

The Danish National Health Classification System - Nursing Interventions Classification - a Part of a Common Danish Health Care Classification

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The Danish Nursing Intervention Classification is the first national nursing intervention classification. Because of the official status of the project it is to be a national standard. It will thus be possible for the system to be in general use nation-wide, which is a necessary condition for an efficient communication in the health care sector in Denmark.

Background

The Nursing Intervention Classification is a part of a project to develop a common health care classification system in Denmark. This project was started in 1992 by the Danish National Board of Health. This common Danish classification system will unify all existing official classification systems in a joint hierarchical structure which will form the basis of all classifications in a common system. The Nursing Intervention Classification is as previously mentioned a part of a common classification and it is thus possible to use codes from the other classifications e.g. ICD 10, and drugs classification. Supplementary classification will also be useful in connection with the specification of a level of detail of for example, right or left sided, or personnel involved.

Today a number of classification systems are used in the Danish Health Service, but there is at present no official classification in nursing. As a consequence of this, a number of local classifications have emerged, preventing communication across units, hospitals and sectors. In addition, a comparable registration of all essential interventions will in future contribute to ensuring the quality of patient treatment in the Danish National Health Service. In 1992, the Danish National Board of Health started a project with the purpose of establishing a common classification system in Denmark. This system will form the basis of an up-to-date use of information systems in all relevant connections in the Danish Health Care Service. The name of the project and the system is: The Danish Health Classification System (DHCS) which translates into Danish : "Sundhedsvæsenets Klassifikations System. (SKS)".¹

Joint hierarchical structure

The SKS system combines all the existing official classifications in a joint hierarchical structure, which will form the basis of the preparations of classifications to come. Common rules for the structure of a classification system and for the adoption of codes have been made. This will ensure that new classifications in all areas of the health service will be elaborated and maintained according to the same principles and with clear limits. The official

status of the system will ensure its general use nation-wide, which is a necessary condition for an efficient communication system in an integrated health service

The Danish National Board of Health have stated the following requirements for the classification:

1. One coherent system with clear interfaces between the sub classifications. It would be an advantage if all existing concepts can be coded in one coding system. This would facilitate the search for the right code, the coding process and the use of data. In addition, it would make it easier to understand the structure of the classification, and the coding of one concept with several codes according to different classifications is prevented.
2. One concept - one code. For any relevant concept within the health care service there must be one code, and only one code.
3. Consistent hierarchical structure. A hierarchical structure ensures that the code for a concept indicates the logical position of the concept within the classification structure. Coding can be made at several levels without losing the possibility for comparison. In addition, a varying degree of detail is essential for order entry and finally the hierarchical structure considerably simplifies retrieval and analysis of data .
4. Unambiguous and homogeneous codes. The individual codes must be unambiguous, well defined and cover a relatively uniform "piece of work" or concept. This is a prerequisite for using point systems for estimating the production of the units and calculating the price of the individual services. The use of codes such as "others" should therefore be limited to a minimum through the creation of a sufficient number of specific codes.
5. Clear and Pure. The division of the classes of the classifications must as far as possible be based on one logical criterion. Any sub-division aimed at compensating for deficiencies in other parts of the classification must be avoided. If additional information is required, it must be added by registering more (possibly combined) codes rather than linking several non-related concepts in one code.
6. Danish texts. The code text must correspond to Danish terminology. If good, unambiguous Danish words exist they should be used, as the classification system will often be used by personnel groups who are not proficient in Latin or English. The code texts have to be able to stand alone and be immediately understandable to the target group.
7. Fast and consistent updating. If a classification is to be used in a rapidly developing health service, it must be currently updated. In particular when making forward registrations, for example order entry and booking, updates must be made swiftly and preferably months before the codes come into force. It is essential that changes and modifications are strictly controlled by a few competent persons to avoid the classification becoming polluted with codes which do not comply with the rules that have been adopted.

The first level structure in the Danish Health Care Classification is:

- A Administration
- B Treatment (= non- surgical therapeutic procedures)
- NURSING INTERVENTIONS.
- C
- D Diagnoses (WHO's classification of diseases)
- E Special types of diagnoses (e.g. pathology diagnoses)
- F
- G
- H Medical technology, aids, etc.
- I
- J
- K Surgical procedures
- L Living conditions
- M Drugs (the ATC classification)
- N (Reserved for NURSING DIAGNOSES.)
- O (not used)
- P Classification of primary care
- Q
- R
- S Medical history / symptoms/ clinical findings / effect of treatment
- T Topography / anatomy
- U Examinations (= non surgical diagnostic procedures)
- NURSING INTERVENTIONS.
- V
- X (Reserved for local use)
- Y
- Z Other classifications.

