The Finnish Care Classification System, FinCC 4.0 – User Guide

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Abstract

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This document describes the Finnish National Nursing Documentation Model and the updated Finnish Care Classification system (FinCC) version 4.0. The purpose of this updated user's guide is to provide nurses with guidance on entering data on the daily care given to a patient in the electronic patient record in accordance with the decision-making process model using the FinCC. The Finnish National Nursing Documentation Model consists of the structured core nursing data (need for care, nursing interventions, nursing outcomes, nursing care intensity and nursing summary), the nursing process and the FinCC system. The user guide illustrates with examples the process of making entries in accordance with the documentation model. In practice, the documentation of the nursing content in accordance with the model is carried out in response to the various stages involved in the care process by selecting a main or sub-category from the classification and, if applicable, completing it with free text in accordance with the data structure of the category concerned. When the nursing entries are made in the same, consistent way everywhere using the agreed-upon terminology, the documentation is comparable between different treatment units and organisations. This ensures the continuity of the patient's treatment when the treatment and treatment responsibility is transferred from one organisation or place of treatment to another. Structured nursing data entries are of special significance in the daily care of a patient, enabling multi-professional utilisation of the data according to, for example, various kinds of search and sorting functionalities. Additionally, structured nursing data entries can be used for compiling reports and statistics in support of, among other things, quality assurance, the development of patient care, the steering, planning, assessment and management of operations, and the development of vocational education.

The FinCC system consists of the Finnish classification of nursing diagnoses (FiCND), the Finnish classification of nursing interventions (FiCNI) and the Finnish classification of nursing outcomes (FiCNO). FiCND and FiCNI have similar hierarchical structures (component, main category and sub-category levels). The component level is the most abstract. The nursing documentation entries are made in the main and sub-categories included in the FinCC components in accordance with their allowed data structures. FiCND is used for evaluating the outcome of the care process in relation to the care need on the scale of three possible outcomes: improved, stabilised and deteriorated. In version 4.0 of the system, both FiCND and FiCNI have 17 components. The number of main categories and sub-categories under each component varies.

The purpose of the user guide is to provide guidance on the consistent use of the classification. This guide and the examples it contains are based on FiCND and FiCNI version 4.0 and FiCNO version 1.0. The new versions being introduced were shaped on the basis of the feedback, evaluation, comments and suggestions received from users in the field. The FinCC expert group has compiled the feedback received as new versions of the classifications. The user survey conducted in spring of 2018 was implemented by the FinCC expert group and the Department of Health and Social Management of the University of Eastern Finland.

The National Nursing Documentation Model, which contains the FinCC system, is a code set consistent with the data structures required by the national Patient Data Repository, enabling structured nursing documentation. In addition to this guide, users are recommended to also use the Manual for structured patient data entry, part 1, version 2018 (in Finnish, pdf, 2670 kt) Jokinen, Taina; Virkkunen, Heikki (eds.). Finnish Institute for Health and Welfare. Updated instructions in the manual concerning the patient record will be published on a later date to be announced. The new data structure of the patient record will be published on the Code server in 2020. FinCC 4.0 can be utilised both in the current and in the future patient record content structure. The integration of FinCC 4.0 and the HOIq care intensity metric is also planned to take place during 2020.

The benefits sought and experienced with structured data entry remain minor or unaccomplished if the documentation of patient care is mainly done using descriptive, free-form text or if the data is mainly entered under different sections of the patient record, for example, in the treatment table. In this case, the documentation of the different stages of the care process may remain insufficient if a specific stage in the process is entirely omitted. The nursing documentation entries are combined at different stages of the process as care needs, nursing interventions and nursing outcomes, as a result of which they will constitute a national Nursing Minimum Data Set and, furthermore, even an international Nursing Minimum Data Set.

The members of the expert group who contributed to the development of the FinCC version 4.0 during 2018 included Ulla-Mari Kinnunen, Kristiina Junttila, Pia Liljamo, Timo Ukkola, Sari Nissinen, Tiina Laaksonen, Anne Kuusisto and Mikko Härkönen. Additionally, we wish to extend our thanks for the contributions made to the updating of the classification to all those who responded to the user survey and all those who otherwise provided us with comments. We would also like to thank terminologist Virpi Kalliokuusi and Johanna Eerola for their contribution to the finalisation of the classification, and Minna Mykkänen and Helena Ikonen for their comments on the guide.

As of the beginning of 2019, the FinCC expert group includes Ulla-Mari Kinnunen (Chair, University of Eastern Finland), Pia Liljamo (Oulu University Hospital, Northern Ostrobothnia Hospital District), Timo Ukkola (Association of Finnish Local and Regional Authorities), Anne Kuusisto (Satasairaala Hospital, Satakunta Hospital District), Mikko Härkönen (Finnish Institute for Health and Welfare), Tiina Hassinen (Turku University Hospital, Southwest Finland Hospital District) and Katri Moilanen (Tays Hatanpää Hospital, Pirkanmaa Hospital District). Minna Mykkänen (Kuopio University Hospital, Kuopio University Hospital District) started as a member of the expert group on 1 November 2019.

Keywords: documentation, nursing, classification systems, patient record systems, computerized, terminology

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Introduction

This document is the User Guide of the new version of the Finnish Care Classification system, FinCC 4.0. This new version of the classification is the result of an update process that took place over the years 2018 and 2019. The update process was implemented in two stages. In the first stage, the FinCC expert group worked intensively for approximately one year updating the previous version of the classification system, version 3.0, which dates back to 2012. The objective was to enhance the usability of the FinCC system in such a way that data could be entered taking maximum advantage of the instruments already in clinical use (pain, wound, nutrition and fall scales, for example). A secondary objective was to ensure that the FinCC system is more thoroughly founded on evidence-based data. To accomplish this, the expert group searched for evidence, including Current Care Guidelines and other guidelines for care, familiarised themselves with the legislation, relevant guidebooks by the Finnish Institute for Health and Welfare, instructions, various models, and searched scientific publications. Additionally, expert, or experience-based, evidence was requested to accomplish this task. The task of the expert group was to evaluate and develop the Finnish Classifications of Nursing Diagnoses (FiCND) and Interventions (FiCDI), the used terminology, their clarity and their logical structure, and in this take feedback from the users into consideration.

The objective of single entry structured data is to reduce the number of times data need to be entered into a patient record system to one. In practice, a single entry is linked to various screens in the nursing records and, thus, available for use by the different professionals participating in patient care and for the nursing discharge summary (primary use) and for research purposes, management, the improvement of clinical processes, and the development of quality indicators (secondary use). Additionally, numeric data on nursing entries is required for managing the nursing processes. Comparative data on nursing, including data on pressure ulcers, malnutrition, falls and pain experienced by a patient, are monitored on a national level. This first stage resulted in the first version of FinCC 4.0.

In the second stage, the objective was to evaluate how well the updated FinCC system corresponds to nursing in practice, and whether it is practical to implement and readily understood by its users. To accomplish this, the FinCC expert group organised a survey in April 2018 to the end-users of the classification system, i.e. nurses, together with the Finnish Institute for Health and Welfare and the University of Eastern Finland as per the classification's maintenance agreement. The survey form was distributed to other operators in the field also, including physiotherapists and nurse teachers. An electronic questionnaire was sent to various health care organisations (n=34) and Universities of Applied Sciences (n=14). A link to the questionnaire and instructions were emailed to the acquired contact persons. The survey comprised a total of 34 pages of statements on the 17 components in the FiCND and FiCNI including each main category and subcategory. The participants were asked to express their opinion on each category on a five-step (1 to 5) Likert scale from "Fully disagree" to "Fully agree". Space for additional feedback, comments and suggestions for improvement was provided after each statement.

Survey participants (n=27) included individual nurses and groups comprising nurses, ward managers and nursing officers. Responses were delivered by email also (3 from health care organisations, 1 from a physiotherapist, 1 from an orderly and from students specialising in wound care (3 groups) and their teachers on skin integrity). All of the responses were transferred into an Excel file. Comments and other feedback in free-form were collected into a single file and organised by component. All were studied and discussed, because the comments raised a lot of questions. Often, the given comments were contradictory.

