

## PCNE Classification scheme for Drug-Related Problems - Amendments

### Changes between V9 and V9.1

The new V 9.0 was validated between Sept. 2019 and Feb. 2020, and the results were discussed at the Working Symposium 2020. The validity of the classification seems reasonable, but some of the cases caused confusion (see report on-line on PCNE site). There are also some language-understanding issues for non-native English speakers who use the English version. The new causes domain on seamless care (C8: Patient transfer related) turned out to be far too complex, and the number of options was brought down to one. A new international validation round will start in 2020 for the version 9.1, linked to the new Cases set 2020.

### Changes between V8.03 and V9

After more than a year of meetings and on-line discussions, a new domain was added to the Causes section (now C8), concerning drug-related problems that are typical for patient transfer between care levels or departments, called 'Seamless'. Seamless care is considered to be the uninterrupted care for the patient during every patient transfer in the healthcare system, within primary, secondary or tertiary care or between those care levels.

This section for causes of DRPs assumes that medication reconciliation should take place at every transfer of a patient in the health care system.

The old subdomain 8 (other), has been renumbered to subdomain 9. One new cause was added to sub-domain 7: C7.10 Patient unable to understand instructions properly. This problem increasingly occurs because of language issues.

With a bit of effort, it is still possible to compare the codes of Version 8 with Version 9, and therefore Version 9 is backwards compatible with Version 8.

### Changes between V 8.02 and 8.03

V8.03 some small adaptations have been implemented in C1.4 and the domain description of P2.

### Changes between V8.01 and 8.02

An omission has been corrected: C6.6 Administration via wrong route, cause code added. And from P1.1 the term 'therapy failure' has been removed.

### Changes between V8.0 and 8.01

An omission has been corrected Code C3.5 had dropped out of the tables and has been reinserted.

### Changes between V7.0 and 8.0

Version 7 was not quite clear and complete. Therefore Version 8.0 was created during two meetings of experts in Bled and Brussels in spring 2017.

For clarity reasons, the problem domain now has the adjective '(also potential)', and the Causes domain has as adjective '(including possible causes for potential problems)'. When registering a problem, the person who scores must indicate if the problem is manifest or potential.

Unnecessary drug-treatment from section P1 moved to section P3 as P3.2. P1.3 (was P1.4) now changed to 'Untreated symptoms or indication'. P2.1 added '(possibly)'. P2: used adverse

drug event consistently, and the domain name altered in 'Treatment safety'. P3.1 inserted: problem with cost-effectiveness.

C1.6 changed into 'No drug treatment in spite of existing indication', and C1.8 and C1.9 removed (now included in 1.6). C3.5 (Dose timing instructions wrong, unclear or absent) is added, a similar code in previous versions somehow disappeared.

The emphasis on error in Section C5 is removed and the prescribing error is removed, that belongs under C1; but C5.3 is maintained for wrong OTC advices in the pharmacy. To accommodate both intentional and non-intentional non-adherence (for whatever reason), section C7 has been totally revised. Rephrasing helps to indicate that it is the patients (lack of) action that causes the problem.

The 'Acceptance of Interventions', are now called 'Acceptance of intervention proposals', and extra codes have been added for acceptance/implementation by patients. This also means that per proposed interventions, two codes can be selected.

Moved status not known to end, consistent with rest of classification (now O4.1)

For consistency reasons, codes ending on x.0 have been changed to x.1

### **Changes between V6.2 and V7.0**

As result of a working group session during the PCNE Symposium in Hillerød, a number of drastic changes have been implemented. *This makes V7 incompatible with previous versions.* One of the principal changes can be found in the 'problem' section that now has been reduced to 3 domains. The financial barrier for using a medicine was regarded as a cause and was moved to the causes section. The order of the causes was also changed slightly, to make it more logical following the sequence prescribing-dispensing-use. Furthermore, the Intervention section has been thoroughly changed, to enable the coding of the level of acceptance of a suggested intervention, introducing a new section Acceptance, with A codes. Additionally, the name of the outcome section was changed to 'Status of the DRP', to be able to indicate if and how far the problem was solved or persisted after the suggestion for an intervention, and the subsequent actions. Some other smaller changes have been included.

### **Changes between V 6.1 and 6.2**

The problem 'No drug treatment' has been re-introduced as P1.4. Although no-drug could be seen as not directly drug-related, it is widely considered as a real drug-related problem. Consequently C1.5 and C1.9 have been simplified and clarified. Some double codes in the cases section have been removed, and C3.1 and C3.2 are split up. Also, the word 'medicine' has been replaced by 'drug' throughout the classification, because the latter word is most used internationally.

### **Changes between V 6.0 and 6.1**

The classification was further amended during a workshop at the Symposium in Geneva, 2-11-2009. The number of problems was further reduced and the number of causes (errors) adapted. Sections P3-P5 have been moved to causes. An option to indicate a real or potential problem has been added.

### **Changes between V5.01 and 6.0 (15 March 2009)**

A change that was long due has now been implemented. *This does make the current system no longer compatible with previous versions.* A problem code describing wrong drug effects of drug has now been added and moved to P1. The old P2 is now called 'Therapy problem' as P3,

indicating that this problem might not necessarily be bothering the patient. The old P4 (Drug Use problem) and P5 (Dosing problems) have disappeared from the problem list because they described basically the causes for problems. The problem with timing has now been introduced as P3.7. A problem with the economic outcome of the drug therapy has been added as P3.8.

#### **Changes between V5.00 and V5.01**

Some make-up changes. In this version 5.01 an extra Cause is added: *C4.10 Patient takes food that interacts with drugs*. C5.1 changed slightly to cover also for cases when a drug has been taken off the market. O0 was added for cases where the outcome of an intervention was (still) unknown.

#### **Change between V4.00 and V 5.00**

A scale has been added to indicate to what extent the problem has been solved. Interventions added I 3.4: Instructions for use changed to, I 3.5: drug stopped and I 3.6 new drug started. C 6.1 and C 6.2 'reason' changed in 'cause'. C 4.10 added: Patient takes food that interacts with drugs.

#### **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:

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