C3 C4 C5 C6	Drug/Dose Selection The cause of the DRP can be related to the selection of the drug and/or dosage schedule Drug Use Process The cause of the DRP can be related to the way the patient uses the drug, in spite of proper dosage instructions (on the label) Information The cause of the DRP can be related to a lack or misinterpretation of information Patient/Psychological The cause of the DRP can be related to the personality of the patient. (Pharmacy) Logistics The cause of the DRP can be related to the logistics of the prescribing or dispensing mechanism Other
Interventions	I0 I2 I2 I3 I4	No intervention At prescriber level At patient (or carer) level At drug level Other

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The Detailed Classification

The Problems

Each problem should be coded separately, but there may be more causes or interventions to one problem.

Primary Domain	Code V4	Problem
1. Adverse reactions Patient suffers from an adverse drug event	P1.1 P1.2 P1.3	Side effect suffered (non-allergic) Side effect suffered (allergic) Toxic effects suffered
2. Drug choice problem Patient gets or is going to get a wrong (or no drug) drug for his/her disease and/or condition	P2.1 P2.2 P2.3 P2.4 P2.5 P2.6	Inappropriate drug (not most appropriate for indication) Inappropriate drug form (not most appropriate for indication) Inappropriate duplication of therapeutic group or active ingredient Contra-indication for drug (incl. Pregnancy/breast feeding) No clear indication for drug use <i>No drug prescribed but clear indication</i>
3. Dosing problem Patient gets more or less than the amount of drug he/she requires	P3.1 P3.2 P3.3 P3.4	Drug dose too low or dosage regime not frequent enough Drug dose too high or dosage regime too frequent Duration of treatment too short Duration of treatment too long
4. Drug use problem Wrong or no drug taken/administered	P4.1 P4.2	Drug not taken/administered at all Wrong drug taken/administered
5. Interactions There is a manifest or potential drug-drug or drug-food interaction	P5.1 P5.2	Potential interaction Manifest interaction
6. Others	P6.1 P6.2 P6.3 P6.4	Patient dissatisfied with therapy despite taking drug(s) correctly Insufficient awareness of health and diseases (possibly leading to future problems) Unclear complaints. Further clarification necessary Therapy failure (reason unknown)

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The Causes

N.B. One problem can have more causes

Primary Domain	Code V4	Cause
1. Drug/Dose selection The cause of the DRP is related to the selection of the drug and/or dosage schedule	C1.1 C1.2 C1.3 C1.4 C1.5 C1.6 C1.7 C1.8	Inappropriate drug selection Inappropriate dosage selection More cost-effective drug available Pharmacokinetic problems, incl. ageing/deterioration in organ function and interactions Synergistic/preventive drug required and not given Deterioration/improvement of disease state New symptom or indication revealed/presented Manifest side effect, no other cause
2. Drug use process The cause of the DRP can be related to the way the patient uses the drug, in spite of proper dosage instructions (on the label)	C2.1 C2.2 C2.3 C2.4 C2.5 C2.6	Inappropriate timing of administration and/or dosing intervals Drug underused/ under-administered Drug overused/ over-administered Therapeutic drug monitoring required Drug abused (unregulated overuse) Patient unable to use drug/form as directed
3. Information The cause of the DRP can be related to a lack or misinterpretation of information	C3.1 C3.2 C3.3 C3.4 C3.5	Instructions for use/taking not known Patient unaware of reason for drug treatment Patient has difficulties reading/understanding Patient Information Form/Leaflet Patient unable to understand local language Lack of communication between healthcare professionals
4. Patient/Psychological The cause of the DRP can be related to the personality of the patient.	C4.1 C4.2 C4.3 C4.4 C4.5 C4.6 C4.7 C4.8 C4.9	Patient forgets to use/take drug Patient has concerns with drugs Patient suspects side-effect Patient unwilling to carry financial costs Patient unwilling to bother physician Patient unwilling to change drugs Patient unwilling to adapt life-style Burden of therapy Treatment not in line with health beliefs
5. Logistics The cause of the DRP can be related to the logistics of the prescribing or dispensing mechanism	C5.1 C5.2 C5.3	Prescribed drug not available Prescribing error (only in case of slip of the pen) Dispensing error (wrong drug or dose dispensed)
6. Others	C6.1 C6.2	Other reason; specify No obvious reason

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The Interventions

N.B. One problem can lead to more interventions

Primary Domain	Code V4	Intervention
No intervention	I0.0	No Intervention
1. At prescriber level	I1.1 I1.2 I1.3 I1.4 I1.5	Prescriber informed only Prescriber asked for information Intervention proposed, approved by Prescriber Intervention proposed, not approved by Prescriber Intervention proposed, outcome unknown
2. At patient/carer level	I2.1 I2.2 I2.3 I2.4	Patient (medication) counselling Written information provided only Patient referred to prescriber Spoken to family member/caregiver
3. At drug level	I3.1 I3.2 I3.3	Drug changed to Dosage changed to Formulation changed to
4. Other intervention or activity	I4.1 I4.2	Other intervention (specify) Side effect reported to authorities

PCNE Classification scheme for Drug-Related Problems Amendments

Changes between V 3.02 and V 4.00

General:

After incorporating changes as a result of validations in Portugal and N. Ireland, all items have been renumbered and re-arranged. SPSS numbering removed: unclear in context of classification.

