Classification for Drug related problems

(revised 14-01-2010vm)
V6.2

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This classification should be referred to as 'The PCNE Classification V 6.2'
This version is not backwards compatible with older versions.

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 V6, which has been discussed during an expert workshop in November 2009. It is no longer compatible with previous versions because the problem and causes sections has been revised. The Intervention section has not been adapted.
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. Throughout the classification the word 'drug' is used, where others might use the term 'medicine'.
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. Quality experts will recognise that de causes are often named 'Medication Errors' by others.
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 4 primary domains for problems, 8 primary domains for causes and 5 primary domains for Interventions.
However, on a more detailed level there are 9 grouped sub domains for problems, 37 grouped sub domains for causes and 17 grouped sub domains for interventions. Those sub-domains can be seen 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, November 2009 and January 2010

The basic classification

	Code V6.2	Primary domains
Problems	**P1**	**Treatment effectiveness** There is a (potential) problem with the (lack of) effect of the pharmacotherapy
	P2	**Adverse reactions** Patient suffers, or will possibly suffer, from an adverse drug event
	P3	**Treatment costs** The drug treatment is more expensive than necessary
	P4	**Others**
Causes	**C1**	**Drug selection** The cause of the DRP can be related to the selection of the drug
	C2	**Drug form** The cause of the DRP is related to the selection of the drug form
	C3	**Dose selection** The cause of the DRP can be related to the selection of the dosage schedule
	C4	**Treatment duration** The cause of the DRP is related to the duration of therapy
	C5	**Drug use/administration process** The cause of the DRP can be related to the way the patient uses the drug or gets the drug administered, in spite of proper instructions (on the label, package or leaflet)
	C6	**Logistics** The cause of the DRP can be related to the logistics of the prescribing and dispensing process
	C7	**Patient** The cause of the DRP can be related to the personality or behaviour of the patient.
	C8	**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

Primary Domain	Code V6.2	Problem
1.Treatment effectiveness There is a (potential) problem with the (lack of) effect of the pharmacotherapy	**P1.1** **P1.2** **P1.3** **P1.4**	No effect of drug treatment/ therapy failure Effect of drug treatment not optimal Wrong effect of drug treatment Untreated indication
2. Adverse reactions Patient suffers, or will possibly suffer, from an adverse drug event	**P2.1** **P2.2** **P2.3**	Adverse drug event (non-allergic) Adverse drug event (allergic) Toxic adverse drug-event
3. Treatment costs The drug treatment is more expensive than necessary	**P3.1** **P3.2**	Drug treatment more costly than necessary Unnecessary drug-treatment
4. Others	**P4.1** **P4.2**	Patient dissatisfied with therapy despite optimal clinical and economic treatment outcomes *Unclear problem/complaint. Further clarification necessary (please use as escape only)*

❑	Potential Problem
❑	Manifest Problem

The Causes

N.B. One problem can have more causes

Primary Domain	Code V6.2	Cause
1. Drug selection The cause of the DRP is related to the selection of the drug	**C1.1**	Inappropriate drug (incl. contra-indicated)
	C1.2	No indication for drug
	C1.3	Inappropriate combination of drugs, or drugs and food
	C1.4	Inappropriate duplication of therapeutic group or active ingredient
	C1.5	Indication for drug-treatment not noticed
	C1.6	Too many drugs prescribed for indication
	C1.7	More cost-effective drug available
	C1.8	Synergistic/preventive drug required and not given
	C1.9	New indication for drug treatment presented
2. Drug form The cause of the DRP is related to the selection of the drug form	**C2.1**	Inappropriate drug form
3. Dose selection The cause of the DRP is related to the selection of the dosage schedule	**C3.1**	Drug dose too low
	C3.2	Drug dose too high
	C3.3	Dosage regimen not frequent enough
	C3.4	Dosage regimen too frequent
	C3.5	No therapeutic drug monitoring
	C3.6	Pharmacokinetic problem requiring dose adjustment
	C3.7	Deterioration/improvement of disease state requiring dose adjustment
4. Treatment duration The cause of the DRP is related to the duration of therapy	**C4.1**	Duration of treatment too short
	C4.2	Duration of treatment too long
5. 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)	**C5.1**	Inappropriate timing of administration and/or dosing intervals
	C5.2	Drug underused/ under-administered (deliberately)
	C5.3	Drug overused/ over-administered (deliberately)
	C5.4	Drug not taken/administered at all
	C5.5	Wrong drug taken/administered
	C5.6	Drug abused (unregulated overuse)
	C5.7	Patient unable to use drug/form as directed
6. Logistics The cause of the DRP can be related to the logistics of the prescribing and dispensing process	**C6.1**	Prescribed drug not available
	C6.2	Prescribing error (necessary information missing)
	C6.3	Dispensing error (wrong drug or dose dispensed)
7. Patient The cause of the DRP can be related to the personality or behaviour of the patient.	**C7.1**	Patient forgets to use/take drug
	C7.2	Patient uses unnecessary drug
	C7.3	Patient takes food that interacts
	C7.4	Patient stored drug inappropriately
8. Other	**C8.1**	Other cause; specify
	C8.2	No obvious cause

The Interventions

N.B. One problem can lead to more interventions

Primary Domain	Code V6.2	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

The Outcome of the Interventions

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

Primary Domain	Code V6.2	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 09-11-2009 vm)

V6.2

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This help document is related to as ‘Help to the PCNE Classification V 6.2

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, and most often hat is a medication error. 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 drugs'. (the P-codes)
There are 4 major domains in the problem section. The following descriptions could help to find the right problem domain:

The clinical effect of the treatment is not as expected or there is no treatment	**See P1**
The patient suffers from an ADR at normal dose or from a toxic reaction	**See P2**
The treatment, although leading to optimal clinical outcomes and no ADEs, is more expensive than necessary	**See P3**
Nothing seems wrong in the treatment, but patient is unhappy about it.	**See P4**

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	**See C1**
The cause of the DRP can be related to the selection of the drug form	**See C2**
The cause of the DRP can be related to the selection of a dosage schedule	**See C3**
The cause of the DRP can be related to the duration of the therapy	**See C4**
The cause of the DRP can be related to the way the patient uses the drug, or gets the drug administered, in spite of proper instructions on label, leaflet or package/package insert (depending on the national custom)	**See C5**
The cause of the DRP can be related to the logistics of the prescribing or dispensing process	**See C6**
The cause of the DRP can be related to the personality or the behaviour of the patient	**See C7**
Other	**See C8**

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**