Implemented changes:

- The "Activities" component was deleted and in the current version the related items can be found under the component "Activities of daily living and independence".
- A new component "Pain Management" was added. Experts were consulted during the development process.
- In some components, subcategories have been promoted to the main category level.
- According to the future data structure model of the national nursing record system, this change enables the documentation of nursing interventions in the main category level using:
    - Structured classification (existing or specifically constructed), e.g. wound dressings; or
    - Instruments, e.g. pain scales, AUDIT, risk assessment scales; or
    - Numeric data, e.g. 540 ml; or
    - free text.
- The consistent use of terminology in the classifications has been developed.
- The component "Coordination of care and follow-up care" now includes all main categories related to patient instruction (transferred here from other components).
- The Finnish Classification of Nursing Diagnoses (FiCND): 57 new codes, 84 updates, 47 deletions.
- The Finnish Classification of Nursing Interventions (FiCNI): 198 new codes, 180 updates, 163 deletions.
- The Finnish Classification of Nursing Outcomes (FiCNO): no changes.
- The components are listed in alphabetical order.
- In the future, the classification system is developed and updated according to the received feedback and evidence-based data.

The average response score to all of the components and for all statements (FiCND and FiCNI) was 4.1 to 4.9. The new component "Pain Management" was welcomed by many of the respondents who considered it a positive addition. The components "Fluid balance", "Respiratory", "Circulation", "Life cycle", "Nutrition", "Eliminations", and "Sensory and neurological functions" were rather widely accepted (comments were uniform). However, the respondents agreed that "Skin integrity" was divided into too many sections - there were several comments on this. Hence, this component was re-processed. The same was true for "Safety" and "Mental capacity". Based on the received comments, the FinCC expert group once more consulted specialists including a wound care specialist, physicians, a regional nursing

documentation work group, and psychiatric nurses and psychiatrists, for example. The updating of classifications based on feedback from the survey and comments from other specialists was completed in the spring of 2019, and the expert group submitted the classifications to the approval process in accordance with the Code service process of the Finnish Institute for Health and Welfare.

The FinCC system has been available on the Code server since September 2008. In 2008, the development and maintenance responsibility of the classification system was transferred to the University of Eastern Finland. User feedback is collected regularly using targeted surveys. Furthermore, it is possible to provide feedback anytime via the Code service (koodistopalvelu[at]thl.fi). Any development requirements are assessed based on the received feedback, and the classification system is updated, if necessary. Any further improvements to the classification system should be carefully controlled and centrally coordinated to ensure everyone in the nursing field is using the classification system of the Finnish National Nursing Documentation Model and its most recent updates, as this was the original goal.

The expert group maintains a web site at: http://fincc.fi/. The web site is intended for the users, and we are looking forward to receiving feedback from the implemented new version of the classification system. For more detailed information, please send your questions to: http://fincc.fi/yhteydenotto.

Current research and guidelines provided by the Finnish Institute for Health and Welfare have been applied when writing this User Guide. The text is based on the publications and research articles listed under “References”. However, these have not been separately referenced in context.

Structured data elements in patient records

Patient care data are saved and stored into an electronic patient record system according to a predefined structure. The structure of an electronic patient record comprises hierarchically arranged entities which can be organised by screens, the phases of the nursing process and by headings, and where documentation classifications and codes are used. Structured data may be supplemented with free-form text. A uniform structure of patient data and predefined content enable the usability and transfer of patient data across different systems within the limits of patient consent and restrictions. Generating information content using uniform concepts promotes the accessibility of patient record data in different systems and across care organisations. Terminologies (term lists, nomenclature, classifications) are used to uniformly describe clinical practices, care and interventions.

In Finland, predefined key structured data elements are used in electronic patient records to describe health care and care data generated during the phases of the nursing process. These predefined key structured data elements include the identification data of the patient, service provider, service event and service entity, problems, diagnoses, factors related to general health, physiological measurements, key structured data elements in nursing, capabilities, tests and examinations, interventions, medication management, statements and certificates, assistive products, information on follow-up care, and consent.

In an electronic patient record, topics can be grouped using various screens. A screen refers to a specific data entity or context that enables compiling data related to specific content or a

specific topic in a patient record. For example, care related to a specific specialty, profession or service. The nursing record screen (HOKE, HOitoKErtomus) is used for entering daily nursing notes, and the nursing discharge summary drawn up by a nurse is saved in the HOI Screen. Daily nursing notes are entered by phase of nursing process using predefined classifications and free-form text. The nursing discharge summary is compiled based on key events during the period of care with the help of key structured data elements in nursing (nursing diagnosis, nursing interventions, nursing outcomes, nursing care intensity and nursing discharge summary) that may be supplemented with nursing classifications and free-form text, if necessary.

Key structured data elements in nursing

Nursing diagnosis

Nursing diagnosis is a description of existing or possible future health problems that could be cured or alleviated with proper nursing interventions. The description is drawn up by the nursing staff. Nursing diagnosis involves mapping the problems and issues related to the patient's care or current situation in life. Patients tell about their symptoms to the nurse who observes the patient and takes the necessary measurements (including blood pressure and body temperature, for example). Based on the acquired data, the nurse together with the patient determines the patient's need for care.

Needs significant in terms of patient care are entered into the nursing records. The level of certainty is an additional attribute to care needs and is entered when it is relevant in terms of patient care. AR/YDIN codes are used when entering data related to the level of certainty. The nurse should be sufficiently skilled to be able to observe and anticipate possible future issues the patient is likely to face. Sometimes a patient may be unable to express their condition verbally. In such cases, the nurse needs to interpret what could be the cause of the observed change in the patient's condition or behaviour.

Nursing intervention

Nursing intervention describes the planning and implementation of patient care. Nursing interventions significant in terms of patient care are entered into the patient record. Nursing interventions are implemented in assistance and instructive situations that take place between a patient and a nurse. The knowledge and skills of the nurse form the basis of these interventions. Such knowledge and skills include manipulation skills, observational and communication skills, the ability to offer health care and care-related guidance and advice, and provide adequate psychosocial support according to the needs of the customer, patient or family. The customer's/patient's and any family caregiver's knowledge and perception of the situation provide another essential aspect. The nursing staff aims to meet the patient's need for care by implementing various nursing interventions.

The Finnish Classification of Nursing Interventions (FiCNI) 4.0 comprises 18 headings related to the evaluation of the success/efficacy of nursing interventions. These headings include the assessment of coping abilities, the evaluation of non-pharmacological pain management and the assessment of cognitive function, for example. The evaluation of these nursing interventions refers to the evaluation/clarification of the implementation of a specific nursing intervention. It is considered appropriate to enter the evaluated implementation in connection

with these main categories only. Assessment may also be performed via these main categories with the help of various scales such as VAS or GCS.

Nursing outcomes

On the component level, nursing outcome describes a change in the patient's condition. The patient's current condition, general wellbeing or coping is evaluated in relation to the patient's need for care, goals of care, planned interventions and/or implemented care. Nursing outcomes are evaluated using the scale introduced in the Finnish Classification of Nursing Outcomes (FiCNO 1.0): improved, stabilised or deteriorated. Free-form text may be used to add supplementary data, if necessary.

Improved: When there is a significant improvement in the patient's general wellbeing, condition and/or coping compared to baseline. (Abbreviation: PA)

Stabilised: When there has been no discernible change in the patient's general wellbeing, condition and/or coping. (Abbreviation: EN)

Deteriorated: When there is a significant deterioration in the patient's general wellbeing, condition and/or coping compared to baseline. (Abbreviation: HUO)

Nursing outcomes are evaluated to monitor the efficacy, quality and performance of care. Evaluations are performed daily or once per shift, if necessary, when a change is observed in the patient's condition, and always when care is completed.

Nursing Intensity

Nursing intensity refers to the patient's dependency on the nurses' work input. It is an estimate of how demanding the implemented care has been. Patient care plans and implemented care documented using the Finnish Classification of Nursing Diagnoses and he Finnish Classification of Nursing Interventions, provide the basis for assessing a patient's nursing intensity. Diligent documentation of implemented care provides the content for assessing a patient's nursing intensity and supports the credibility of the classification of nursing intensity.

In nursing interventions, various classification metrics of nursing intensity are applied. In many Finnish hospitals, the OPCq instrument which is part of the RAFAELA system has been applied in the daily assessment of the nursing intensity of somatic patients in inpatient care. The OPCq instrument was integrated into the classification of nursing diagnosis and interventions in the FinCC version 3.0. The HOIq care intensity metric was developed based on the OPCq instrument for better applicability in inpatient and outpatient care. The integration of FinCC 4.0 and the HOIq care intensity metric is to take place during 2020. The integration of classifications promotes the use of structured daily nursing notes entered using the FinCC system when assessing a patient's nursing intensity. The credibility of data on nursing intensity improves when the assessments are demonstrably based on implemented and appropriately recorded care. The nursing intensity classification data of the final day of a patient's care period are included in the nursing discharge summary.