The practical approach

A classification system of this type and size cannot be made by just a few people, who produce the complete code from A to Z, as once it was finished it would already be obsolete. It is necessary to build up the system in modules, using an approach where the individual parts of the classification are made layer by layer.

This means starting by making an overall structure where the present official classification can be inserted as modules and where a first crude classification can be made in areas where there is no official classification today. ¹

The working process

The Danish nursing working group, appointed by the Danish National Board of Health, is responsible for the development of a nursing classification system concerning nursing diagnosis, nursing intervention and nursing assessments, and started working on the nursing classification in 1993.

All but two of the members are nurses. One member is a representative from the nursing auxiliary group and the last member is a representative from the steering group.

The work will gradually be carried out in greater detail within the areas and in the order that may be deemed appropriate. Older modules can also be replaced by new ones, as this becomes necessary. Another advantage of this procedure is that many persons can work independently of each other on each part of the classification. As the hierarchical codes are

named at all levels, the classification can be implemented step by step top-down without the risk that later extensions will cause problems.

It is intended that the work will be performed by a number of working groups with members from the various scientific societies and health care personnel associations. In order to set up working groups that can work with fairly well-defined parts of the total classification system, the planned structure of the classification system is in several respects based on the medical division into specialities which are found within the health service.

The Danish Nursing Intervention Classification contains 12 domains. These domains contain a total of 523 interventions collected from nurses all over Denmark. The interventions have been classified according to the hierarchical structure framed by The Danish National Board of Health and each intervention will have been coded - also according to the rules of the Danish National Board of Health.

Bottom-up approach

The working group chose in co-operation with the Danish Institute for Health and Nursing Research, which was developing a classification of nursing diagnoses, to arrange theme days all over Denmark with the purpose of informing and motivating with regard to the work with future nursing classifications.

We chose a participant perspective because we wanted as many nurses as possible to feel ownership of the classification systems from the start. It is our hope that having contributed to the development of the classification system, nurses will use the system in practice.

On the theme days and through articles in the nursing magazine "SYGEPLEJERSKEN"^{2,3} nurses were requested to submit concepts for nursing diagnoses, nursing interventions and nursing assessments from their daily practice.

In parallel with these initiatives, the working group collected and analysed existing Danish nursing classifications⁵ and studied other international nursing classifications^{6,7,8,9,10}. The group also studied recommendations for international classifications^{11,12,13,14,15,16}.

We chose to study the structure of the American nursing classification system (NIC), developed by Bulechek and McCloskey⁷. The structure of this classification was interesting when compared with the structure of the Danish Classification System.

We received 750 interventions, which were sorted and grouped into a new Danish nursing intervention classification system. Danish nurses have shown themselves to be very interested in this classification work and the members of the working group have given many lectures on nursing classification all over the country.

For almost 3 years, we worked intensively with the assessment and interventions classifications, including nursing data collected from all over Denmark. This work was done in parallel with our employment in different places in Denmark.

Results

At present, we have finished the intervention classification. This classification was released for use spring 1996 after the system had been submitted to the profession and to an official hearing. The interventions are coded and are thus ready for use in computer-based documentation in nursing information systems. At present the interventions classification

contains 12 domains. These domains contain in all 569 interventions. The interventions have been classified after the previously mentioned hierarchical structure framed by the Danish National Board of Health. In order to give a more explicit formulation of the nursing interventions for each patient, the structure of the system makes it possible to use supplementary codes.

The future

The Nursing Intervention Classifications are suitable for use in an electronic patient record, national databases, statistical specification control, quality improvement, minimum nursing data set, research and in the curriculum for education of nurses and students.

The nursing intervention classification will be used on a trial basis for two years after it has been coded and will then be ready for integration into future international classifications^{11,17}. The work with the nursing diagnoses and assessment classification is still going on. The National Board of Health have not yet determined the evaluation criteria for the trial period.

Nursing practice can not be described by a nursing classification alone. Nurses will only be able to document nursing practice if they use the whole Danish Health Care Classification.

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