

Classification for Drug related problems

V7.0

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

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This classification should be referred to as 'The PCNE Classification V 7.0'

This version is not directly 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 V7, which has been developed during an expert workshop in February 2016. It is no longer compatible with previous versions because almost all sections have been revised. 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 the causes are often named 'Medication Errors' by others.

The following official PCNE-DRP 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 3 primary domains for problems, 8 primary domains for causes and 5 primary domains for Interventions. In V7 new section, called 'Acceptance of the Intervention Proposals' was added, including 3 domains.

However, on a more detailed level there are 7 grouped sub domains for problems, 35 grouped sub domains for causes and 16 grouped sub domains for interventions, and 10 subdomains for intervention acceptance. 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, containing 4 primary domains and 7 sub domains.

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Zuidlaren, November 2009, January 2010 and March-May 2016

The basic classification

	Code V7.0	Primary domains
Problems	P1 P2 P3	Treatment effectiveness There is a (potential) problem with the (lack of) effect of the pharmacotherapy Adverse reactions Patient suffers, or will possibly suffer, from an adverse drug event Others
Causes	C1 C2 C3 C4 C5 C6 C7 C8	Drug selection The cause of the DRP can be related to the selection of the drug Drug form The cause of the DRP is related to the selection of the drug form Dose selection The cause of the DRP can be related to the selection of the dosage schedule Treatment duration The cause of the DRP is related to the duration of therapy Dispensing The cause of the DRP can be related to the logistics of the prescribing and dispensing process Drug use/ process The cause of the DRP is related to the way the patient gets the drug from a health professional or carer, in spite of proper dosage instructions (on the label) Patient related The cause of the DRP can be related to the personality or behaviour of the patient. Other
Planned Interventions	I0 I1 I2 I3 I4	No intervention At prescriber level At patient level At drug level Other
Intervention Acceptance	A1 A2 A3	Intervention accepted Intervention not accepted Other
Status of the DRP	O0 O1 O2 O3	Problem status unknown Problem solved Problem partially solved Problem not solved

The Problems

Primary Domain	Code V7.0	Problem
1. Treatment effectiveness There is a (potential) problem with the (lack of) effect of the pharmacotherapy	P1.1	No effect of drug treatment/ therapy failure
	P1.2	Effect of drug treatment not optimal
	P1.3	Unnecessary drug-treatment
	P1.4	Untreated indication
2. Adverse event Patient suffers, or will possibly suffer, from an adverse drug event	P2.1	Adverse drug event occurring
3. Others	P3.1	Patient dissatisfied with therapy despite optimal clinical and economic treatment outcomes
	P3.2	<i>Unclear problem/complaint. Further clarification necessary (please use as escape only)</i>



Potential Problem



Manifest Problem

The Causes

N.B. One problem can have more causes

	Primary Domain	Code V7.0	Cause
Prescribing	1. Drug selection The cause of the DRP is related to the selection of the drug	C1.1 C1.2 C1.3 C1.4 C1.5 C1.6 C1.7 C1.8 C1.9	Inappropriate drug according to guidelines/formulary Inappropriate drug (within guidelines but otherwise contra-indicated) No indication for drug Inappropriate combination of drugs, or drugs and food Inappropriate duplication of therapeutic group or active ingredient Indication for drug-treatment not noticed Too many drugs prescribed for indication Synergistic/preventive drug required and not given 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 dose or dosage	C3.1 C3.2 C3.3 C3.4	Drug dose too low Drug dose too high Dosage regimen not frequent enough Dosage regimen too frequent
	4. Treatment duration The cause of the DRP is related to the duration of therapy	C4.1 C4.2	Duration of treatment too short Duration of treatment too long
Disp	5. Dispensing The cause of the DRP is related to the logistics of the prescribing and dispensing process	C5.1 C5.2 C5.3 C5.4	Prescribed drug not available Prescribing error (necessary information missing) Prescribing error (prescribing software related) Dispensing error (wrong drug or dose dispensed)
Use	6. Drug use process The cause of the DRP is related to the way the patient gets the drug from a health professional or carer, in spite of proper dosage instructions (on the label)	C6.1 C6.2 C6.3 C6.4 C6.5	Inappropriate timing of administration and/or dosing intervals Drug under-administered Drug over-administered Drug not administered at all Wrong drug administered
	7. Patient related The cause of the DRP is related to the personality or behaviour of the patient.	C7.1 C7.2 C7.3 C7.4 C7.5 C7.6 C7.7 C7.8	Patient forgets to use/take drug Patient uses unnecessary drug Patient takes food that interacts Patient stored drug inappropriately Patient administers/uses the drug in a wrong way Patient cannot afford drug Drug abused (unregulated overuse) Patient unable to use drug/form as directed
	8. Other	C8.1 C8.2 C8.3	No or inappropriate outcome monitoring (incl. TDM) Other cause; specify No obvious cause

The Planned Interventions

N.B. One problem can lead to more interventions

Primary Domain	Code V7.0	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 to prescriber
2. At patient level	I2.1	Patient (drug) 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

Acceptance of the Intervention proposals

N.B. One level of acceptance per intervention proposal

Primary domain	Code V7.0	Implementation
1. Intervention accepted (by prescriber or patient)	A1.1	Intervention accepted and fully implemented
	A1.2	Intervention accepted, partially implemented
	A1.3	Intervention accepted but not implemented
	A1.4	Intervention accepted, implementation unknown
2. Intervention not accepted (by prescriber or patient)	A2.1	Intervention not accepted: not feasible
	A2.2	Intervention not accepted: no agreement
	A2.3	Intervention not accepted: other reason (specify)
	A2.4	Intervention not accepted: unknown reason
3. Other (no information on intervention or acceptance)	A3.1	Intervention proposed, acceptance unknown
	A3.2	Intervention not proposed

Status of the DRP

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

Primary Domain	Code V7.0	Outcome of intervention
0. Not known	O0.0	Problem status unknown
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

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This help document is related to as 'Help to the PCNE Classification V 7.0

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 the 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 that is some sort of 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 purposes. If the system is used for documenting pharmaceutical care activities in practice, the sub domains should be useful.

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 3 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
Nothing seems wrong in the treatment, but patient is unhappy about it.	See P3

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

Planned Intervention section

The problem will usually lead to one or more 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

Level of acceptance of intervention proposals

In this section you can indicate if the suggestion for the intervention to patient or prescriber has been accepted.

Intervention accepted (by prescriber or patient)	See A1
Intervention not accepted (by prescriber or patient)	See A2
No intervention proposed or acceptance unknown (no information)	See A3

Status of the DRP

Previously called Outcome', this section can be used to document if a problem has been solved. For evaluation purposes it is desirable to indicate if the problem has been solved by a specific intervention (the I-code), that has been not, partially or fully accepted by the prescriber and patient (the A code).

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