Nursing discharge summary

A summary is drawn up for each period of care at the end of which care is completed or the responsibility for patient care is transferred to another health care unit. In addition to nursing interventions, the summary includes clear and precise instructions on the implementation of follow-up care. Developments in the patient's general wellbeing and care are described in the final summary. The nursing discharge summary is saved on the national archive service starting on the arrival day. If a single data entry or visit is essential in terms of the distribution of information and follow-up care, the entry may be included in the summary. A final evaluation of a care period or spanning several appointments can cover home care or several care periods, for example. In long-term care, an interim evaluation should be drawn up at least every three months, or when there has been a significant change in the patient's situation. An interim evaluation includes a summary of the significant developments in the patient's general wellbeing and care during a care period, rehabilitation or therapy, and any change from anamnesis or a previous interim/final evaluation.

A nursing discharge summary comprises daily nursing notes, and its purpose is to secure the continuity of care, adherence and patient safety. The nursing discharge summary provides the patient with information about their care and progress (My Kanta Service) which promotes self-care. As the implementation of care continues, professionals can quickly get an overview of the patient's situation (Patient Data Repository). A nursing discharge summary is drawn up in every unit (outpatient policlinic, intensive care unit, emergency room, inpatient ward, etc.) during care (interim evaluation) and at the end of a care period (final evaluation).

A nursing discharge summary is drawn up separately for each patient, the use of medical terms is avoided, and the information requirements of the place of follow-up care (home/health care unit) are taken into consideration. The example of a nursing discharge summary presented in Table 2 is based on the national headings presented in Table 1. The example draws on the previous FinCC User Guide, as well as guidelines and examples used in different organisations, and relevant information related to patient discharge defined by social and health care professionals.

Table 1. National headings, descriptions, content and purpose in a nursing discharge summary

National heading	National description	Content	Purpose
Final evaluation/ interim evaluation	Headings used when entering summary notes at the end of inpatient care or other long-term care (psychiatric day-patient care or home care, for example) or in an interim evaluation (not individual appointments). Note! A final evaluation includes a description of implemented care and the actual developments and outcomes in the patient's general wellbeing and care. For individual appointments, enter case history, if necessary, under "Anamnesis" / "Permanent background information" / "Background information specific to a care event".	*Treatment day/ Date of appointment* *Reasons for seeking medical attention* *Progress in treatment/ rehabilitation/ therapy* Housing arrangements: lives alone/ lives with another person/ high-intensity assisted living/ institution	To give a concise description of the reasons why the patient has sought medical attention and how the treatment/ rehabilitation/ therapy has progressed from the nursing perspective. **For data to be transferred to the Kanta system, the Final Evaluation and Interim Evaluation headings must have a recorded entry.**
Nursing diagnosis	Existing or possible future problems related to the patient's health that are to be solved or alleviated via proper care and instruction are entered under this heading. Resources that support the patient in the management of self-care.	*Key nursing problems/needs* *The patient's insight into their condition* *What the patient wishes* Apply existing **instruments**: pain, fall, pressure ulcer, malnutrition, depression, memory, capability scales etc.	To describe the key nursing problems/needs of the patient when the patient arrived at the current service provider. Include problems that should be monitored in follow-up care (e.g. elevated risk of malnutrition, falls or pressure ulcer).
Nursing interventions	Care implemented to meet the care needs of the patient and achieve the goals of care not recorded under other headings related to the implementation of care, such as Interventions, Rehabilitation or Medication, is entered under this heading.	*Key nursing interventions implemented in the care of the patient* *Giving instructions and guidance regarding the care and follow-up care of a patient* *The patient's own experience*	To describe the key nursing interventions implemented in the care of the patient. If necessary, include a description of nursing interventions that did not yield a desired outcome (e.g. a commonly used wound care measure was ineffective in the treatment of this patient).

National heading	National description	Content	Purpose
Nursing outcomes	Changes in the patient's condition evaluated against the patient's need for care, goals of care and/or implemented care are entered under this heading.	*Changes in the patient's general wellbeing resulting from care as seen from the nursing perspective* *The patient's own experience* *General wellbeing and capabilities when discharged/ transferred* *Memory: orientation in time and place/ impaired orientation* *Mood: normal/depressed/distressed* *Functional mobility: independent/assisted/uses an* assistive product *Toileting: independent/assisted/wears pads or incontinence briefs* *Bathing/showering: independent/assisted* *Dressing:* *independent/assisted* *Nutrition: diet* *independent/assisted* *Nutrition: follows a special diet/independent/assisted(prepares food/uses catering services* Assistive products*: assessed/arranged*	To describe the changes in the patient's general wellbeing resulting from care **during the care period** as seen from the nursing perspective. The patient's general wellbeing and capabilities when discharged. Use existing instruments. Take into consideration the patient's own experiences. Select: Situation Stabilised Situation Improved Situation Deteriorated

National heading	National description	Content	Purpose
Nursing Intensity	An estimate of the amount and intensity of care the patient needs or has received (implemented scale and outcome class) is entered under this heading.	For example: Category I - Minimal need for care Category II - Average need for care Category III - Need for care above average Category II - Maximal need for care Category V - Need for intensive care (Rafaela OPCq)	Enter the nursing intensity on the last day of the care period when the responsibility for patient care is transferred to another service provider (placement in follow-up care). If the classification of nursing intensity is not in use in the unit, this heading is removed (nursing intensity is not recorded).
Plan	A plan for follow-up care addressing the patient's condition, examinations, treatment, rehabilitation and how they are arranged is entered under this heading.	*Planned follow-up care/rehabilitation/therapy* *Items agreed upon with the patient and their caregivers:* - Information about scheduled control appointments and informing the place of follow-up care - Devices, consumables etc. (none/patient acquires/given to the patient to bring along)	To describe factors supporting self-care and the plans for follow-up care/rehabilitation/ therapy. Includes information on the reason for follow-up care, the place providing follow-up care and information about services (meals/home help services/ hospital-care at home). Information about whether the patient's relatives know about the transfer or not, if necessary.
Medication	Notes on prescriptions, administration and review of medications and any assessments, comments or arguments decisions were based on relating to medication management, are entered under this heading. NOTE! Structured notes on medications are always entered in the LÄÄ screen.	*Medications administered today, and at what time*	If caring for the patient requires that information about medications is disclosed (e.g medications administered on the day the patient was discharged (warfarin) and at what time), enter this information.
Other notes	Any data not readily applicable elsewhere are entered under this heading.	*Name of the unit, Hospital Address* *Telephone number of the unit* *Relatives/caregivers informed about the transfer/discharge* *Personal items transferred with the patient* *Entries made by (name and title)*	

Table 2. Example of nursing discharge summary

Final assessment	Care period 23 September 2019 - 28 September 2019. Admitted to ward due to lower abdominal pain and abdominal swelling. Laparotomy performed to determine the cause of symptoms. Lives alone, cannot cope independently, family members live far away. Has not received home help services before.
Nursing diagnosis	PAIN MANAGEMENT / **Acute pain.** Lower abdominal pain daily. Ibuprofen ineffective. Intermittent severe pain at the incision site. SKIN INTEGRITY / **Surgical wound.** Laparotomy performed four days ago. COPING / **Needs support to cope.** Can not cope at home without assistance. Cancer causes fears.
Nursing interventions	PAIN MANAGEMENT / **Assessment of the type of pain.** Severe, aching pain at the incision site and lower abdomen after morning routines and mobility. VAS 6 to 7. SKIN INTEGRITY / **Monitoring wound exudate.** No wound discharge. Sutures clean and intact. NUTRITION / **Monitoring feeding.** No appetite. Stomach feels full, abdominal swelling. Nutritional supplements offered, and took them. COPING / **Providing support for coping.** Issues related to the disease discussed. Worried about what comes next. Discussion with an oncology nurse.
Nursing outcome	SENSORY AND NEUROLOGICAL FUNCTIONS. Situation Stabilised “EN” Abdominal pains continue (VAS 3 to 4), standard pain medications are not enough, needs strong additional pain medication 2 to 3 times a day. Fear of pain, moving increases pain, careful about moving because of pain. ELIMINATIONS Situation Stabilised “EN” Good bowel movements after micro-enema on 27 September. SKIN INTEGRITY. Situation Improved “PA”. Progress in healing of the wound. COPING. Situation Stabilised “EN”. Needs assistance in bathing and encouragement to move about. Uses a walker. Visit by oncology nurse provided some relief. Would very much like to discuss topics related to disease.
Nursing Intensity	Total score: 15 points Category III - Need for care above average (Rafaela OPCq)
Plan	COORDINATION OF CARE AND FOLLOW-UP CARE. Transferred to the health care centre of Sinervä for follow-up care. Suture removal on 10 October 2019. Information regarding follow-up care according to pathology statement.
Medication	MEDICATION / Medications administered orally. Morning medications administered at 7:00 am and OXYCODONE HYDROCHLORIDE 1 x 5 mg capsule for abdominal pain at 10:00 am
Other notes	Surgical Ward 3, Sinervä Hospital. Sinerväntie 4, 26660 SINERVÄ, Finland. Tel. 040 556 6227. Son knows about the transfer. Sari Saarni, nurse.