Added a first page to the official classifications, with only the primary domains to clarify that the classification can also be used on the first level.

Problem Domains

- Rearranged problem-domains (more important and frequent to the top)
- Inappropriate drug form inserted
- Distinction between allergic and non-allergic side-effect reintroduced, as well as option for toxic effect
- Distinction between inappropriate drugs prescribed and OTC removed
- 'No drug prescribed but clear indication' moved to Drug choice problem: (although this sub domain is debatable in a DRP classification)
- Drug level too low or too high removed: overlap with dosing problem
- 'Incorrect timing' removed, is a cause and not a problem per sé
- Items in Drug use domain partially removed and integrated in causes section; this type of problem is a dosage problem that leads to a problem.
- Added 'Inappropriate' to duplication

Causes domains

- Merged a number of codes in Drug/dose selection domain
- Reworded a number of causes
- Rearranged a number of sub domains (more important and frequent to the top)
- Cause 'Drug used to suppress avoidable side effects' removed (no cause for a problem, the cause is inappropriate drug selection)
- Reasons for drug not used/underused moved to sub-sub domain
- Moved manifest side effect to Domain drug/dose selection

Intervention domain:

- Added: Formulation changed to

Changes between V 3.01 and 3.02

P3.4 removed as option but series not renumbered

Changes between V 3.0 and 3.01

Added new P3.4: Too little drug taken or administered. Moved other numbers.

Changed description of C3.4, C4.1, I1.3 and I1.4

P3.4 might be identical to P3.1, should be discussed.

Changes between V2.0 and V 3.0

Due to the Basle meeting between experts (2001), the whole problem section has been revised, in order to make the system compatible with other, similar systems. N.B. The codes have been changed too!

Manifest Interaction has been moved back to the problem section (now P4.1). This is debatable.

Changes between V1.0 and V 2.0

General:

- Word ‘medicine’ replaced by ‘drug’ (can be reversed if desirable)
- Suggested option to include ‘Patient asks for OTC drug’ and ‘drug sold’ does not have a link with a drug related problem, and therefore will not be included. If the patient asks for the wrong OTC drug, then P7.2 is available.

Problem section

- Domain ‘Too much drug’ added’
- Items ‘Drug dose too low’ and ‘dosage regime not frequent enough’ merged into new item: ‘Drug dose too low or dosage regime not frequent enough’ and moved to appropriate domain.
- Items ‘Drug dose too high’ and ‘dosage regime too frequent merged into new item: ‘Drug dose too high or dosage regime too frequent’ and moved to appropriate domain.
- Item ‘Drug not taken (only partially)’ added.
- Domain ‘Dosage’ changed into ‘Treatment Duration’.
- Item ‘Patient is unable to use drug/form properly’ moved to domain ‘Patient related problems’.
- Item ‘Manifest Interaction’ removed (is cause) and ‘Drug level too low’ and ‘Drug level too high’ added to the appropriate domains. Item ‘Potential interaction’ is still in problem section. The manifest interaction is a cause.
- Item ‘Patient asks for inappropriate drug (OTC)’ added to domain Patient related problems
- ‘Side effect suffered’ combined, not really relevant if it is allergic or not.

Causes section

- Item ‘Drug overused’ removed (= drug misused)
- ‘Prescribing error (slip of the pen)’ changed into ‘Prescribing error (only in case of slip of the pen)’. Other prescribing errors are covered in first domain.
- ‘Manifest side effect, no other cause’ added to Misc. domain (a side effect can be an independent cause for an undesirable reaction to a drug)

Intervention section

- Item ‘Practical instruction to patient’ removed (= Patient medication counselling)
- Item ‘Written information provided only’ added
- Item ‘Intervention proposed to prescriber, outcome unknown’ added
- Item: Side effect reported to authorities’ added

Comments on this classification and its use can be addressed at:

Dr. J.W.F. van Mil
Pharmacy Practice Consultant

Member of the Pharmaceutical Care Network Europe (PCNE)

Margrietlaan 1

9471 CT Zuidlaren

The Netherlands

Email: jwfvml@wxs.nl