PCNE Classification for Drug related problems

(revised 01-05-06 vm)
V5.01

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 V5. It is compatible with previous versions although new items have been added. The numbering of existing items has not been changed.

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 17 grouped sub domains for interventions. Those sub domains can be regarded as explanatory for the principal domains.

In 2003 a scale has been added to indicate if or to what extend the problem has been solved.

Zuidlaren, May 2006

N.B. In this version 5.01 an extra Cause is added: *C4.10 Patient takes food that interacts with drugs* and an extra Outcome *O0.0 Outcome not known.*

The Basic Classification

	Code V5.01	Primary domains
Problems	P1	**Adverse reaction(s)** Patient suffers from an adverse drug event
	P2	**Drug Choice Problem** Patient gets or is going to get a wrong (or no drug) drug for his/her disease and/or condition
	P3	**Dosing problem** Patient gets more or less than the amount of drug he/she requires
	P4	**Drug Use Problem** Wrong or no drug taken/administered
	P5	**Interactions** There is a manifest or potential drug-drug or drug-food interaction
	P6	**Other**
Causes	C1	**Drug/Dose Selection** The cause of the DRP can be related to the selection of the drug and/or dosage schedule
	C2	**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)
	C3	**Information** The cause of the DRP can be related to a lack or misinterpretation of information
	C4	**Patient/Psychological** The cause of the DRP can be related to the personality or behaviour of the patient.
	C5	**(Pharmacy) Logistics** The cause of the DRP can be related to the logistics of the prescribing or dispensing mechanism
	C6	**Other**
Interventions	I0	**No intervention**
	I1	**At prescriber level**
	I2	**At patient (or carer) level**
	I3	**At drug level**
	I4	**Other**
Outcome of intervention	O0	**Outcome intervention unknown**
	O1	**Problem totally solved**
	O2	**Problem partially solved**
	O3	**Problem not solved**

The Problems

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

Primary Domain	Code V5.01	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 *No drug prescribed but clear indication*
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)

The Detailed Classification-2

The Causes

N.B. One problem can have more causes

Primary Domain	Code V5.01	Cause
1. Drug/Dose selection The cause of the DRP is related to the selection of the drug and/or dosage schedule	C1.1	Inappropriate drug selection
	C1.2	Inappropriate dosage selection
	C1.3	More cost-effective drug available
	C1.4	Pharmacokinetic problems, incl. ageing/deterioration in organ function and interactions
	C1.5	Synergistic/preventive drug required and not given
	C1.6	Deterioration/improvement of disease state
	C1.7	New symptom or indication revealed/presented
	C1.8	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	Inappropriate timing of administration and/or dosing intervals
	C2.2	Drug underused/ under-administered
	C2.3	Drug overused/ over-administered
	C2.4	Therapeutic drug level not monitored
	C2.5	Drug abused (unregulated overuse)
	C2.6	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	Instructions for use/taking not known
	C3.2	Patient unaware of reason for drug treatment
	C3.3	Patient has difficulties reading/understanding Patient Information Form/Leaflet
	C3.4	Patient unable to understand local language
	C3.5	Lack of communication between healthcare professionals
4. Patient/Psychological The cause of the DRP can be related to the personality or behaviour of the patient.	C4.1	Patient forgets to use/take drug
	C4.2	Patient has concerns with drugs
	C4.3	Patent suspects side-effect
	C4.4	Patient unwilling to carry financial costs
	C4.5	Patient unwilling to bother physician
	C4.6	Patient unwilling to change drugs
	C4.7	Patient unwilling to adapt life-style
	C4.8	Burden of therapy
	C4.9	Treatment not in line with health beliefs
	C4.10	Patient takes food that interacts with drugs
5. Logistics The cause of the DRP can be related to the logistics of the prescribing or dispensing mechanism	C5.1	Prescribed drug not available (anymore)
	C5.2	Prescribing error (only in case of slip of the pen)
	C5.3	Dispensing error (wrong drug or dose dispensed)
6. Others	C6.1	Other cause; specify
	C6.2	No obvious cause