Entering structured nursing data using the FinCC system

Key structured data elements in nursing provide the content structure for the recording of daily nursing notes. Key structured data elements in nursing (nursing diagnosis, nursing interventions, nursing outcomes, nursing intensity and nursing discharge summary) are entered using the Finnish Care Classification (FinCC) system according to the phases of the nursing process. The FinCC, or the Finnish Care Classification system, consists of the Finnish Classification of Nursing Diagnoses (FiCND 4.0), the Finnish Classification of Nursing Interventions (FiCNI 4.0) and the Finnish Classification of Nursing Outcomes (FiCNO 1.0) (see Figure 1).

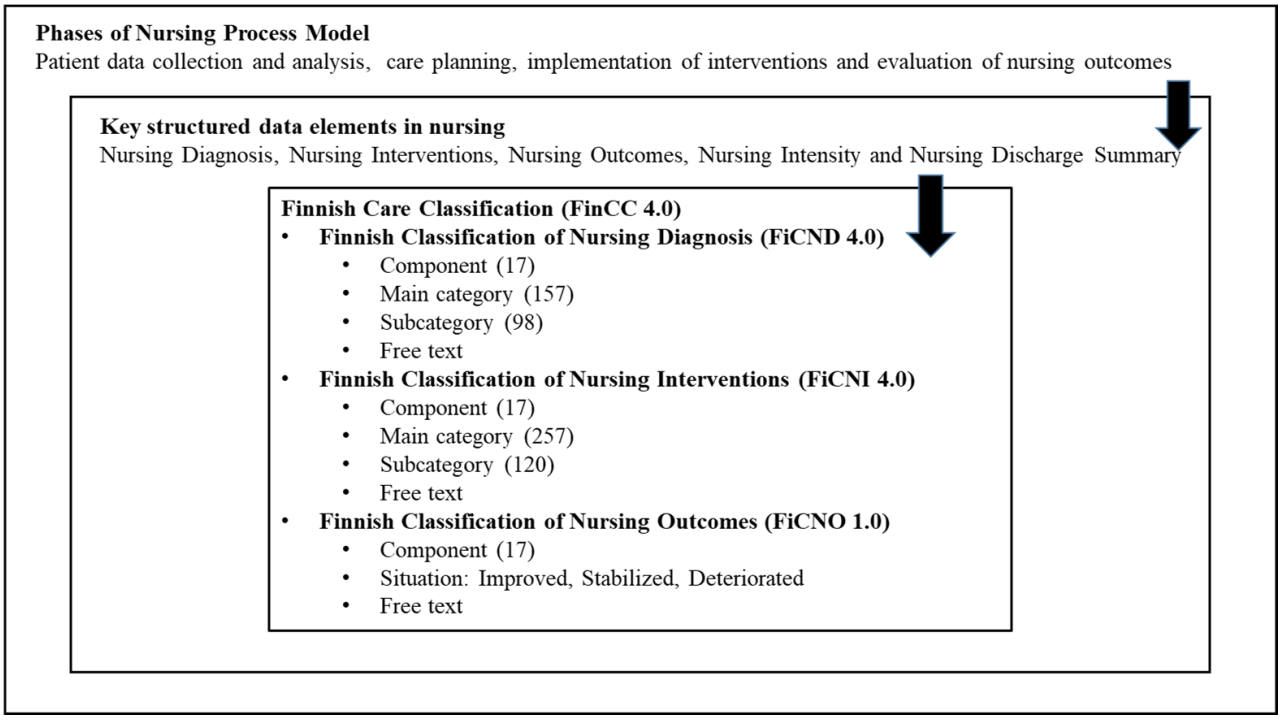

Figure 1. The Finnish Nursing Documentation Model according to FinCC 4.0 (Mykkänen 2019, adapt. Tanttu 2009)

The Finnish Classification of Nursing Diagnoses and the Finnish Classification of Nursing Interventions are used for entering structured data of daily patient care in policlinics and inpatient wards in both primary health care and specialised care. The classifications can be used separately, but the greatest benefits can be gained when they are used in parallel. Describing the patient's need for care and the care implemented during different phases of the nursing process using the above mentioned classifications offers a consistent picture of the patient's condition and any changes in it.

The Finnish Classification of Nursing Diagnoses (FiCND) and the Finnish Classification of Nursing Interventions (FiCNI) both comprise 17 components, or areas of nursing content, and each component comprises a number of main categories and subcategories. The components and their contents are described in Table 3.

Table 3. Description of the components (17) of the FinCC 4.0 and their content

Component	Description of component content
Metabolic	Items related to metabolism and the immune system.
Sensory and neurological functions	Items related to sensory functions and neurological functions.
Life cycle	Items related to the different stages in life.
Eliminations	Items related to digestion, urinary tract function, haemorrhage and other eliminations.
Respiratory	Items related to pulmonary function and breathing.
Coordination of care and follow-up care	Coordination and instruction regarding multi-professional care and follow-up care and the patient's personal care and care need(s).
Pain Management	Items related to pain and the management of pain.
Skin integrity	Items related to the mucous membrane, cornea, skin and subcutaneous layers including the skin graft donor site, skin graft and cutaneous flap.
Medication	Items related to the use of medications and to medication management.
Fluid balance	Items related to hydration.
Mental capacity	Items related to mental capacity.
Activities of daily living and independence	Items related to independence and physical capability.
Nutrition	Items related to securing adequate nutrition.
Coping	The ability of an individual or a family to cope with problems related to or caused by a health condition, changes in health, everyday routines, work and social interaction.
Health behaviour	Items related to health promotion.
Safety	Safety hazards caused by the patient's right to self-determination, disease or caring environment.
Circulation	Items related to blood circulation in various organs.

The highest hierarchical level, or component level, is the general heading encompassing the main categories and subcategories. Components are the most abstract level of documentation.

Table 4 illustrate how the phases of nursing decision-making, key structured data elements in nursing and the FinCC complement each other. Background information is collected from the patient through interviews, and the collected data is analysed to assess the patient's need for care. The components, main categories and subcategories of the Finnish Classification of Nursing Diagnoses are applied to determine care needs. Additionally, the care need can be

allocated a level of certainty. When planning care, goals are set for the care prioritised according to determined care need(s), and the implemented nursing interventions are selected using the main categories and subcategories of the Finnish Classification of Nursing Interventions. During the implementation phase, implemented interventions are recorded using the Finnish Classification of Nursing Interventions. Finally, nursing outcomes are evaluated in relation to the patient's need for care, the set goals and the implemented interventions, and the status of the nursing outcome is selected. Nursing intensity is typically assessed once a day using a specifically developed nursing intensity instrument to estimate the intensity of implemented care. At the end of the care period or service event, a nursing discharge summary is drawn up using predefined national structured data (nursing diagnosis, nursing intervention, nursing outcome, nursing intensity) supplemented with free-form text.

Table 4. Creating entries according to the phases of the nursing process model in decision-making using FiCND and FiCNI.

Phases of the nursing process model in decision-making	**Key structured data elements in nursing**	**Use of the FinCC system**
Determine the need for care: Patient data collected and analysed.	Nursing Diagnosis	FiCND main categories and subcategories FiCND and the level of certainty of a care need are scored using the scale: certain/likely/ suspected.
Care Planning Reaching a conclusion, i.e. determine and prioritise care need(s). Setting goals, i.e. define expected outcomes, and selecting the nursing interventions.		**FiCND** component and/or main categories and subcategories Nursing interventions defined FiCNI main categories and subcategories
Implementation of Interventions Implementation of care plan.	Nursing Interventions	FiCNI main categories and subcategories
Evaluation of Nursing Outcomes The patient's need for care, goals of care, and implemented care are taken into consideration in the evaluation. Evaluations are performed daily or once per shift, if necessary, when a change is observed in the patient's condition, and always when care is completed.	Nursing Outcomes	FiCNO component Status of nursing outcome: improved/ deteriorated / stabilised. Supplemented with free text, if necessary (depending on the data system, it might be possible to make entries on the component level and the main category and subcategory levels also).

Phases of the nursing process model in decision-making	Key structured data elements in nursing	Use of the FinCC system
	Nursing Discharge Summary	Compiled using key nursing data covering the care period and supplemented where necessary using the main categories and subcategories of the Finnish Classification of Nursing Interventions and free-form text, if necessary. Nursing intensity class on the day of transfer/ discharge given in numeric and verbal format.
	Nursing Intensity	Assessment of nursing intensity using a nursing intensity classification instrument. Where possible, implemented interventions recorded with the FinCC are used in the evaluation.

The Finnish Classification of Nursing Diagnoses, FiCND 4.0

The Finnish Classification of Nursing Diagnoses (FiCND 4.0) is described by component in the original Finnish alphabetical order. Each component name is followed by a brief overview of the content and then a more detailed description of the content of the component. For each component, the key concepts and those with possible interpretational obscurity, in particular, are explained in detail. The definitions of concepts are based on the publications and research articles listed under “References”. However, these have not been separately referenced in context.

Following the component content, the main categories and subcategories of the component are presented in an Appendix table 1. The main category is first on the left in bold, and the subcategories are listed under the main category without any font styling. An explanation of the term or concept is added for some of the main categories and subcategories.

Finally, a few examples of how to use the main categories and subcategories when recording nursing diagnosis entries are included. Nursing diagnosis is a description of existing or possible future health problems that could be cured or alleviated with proper nursing interventions. The description is drawn up by the nursing staff. Usually, the main category or subcategory is in itself a sufficient description of the nursing diagnosis. However, the nurse may choose to supplement or specify the selected FiCND main category or subcategory with free-form text. Several of the following examples include additional information given as free text. However, it is necessary only when the main category or subcategory is not in itself sufficiently explicit in describing the nursing diagnosis of the patient in question.

Metabolic

- Items related to metabolism and the immune system.

This component includes nursing diagnoses describing the follow-up, monitoring and treatment of a patient's metabolism, hormonal disorders and changes in the immune system. New main categories in version 4.0 include separate categories for high and low blood sugar. New categories have been added for fracture risk, lymph circulation disorder and precautions for infection control also. These enable entering and using data from patient monitoring, e.g. documenting blood sugar levels directly from a system or device.

Sensory and neurological functions

- Items related to sensory functions and neurological functions.

This component includes nursing diagnoses noting changes or disorders in hearing, vision, balance and the sense of touch, smell and taste, and measures promoting the function of the senses. This component can be used to describe a change in the level of consciousness and neurological changes also. New main categories include stroke symptoms, tic disorder and flaccidity, for example.

Life cycle

- Items related to the different stages in life.

This component includes nursing diagnoses that are used in the health-related situations of the patient's or customer's life. These include nursing diagnoses related to reproductive and sexual health, pregnancy and labour, for example. New categories include the ability to work and functional ability, impending death, and parenting needs.

Elimination

- Items related to digestion, urinary tract function, haemorrhage and other eliminations.

This component includes nursing diagnoses related to the patient's digestion and intestinal and urinary tract function. Faecal and urinary incontinence, vomiting and nausea are included in this component. Nursing diagnoses can be entered directly under the main category in free-form text.

Respiratory

- Items related to pulmonary function and breathing.

This component includes nursing diagnoses that can be used to enter details about breathing, the volume and quality of respiratory discharge, and oxygen deprivation, for example. This component includes several new categories including hypoventilation, increased or decreased respiration rate, abnormal breath sounds, fluctuations in respiratory rhythm, airway obstruction and oxygen deprivation.

The objective is to transfer respiratory quality, rate and rhythm entered into the nursing records automatically to the nursing table using a subcategory. Mucus production and irritative cough are included in this component.

Coordination of care and follow-up care

- Coordination and instruction regarding multi-professional care and follow-up care and individual care and care need(s).

This component includes the care-related information and instruction needs of the patient regarding the implemented nursing interventions, examinations and measures that are planned to be implemented during an appointment or care period.These may also include health and specialist services provided afterwards. This version of the classification includes new knowledge deficit categories related to fluid balance, pain and mobility. The objective is that a patient's knowledge deficit can be entered under that particular category instead of using a single category to define a patient's knowledge deficit.

Pain Management

- Items related to pain and the management of pain.

This component is a new component in this version of the classification. Abdominal, ear, back and labour pains each have their own categories. Please note that knowledge deficit regarding pain is under the component "Coordination of care and follow-up care". When documenting pain, it is important to recognise the various items related to the type and intensity of the experienced pain.

Skin integrity

- Items related to the mucous membrane, cornea, skin and subcutaneous layers including the skin graft donor site, skin graft and cutaneous flap.

This component includes main categories describing nursing diagnoses related to skin and skin integrity. To facilitate recording the patient's need(s) there are no sub-categories in this component. New categories in version 4.0 include intertrigo, muscle flap, contusion, cut, puncture wound and contused wound. New main categories include gunshot wounds and bite wounds.

In Finland, several pressure ulcer risk assessment scales are in use. One of the most commonly used scales is perhaps the Braden Scale. It is the most researched scale and used in acute cases, in particular. The Braden risk assessment scale comprises six items: sensory perception, moisture, activity, mobility, nutrition, and friction and shear. Each item gets a score between 1 and 4 (except for friction and shear that is scored between 1 and 3), and the total score is the risk classification. Another scale for pressure ulcer risk assessment is the Jackson and Cubbin scale that was developed to assess the risk of pressure ulcers in patients in intensive care. When using this scale, risk is assessed once a day. The scale is divided into 12 items. Risk assessment is based on a nurse's assessment. When recording the risk of pressure ulcers, it is important to include the used scale and the risk score.

Medication

- Items related to the use of medications and to medication management.

This component includes nursing diagnoses implemented to record needs that arise from the medication management of a patient. An entry might describe the effect of a drug, instruction given to a patient regarding medication, or when it is necessary to describe a deviation from the normal method of administration (pills are crushed, for example) or involuntary administration of medications.

Medications not tolerated by the patient, adverse reactions and pharmacodynamic interactions are included in this component. Needs assistance in the management of medications is an important main category and can be used when problems in taking medications or in the distribution of medications have been detected.

Some needs related to medication management may include medicinal products subject to additional monitoring. According to the Fimea guidelines: Persons authorised to prescribe or dispense the medication are asked to report adverse reactions electronically (recommended) or using the Fimea form Nr. 720 'Report of a suspected adverse drug reaction'. In such cases, nursing interventions are entered under the category: Medication subject to additional monitoring.

Fluid balance

- Items related to hydration.

This component includes nursing diagnoses implemented to record the risk of fluid imbalance, dehydration and increased volume of fluids (swelling, for example). New categories in this version include the need to limit fluid intake, increased volume of fluids and electrolyte imbalance.

Mental capacity

- Items related to mental capacity.

This component includes nursing diagnoses related to mental capacity. The scope of the component now covers not only mental equilibrium but also functional ability and the related needs. New main categories in this version of the classification include various affective disorders and diseases.

Activities of daily living and independence

- Items related to independence and physical capability.

The scope of the component now covers independence also. This component includes nursing diagnoses relating to activities of daily living identified with the patient. The component includes needs from the previous version, and conceptual changes have been implemented in some of the main categories and subcategories to clarify their use.

Nutrition

- Items related to securing adequate nutrition.

New categories added to this component include the risk of malnutrition, for example. It can be used to record the identified malnutrition risks. Changes have been implemented in the hierarchy with some subcategories transferred to the main category level. Eating difficulties and the need for nutritional supplements, for example, are now main categories.

Coping

- The ability of an individual or a family to cope with problems related to or caused by a health condition, changes in health, everyday routines, work and social interaction.

Two new categories have been added into this component: Marginalisation risk and Health hazards related to the living environment. The latter includes radiation hazards. The text in the categories of the coping component have been altered to clarify the categories and to make them more readily understood. Any needs related to the deteriorated coping of close relatives or family caregivers are recorded on a separate document, unless they are directly linked to the care of the patient in question. In such cases, use the category Needs support to cope when entering patient data.

Health behaviour

- Items related to health promotion.

This component includes eight new categories describing addictions: Alcohol and drug addiction, Exercise addiction, Codependency, Internet addiction disorder, Compulsive buying disorder, Gambling/gaming addiction, Sex addiction and Prescription drug addiction. Alcohol and drug addiction includes nicotine addiction also.

Safety

- Safety hazards caused by the patient's right to self-determination, disease or caring environment.

This component includes a clarification note under Carrier of an infectious disease: it includes exposure and being an asymptomatic carrier which are observed in care.

Circulation

- Items related to blood circulation in various organs.

This component includes one new category: Peripheral circulation disorder. All of the other categories are the same as in the older classification. In this new version, swelling is a main category and it is now possible to enter swelling caused by poor circulation under this category.

The Finnish Classification of Nursing Interventions, FiCNI 4.0

For each component, the key concepts and those with possible interpretational obscurity, in particular, are described and explained in detail. The definitions of concepts are based on the publications and research articles listed under "References". However, these have not been separately referenced in context. Following the component content, the main categories and subcategories of the component of the FiCNI 4.0 are presented in an Appendix table 2.