The Interventions
N.B. One problem can lead to more interventions

Primary Domain	Code V5.01	Intervention
No intervention	I0.0	No Intervention
1. At prescriber level	I1.1	Prescriber informed only
	I1.2	Prescriber asked for information
	I1.3	Intervention proposed, **approved** by Prescriber
	I1.4	Intervention proposed, **not approved** by Prescriber
	I1.5	Intervention proposed, outcome unknown
2. At patient/carer level	I2.1	Patient (medication) counselling
	I2.2	Written information provided only
	I2.3	Patient referred to prescriber
	I2.4	Spoken to family member/caregiver
3. At drug level	I3.1	Drug changed to ….
	I3.2	Dosage changed to ….
	I3.3	Formulation changed to …..
	I3.4	Instructions for use changed to …..
	I3.5	Drug stopped
	I3.6	New drug started
4. Other intervention or activity	I4.1	Other intervention (specify)
	I4.2	Side effect reported to authorities

Outcome of intervention
N.B. One problem (or the combination of interventions) can only lead to one level of solving the problem

Primary Domain	Code V5.01	Outcome of intervention
0. Not known	O0.0	Outcome intervention not known
1. Solved	O1.0	Problem totally solved
2. Partially solved	O2.0	Problem partially solved
3. Not solved	O3.1	Problem not solved, lack of cooperation of patient
	O3.2	Problem not solved, lack of cooperation of prescriber
	O3.3	Problem not solved, intervention not effective
	O3.4	No need or possibility to solve problem

PCNE Classification for Drug related problems

Help

(revised 01-02-06 vm)
V5.01

This help document is related to 'The PCNE Classification V 5.01'

Finding or selecting codes in the PCNE classification

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

For the use of the PCNE classification it is important to separate the real problem (that affects or is going to affect the outcome) from its cause. Often such problems are caused by a certain type of error e.g. prescribing errors or drug-use or administration errors. But there might be no error at all involved. Also, a medication error does not necessarily have to lead to a drug-related problem.

The cause is usually the behaviour that has caused the problem. A cause or a combination of causes and a problem together, will usually lead to one or more interventions.
The classification can be used in two ways, depending on the level of information needed.
- If only the main domains are used, there is in general enough information for research purposed
- If the system is used for documenting pharmaceutical care activities in practice, the sub domains can be used.

Problem section

Basically, the problem is defined as 'the expected or unexpected event or circumstance that is, or might be wrong, in therapy with medicines'. (the P-codes)
There are 6 major domains in the problem section. The following descriptions could help to find the right problem domain:

Patient suffers or is going to suffer from an adverse drug event such as a side effect or toxicity. This can be prescribing error, but unexpected ADRs may also occur at normal dosages of a well selected drug.	**See P1**
Patient gets or is going to get a wrong (or no drug) drug for his/her disease and/or condition. This is usually a prescribing error.	**See P2**
Patient has or gets the right drug, but gets more or less than the amount of drug than he/she requires. This can be a prescribing error but also a drug use error.	**See P3**
Patient uses or gets administered the wrong drug or no drug. This can be drug use or administration errors but also a filling error in the pharmacy.	**See P4**
There is a manifest or potential drug-drug or drug-food interaction. This is a form of prescribing or drug-use error.	**See P5**
Any other problem	**See P6**

Causes section

Each problem has a cause. The cause is the action (or lack of action) that leads up to the occurrence of a potential or real problem. There may be more causes for a problem. (The C-code)

The cause of the DRP can be related to the selection of the drug and/or dosage schedule	**See C1**
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 or in the information leaflet)	**See C2**
The cause of the DRP can be related to a lack or misinterpretation of information by the patient	**See C3**
The cause of the DRP can be related to the personality or behaviour of the patient.	**See C4**
The cause of the DRP can be related to the logistics of the prescribing or dispensing mechanism	**See C5**
Any other cause	**See C6**

Intervention section

The problem will usually lead to one or more in interventions to correct the cause of the problem. (The I-code)

There is or can be no intervention	**See I0**
Intervention through the prescriber	**See I1**
Intervention through the patient, his carers or relatives	**See I2**
Intervention directly by changing drug or indicating change in drug use	**See I3**
Other intervention	**See I4**

Outcome section

For evaluation purposes it is desirable to indicate if the problem has been solved by doing the intervention (the O-code). This scale has been added in V5 (2003)

Problem totally solved	**See O1**
Problem partially solved	**See O2**
Problem not solved	**See O3**