Each component is followed by examples of how the Classification of Nursing Interventions has been applied in the care planning phase to define planned interventions, or how the main categories and subcategories of the classification have been applied in the description of implemented interventions.

A subcategory is added to supplement the main category, or a nursing intervention entry is supplemented with free-form text, if necessary. In addition to free-form text, structured data elements can be saved to the main category using a Yes/No option (depending on the situation) or by entering a measured outcome (e.g. weight = 42 kg).

Metabolic

- Items related to metabolism and the immune system.

This component includes nursing interventions describing the follow-up, monitoring and treatment of a patient's metabolism, hormonal disorders and changes in the immune system. Monitoring and treatment of blood sugar levels as well as monitoring icterus in newborn and adult patients are entered into the nursing records. Various isolation interventions are also included in this component.
Identification of fracture risk includes the application of FRAX - a fracture risk assessment tool by WHO.

Sensory and neurological functions

- Items related to sensory functions and neurological functions.

This component includes nursing interventions noting changes and disorders in hearing, vision, balance and sense of touch, smell and taste, and measures promoting the function of the senses. Monitoring the level of consciousness and neurological symptoms are included in this component.
Monitoring sensory functions includes hearing, vision, smell and taste. Monitoring tremor includes tic disorders. The level of consciousness can be assessed using the Glasgow Coma Scale (GCS).

Life cycle

- Items related to the different stages in life.

This component includes nursing interventions that are used in the health-related situations of the patient's or customer's life. These include nursing interventions related to reproduction and giving advice on the use of contraceptives, and to pregnancy and labour. The Life cycle component includes monitoring normal growth and development and any implemented care, including physical examinations at the child health clinic and later by the school nurse.

Terminal care at the other end of a patient's life cycle is recorded under this component also together with the implementation of palliative care.
Nursing interventions implemented in caring for a dying patient are used when recording data after the patient's death. Nursing interventions to support family members and others who were close to the patient are under "Coping".

Eliminations

- Items related to digestion, urinary tract function, haemorrhage and other eliminations

This component includes nursing interventions that are implemented to support and assist the patient in care needs related to digestion and intestinal and urinary tract function. This component includes also care and instruction related to nausea and vomiting, implementation and instruction related to dialysis treatment, and observations on other special interventions.

After insertion of an indwelling catheter, make an entry of the date, time, type and size of the catheter into the nursing records. Drainage refers to discharge from any kind of drainage tube or tissue suction device. Treatment of an intestinal stoma includes all the relevant nursing interventions. The insertion of a nasogastric tube includes the insertion of both feeding tubes and PEG tubes. The objective is that the data system automatically ensures that numeric entries made into nursing records (e.g. amount of urine) are transferred into the nursing table also.

Stools are defined using the Bristol Stool Scale developed by Dr. K. Hering at the University of Bristol.

- Type 1: Separate, hard lumps that are hard to pass.
- Type 2: Lumpy, solid and sausage like.
- Type 3: A sausage shape with cracks in the surface.
- Type 4: Like a smooth, soft sausage or snake.
- Type 5: Soft blobs with clear-cut edges.
- Type 6: Mushy consistency with ragged edges.
- Type 7: Liquid consistency with no solid pieces.

Respiratory

- Items related to pulmonary function and breathing.

This component includes nursing interventions implemented to monitor breathing, the volume and quality of respiratory discharge and respiratory function, and to promote and maintain breathing and pulmonary function. The objective is to transfer respiratory quality, rate and rhythm entered into the nursing records automatically to the nursing table using a subcategory. Mucus production and cough are included in monitoring respiratory discharge. Blowing into a bottle refers to positive expiratory pressure.

Coordination of care and follow-up care

- Coordination and instruction regarding multi-professional care and follow-up care and the patient's personal care and care need(s).

This component includes nursing interventions implemented when planning, giving instructions on, coordinating or implementing health care or specialist services during an appointment or a care period, or afterwards.

Preparing for an intervention includes instruction given to the patient, collection of samples and any preparations related to an examination. Here, implementing an intervention refers to an intervention, sample collection or examination. The objective is that it is possible to take advantage of the codes of the Finnish Classification of Nursing Interventions as nursing record content in the data system in a more exact classification.

Arranging assistive products includes mattresses, sleeping mats, chair cushions and mattress covers to prevent the development of pressure ulcers, and other special equipment. The objective is to be able to use the assistive product nomenclature in data systems (ISO 9999 classification of assistive products). Securing patient rights includes also offering information about the rights of patients.

Pain Management

- Items related to pain and the management of pain.

In addition to various nursing interventions, this component includes monitoring the experienced pain also. The location and intensity of pain is assessed when the patient is at rest and when the patient is mobile. The intensity of pain is assessed using scales such as VAS, NRS or VDS. A subclassification to assess the type and timeliness of pain is available in order to ensure the consistency of documentation. Assessing the duration of pain refers to pain that has lasted for several hours, for example. Timeliness refers to continuous pain or pain that is only experienced in a specific situation.

Non-pharmacological pain management interventions are included as subcategories such as hydrotherapy given to provide relief in labour pains. Relaxation techniques include music, for example. Meditation training refers to mindfulness training, for example.

Skin integrity

- Items related to the mucous membrane, cornea, skin and subcutaneous layers including the skin graft donor site, skin graft and cutaneous flap.

This component includes nursing interventions describing how the condition of the patient's skin and mucous membranes is monitored, how skin is monitored and cared for, and the treatment of dermatitis. Additionally, this component includes nursing interventions related to oral hygiene and eye care, wound care and monitoring wounds.

On the main category level, nursing interventions related to all different kinds of wounds are recorded (including burns, frostbite, pressure ulcers and leg ulcers). On the subcategory level, the aim is to clarify and streamline the documentation of wound care. Monitoring wound exudate includes monitoring exudate from a wound, skin graft donor site and skin flap. Pressure ulcer risk assessment includes saving the risk assessment tool score also.

Medication

- Items related to the use of medications and to medication management.

This component includes nursing interventions implemented when recording planned interventions to achieve treatment goals related to the patient's medication, and to describe medication management. Medications and administration times are entered in the medications section of the patient record. Medications administered as needed (e.g. pain relief) are recorded into the administered medications section in the patient record. However, make

sure to include in the nursing records the reason for administering the medication and to evaluate its effect post-administration.

An entry might describe the effect of a drug, instruction given to a patient regarding medication, or when it is necessary to describe a deviation from the normal method of administration (pills are crushed, for example) or involuntary administration of medications. Monitoring the effect of medication includes medicinal products subject to additional monitoring found in the FiCND (black inverted triangle in the package insert).

Fluid balance

- Items related to hydration.

This component includes nursing interventions implemented to monitor the patient's fluid balance and to treat any changes detected in it.

Insertion and removal of an IV cannula and ensuring the proper operation of cannulas are included in this component, because these nursing interventions are a prerequisite for intravenous administration of liquids and blood products. The insertion date and time, the size of the cannula and its location are entered into the nursing records.

Administration of blood products may always be used when blood products are administered or are scheduled to be administered to correct abnormal blood volumes. Determination of fluid balance refers to an activity performed by a nurse (e.g. calculating fluid balance based on information in a fluid intake and output sheet).

Mental capacity

- Items related to mental capacity.

This component includes nursing interventions implemented to monitor a patient's mental capacity and mood, to recognise certain behavioural disorders and impairment of perception, and to generate and maintain a treatment relationship via therapeutic methods, for example. Additionally, this component includes nursing interventions aimed at regaining mental capacity including the implementation of therapeutic methods and enhancing the patient's sense of reality.

Implementation of seclusion includes monitoring the patient during seclusion, and the termination of seclusion includes everything following seclusion. Discussion with a primary nurse is included in the implementation of therapeutic methods.

Activities of daily living and independence

- Items related to independence and physical capability.

This component includes nursing interventions implemented to ensure, support and assist the patient in coping independently in activities of daily living, including bathing/showering, feeding, mobility, toileting and other routine activities. Additionally, this component includes interventions to restrict activity and to record the patient's sleep and waking states. Assessment of physical capability includes measuring physical capability (e.g. the Barthel index). Oral hygiene includes cleaning dentures. Assistance in everyday routines includes non-therapeutic interventions such as carrying fire wood or helping with shopping for groceries.

Nutrition

- Items related to securing adequate nutrition.

This component includes nursing interventions implemented to monitor, secure and ensure the proper nutrition of a patient. A nurse may go over the need for nutritional supplements together with the patient and a dietitian, and implement tube feeding. Weight, height, waist circumference and other data entered into the nursing records are automatically transferred to the nursing table. Risk assessment tools such as NRS 2002, MNA and MUST are used in the assessment of the patient's risk of malnutrition. When a patient is on a special diet and this is entered into the data system, the system can classify this data according to the classification of special diets by the Finnish Institute for Health and Welfare.

Implementation of enhanced nutritional therapy includes supplementary nutrition products, intravenous alimentation, offering favourite foods and food supplements. The insertion and removal of a feeding tube includes nasogastric tubes and PEG tubes.

Coping

- The ability of an individual or a family to cope with problems related to or caused by a health condition, changes in health, everyday routines, work and social interaction.

This component includes nursing interventions implemented to support the patient and/or the family in coping with changes caused by situations in life or health condition and with problems related to social interaction. Nursing interventions are implemented to enhance the patient's strengths and to help the patient find new coping strategies.

Support for family and other close people includes all forms of communication such as phone calls and any contact using other communication devices to discuss the situation or to offer emotional support to those closest to the patient. Discussions related to the Let's Talk About Children intervention method are included in this nursing intervention. Supporting social abilities includes interaction and providing emotional support by being empathetic and friendly, saying comforting words and giving warm handshakes. Supporting communication includes identification of thought and speech disorders and using interpretation services to which all patients are entitled to.

Health behaviour

- Items related to health promotion

This component includes nursing interventions implemented to monitor lifestyle habits, detect addictions, promote adherence and to promote health. The nursing intervention of promoting adherence can also be used when making a treatment agreement and participating in the planning and implementation of care.

Determining exercise habits includes testing for exercise addiction also. The AUDIT-C, AUDIT and Fagerström scores are entered under Testing for the use of alcohol and drugs. AUDIT-C is the primary tool used first when assessing alcohol and drug use. If the result suggests completing AUDIT with the 10 questions, it can be performed in addition to AUDIT-C.

Safety

- Safety hazards caused by the patient's right to self-determination, disease or caring environment.

This component includes nursing interventions implemented to improve and secure patient safety by making the caring environment safe for the patient and by anticipating identified risks (falls, for example). Sometimes patient safety and the goals of care might necessitate restricting the patient's mobility and communication or controlling the patient's threatening behaviour by using restraints, for example, to calm down the patient. In such cases it is important to follow the legislation on the use of restraints and to record the implemented interventions in the patient record. According to the legislation regulating the use of restraints, the data system must support saving the date and time into the nursing records. Necessary involuntary care includes involuntary treatment which is defined in legislation. Use of restraints includes using restraints to bind the patient, using a safety blanket or using other equipment or clothing to limit the free movement of the patient. Therapeutic holding includes skin contact.

Fall risk assessment includes the FROP-Com and FRAT tools (short and extended), the TUG test and the fall risk assessment test of the UKK Institute. When recording an accident, use the available subcategories to indicate whether or not the accident caused the patient trauma. For more information on fall risk assessment tools and the prevention of falls, please visit the Web site of the Finnish Institute for Health and Welfare. https://thl.fi/en/web/health-promotion

Circulation

- Items related to blood circulation in various organs.

This component includes nursing interventions implemented to monitor or promote blood circulation in various organs. These interventions include monitoring the patient's blood pressure, heart rate, cardiac rhythm, skin colour and temperature and using postural therapy to maintain adequate blood circulation. Temperature, blood pressure, heart rate and cardiac rhythm entered into the nursing records are automatically transferred to the nursing table, when subcategories are used.Maintaining body temperature includes increasing, decreasing and maintaining the temperature. The nursing intervention to monitor the cardiac rhythm is used to document ECG recordings also. Swelling prevention interventions include medical stockings, raised position, multi-layered bandages, elastic bandages and intermittent pneumatic compression.
Resuscitation includes basic life support and advanced cardiac life support.

Documentation examples

The following examples (1-5) demonstrate how to enter structured nursing data according to the FinCC 4.0. In some of the examples, emphasis is on entries on the subcategory level of the Finnish Classification of Nursing Interventions (FiCNI) facilitating and streamlining their use when implementing the nursing process, or nursing interventions.

In these examples, the streamlined and easy recording of nursing interventions is with a ⊙ symbol meaning that the user selects either the option "Yes" or "No". The examples may also include other entries for implementing nursing interventions during the same day. However, these examples focus on illustrating the topic depicted in the example.

Example 1. Documenting an appointment with a nurse by FinCC 4.0. *(FinCC expert group on 2 December 2019).*

Patient diagnosed with respiratory insufficiency, suspected asthma. **Reason for seeking medical attention: Arrives at the pulmonary diseases outpatient clinic for an appointment with a nurse to learn how to take a PEF measurement.**				
PHASES OF THE NURSING PROCESS				
CARE PLANNING			**IMPLEMENTATION OF INTERVENTIONS**	**NURSING OUTCOME/EVALUATION**
Nursing Diagnosis	**Goal of care**	**Planned interventions**	**Nursing Interventions**	**Evaluation of Nursing Outcomes**
HEALTH CARE SERVICE USE/ **Knowledge deficit regarding examination/intervention** PEF measurement instruction, nurse's appointment	**HEALTH CARE SERVICE USE/** **Knowledge deficit regarding examination/intervention** How to use a PEF meter, becoming motivated for self-care	**RESPIRATORY/Instruction regarding breathing** Taught how the meter is used and encouraged to perform monitoring independently **RESPIRATORY/Performing breathing exercises**	**RESPIRATORY/Instruction regarding breathing** Covered with the patient the basic operating principles of the PEF meter, maintenance and assembling of the meter. **RESPIRATORY/Performing breathing exercises** Breathing exercises performed under guidance.	**HEALTH CARE SERVICE USE** Knows how to assemble and service the meter. Knows how to fill in the form and knows that the measurements must be performed daily. **RESPIRATORY** Poor blowing technique, blows from cheeks despite instruction to do otherwise. **Status of nursing outcome** PA Improved

Example 2. Documenting the care of a malnourished patient by FinCC 4.0. *(FinCC expert group on 2 December 2019).*

Patient has a lack of appetite and risk of malnutrition. Status at arrival: Ongoing active cancer treatment. Risk of malnutrition determined. Admitted to an inpatient ward to map the nutritional state and to improve nutrition.				
PHASES OF THE NURSING PROCESS				
CARE PLANNING			**IMPLEMENTATION OF INTERVENTIONS**	**NURSING OUTCOME/EVALUATION**
Nursing Diagnosis	**Goal of care**	**Planned interventions**	**Nursing Interventions**	**Evaluation of Nursing Outcomes**
NUTRITION/Risk of malnutrition 1 October NRS-2002 score 4 points: Moderate risk of malnutrition. Ongoing active cancer treatment. **NUTRITION/Nutritional intake disorder/*Lack of appetite*** Lack of appetite, patient does not want to eat anything. Patient is losing weight. **ELIMINATIONS/Nausea** Nausea. **NUTRITION/** **Needs to follow a special diet** High-energy diet rich in protein.	**NUTRITION** Appetite restored, nutritional status improved and no more weight loss. **ELIMINATIONS/Nausea** Nausea relieved.	**NUTRITION/Mapping nutrition** Malnutrition risk screening performed once a week, next time on 8 October. **NUTRITION/Monitoring feeding** Independent feeding and taking meals is monitored. Clinical nutrition products offered. Ensure the patient is in a good feeding position. **ELIMINATIONS/Prevention and treatment of nausea and vomiting** Favourite foods offered. Small, refrigerated portions of food offered every 2 to 3 hours.	**NUTRITION/Mapping nutrition** 8 October NRS2002 score 3 points. **NUTRITION/Monitoring weight** 73 kg, stand-on weighing scale. **COORDINATION OF CARE AND FOLLOW-UP CARE/Coordination of specialist services** Phone call to dietician to discuss nutritional plan. Researches the patient's situation and then calls back. **ELIMINATIONS/Prevention and treatment of nausea and vomiting** Small portion of cooled puréed soup provided for dinner at the patient's request. Took an antiemetic before the meal as planned. **COORDINATION OF CARE AND FOLLOW-UP CARE/Instruction regarding eliminations**	**NUTRITION** Appetite better after nausea relieved. Manages to intake small amounts of favourite foods and takes a nutritional supplement drink twice a day. Weight-loss halted, weight stabilised Decreased risk of malnutrition. Enhanced nutritional therapy continued. Dietician participates in the care of the patient. Patient still needs antiemetics. **Status of nursing outcome** PA Improved

Patient has a lack of appetite and risk of malnutrition. Status at arrival: Ongoing active cancer treatment. Risk of malnutrition determined. Admitted to an inpatient ward to map the nutritional state and to improve nutrition.				
		An antiemetic given 30 minutes before meals. **NUTRITION/Following a special diet** High-energy diet rich in protein. **NUTRITION/Monitoring weight** Weighed on Mon, Thu. **COORDINATION OF CARE AND FOLLOW-UP CARE/Instruction on nutrition** Instruction in nutrition for cancer patients. A guidebook given to the patient.	Instructed and encouraged to move about the ward to promote bowel movement. **COORDINATION OF CARE AND FOLLOW-UP CARE/Instruction on nutrition** Nutrition for cancer patients discussed. Patient guide on nutrition for cancer patients handed to the patient. **COORDINATION OF CARE AND FOLLOW-UP CARE/Instruction in oral hygiene** Instructed and encouraged to take good care of oral hygiene. Moisturizing lozenges given to relieve dry mouth.	

Example 3. Documenting pain management by FinCC 4.0. *(FinCC expert group on 2 December 2019).*

Pain management, knee operation Status at arrival: Patient with advanced osteoarthritis of the knee, arrives for elective knee replacement surgery.				
PHASES OF THE NURSING PROCESS				
CARE PLANNING			**IMPLEMENTATION OF INTERVENTIONS**	**NURSING OUTCOME/EVALUATION**
Nursing Diagnosis	**Goal of care**	**Planned interventions**	**Nursing Interventions**	**Evaluation of Nursing Outcomes**
PAIN MANAGEMENT/Acute pain Prosthetic treatment of right knee, 1 day after surgery	**PAIN MANAGEMENT/Acute pain** Minor pain at incision site, VAS 1 to 3.	**PAIN MANAGEMENT/Assessment of the duration of pain** Duration of pain monitored and assessed **PAIN MANAGEMENT/Assessment of the type of pain** PCEA infusion 2 to 6 ml/h according to experienced pain and response to infusion Monitoring blood pressure and pulse **PAIN MANAGEMENT/Assessment of the type of pain** **PAIN MANAGEMENT/Assessment of the intensity of pain at rest**	**PAIN MANAGEMENT/Assessment of the duration of pain** Intermittent pain, mainly when the leg is moved. **PAIN MANAGEMENT/Assessment of the timeliness of pain/*Intermittent pain*** ⊙ Yes at 8:00 am ⊙ Yes at 12:00 pm ⊙ Yes at 6:00 pm **PAIN MANAGEMENT/Assessment of the type of pain** ***Piercing pain*** ⊙ Yes at 8:00 am ⊙ Yes at 12:00 pm ⊙ Yes at 6:00 pm **PAIN MANAGEMENT/Assessment of the intensity of pain at rest** VAS 4 at 11:00 am VAS 3 at 1:00 pm VAS 2 at 6:00 pm	**PAIN MANAGEMENT** Intermittent piercing pain, mainly when the leg is moved or when mobile. VAS score between 2 and 7. PCEA infusion 6 to 4 ml/h depending on pain intensity. Good response to infusion. Blood pressure good in the morning and in the evening, syst. 120 to 145, diast. 62 to 83, normal pulse. Cold compression applied for a while on the knee during postural therapy and finds it helpful and the support pads also. **Status of nursing outcome** PA Improved

Pain management, knee operation Status at arrival: Patient with advanced osteoarthritis of the knee, arrives for elective knee replacement surgery.				
		The intensity of pain is assessed using the VAS scale. **PAIN MANAGEMENT/Assessment of the intensity of pain when mobile** The intensity of pain is assessed using the VAS scale. **PAIN MANAGEMENT/Non-pharmacological management of pain/*Cryotherapy*** A cold compress applied on the knee, if necessary **PAIN MANAGEMENT/Non-pharmacological management of pain/Postural therapy** Supportive pads placed around the knee and leg. **MEDICATION/Monitoring the effect of medication** PCEA infusion according to separate instructions	**PAIN MANAGEMENT/Assessment of the intensity of pain when mobile** VAS 7 at 10:00 am VAS 6 at 2:00 pm VAS 4 at 5:00 pm **PAIN MANAGEMENT/Non-pharmacological management of pain/*Cryotherapy*** ⊙ Yes at 8:00 am **PAIN MANAGEMENT/Non-pharmacological management of pain/Postural therapy** ⊙ Yes at 2:00 pm **MEDICATION/Monitoring the effect of medication** PCEA infusion dose decreased by 4 ml/h in the evening and this dose continued over night. This dose is currently sufficient and pain is managed.	

Example 4. Documenting the care of a patient suffering from depression by FinCC 4.0. *(FinCC expert group on 2 December 2019).*

Patient suffering from depression treated in a psychiatric inpatient ward.
Status at arrival: Background information: several periods in specialised care for depression. Patient sought medical attention via occupational health services when felt that could no longer manage the situation and the mood swings were hard to bear.

PHASES OF THE NURSING PROCESS				
CARE PLANNING			IMPLEMENTATION OF INTERVENTIONS	NURSING OUTCOME/EVALUATION
Nursing Diagnosis	Goal of care	Planned interventions	Nursing Interventions	Evaluation of Nursing Outcomes
MENTAL EQUILIBRIUM/ Depression Major depressive disorder period, manifested by sleeping problems and anxiety. **PAIN MANAGEMENT/Persistent pain** Persistent, intensive back pains without any apparent reason. Walking makes the symptoms worse.	**MENTAL EQUILIBRIUM/Monitoring the patient's mood** Support given to experience joie de vivre, BDI < 5 **PAIN MANAGEMENT/Persistent pain** Learns to live with the back pains, VAS 0 to 3	**MENTAL EQUILIBRIUM/Monitoring the patient's mood** **MENTAL EQUILIBRIUM/Assessment of mental capacity** BDI measurement **MEDICATION/Orally administered medications** Temesta 1 mg for anxiety taken according to separate instructions as needed **MEDICATION/Monitoring the effects of medications**	**MENTAL EQUILIBRIUM/Monitoring the patient's mood** Woke up refreshed and participated industriously in morning routines. Participated in the morning group and retreated then back into own room. Seemed distressed and restless, withdrew from contact. Requested for a tranquilliser for relief. In a brighter mood in the afternoon. Spent time in the common area chatting happily with others. **MENTAL EQUILIBRIUM/Assessment of mental capacity** BDI 8 at 10:00 am **COPING/Assessment of coping abilities** Feels today has been a busy day with the spinal X-ray and a nurse's appointment	**MENTAL EQUILIBRIUM** Experienced more mood swings today that in the past few days. Asks for medication for relief, if necessary. Anxiety occurs with back pains. **PAIN MANAGEMENT** Intermittent, severe back pains today after moving about and sitting down, in particular. Required pain medication only once. Pain medication was effective. VAS 1 to 7.

Patient suffering from depression treated in a psychiatric inpatient ward. **Status at arrival: Background information: several periods in specialised care for depression. Patient sought medical attention via occupational health services when felt that could no longer manage the situation and the mood swings were hard to bear.**				
		COPING/Assessment of coping abilities **PAIN MANAGEMENT/Assessment of the type of pain** **PAIN MANAGEMENT/Assessment of the intensity of pain at rest** VAS measurement Panacod p.o. 1 x 3 to 6 per day for back pain as needed **COORDINATION OF CARE AND FOLLOW-UP CARE/Performing an intervention** Spinal X-ray today at 9:00 am, goes with nurse	related to sleep apnoea. Because of the above, has been walking around the hospital campus and the back pain has been, therefore, severe since noon. **PAIN MANAGEMENT/Assessment of the type of pain*/Piercing pain*** ⊙ Yes **PAIN MANAGEMENT/Assessment of the intensity of pain at rest** VAS 7 at 12:00 pm VAS 1 at 3:00 pm **MEDICATION/Medications administered orally** Temesta 1 mg at 11:00 am for anxiety. Panacod 1 at 12:05 pm for back pain. **MEDICATION/Monitoring the effects of medications** Medication provided relief from anxiety. Pain medication relieved back pain. **COORDINATION OF CARE AND FOLLOW-UP CARE/Performing an intervention** X-rays taken. The report on the spinal X-ray becomes available tomorrow morning onwards.	**Status of nursing outcome** EN Stabilised

Example 5. Documenting a pressure ulcer by FinCC 4.0. *(FinCC expert group on 2 December 2019).*

Pressure ulcer in lower back. **Status at arrival: an elderly, somewhat forgetful bed-bound patient in long-term care. Pressure ulcer developed in the sacral region. Risk of developing pressure ulcers in body parts subject to pressure.**				
PHASES OF THE NURSING PROCESS				
CARE PLANNING			**IMPLEMENTATION OF INTERVENTIONS**	**NURSING OUTCOME/ EVALUATION**
Nursing Diagnosis	**Goal of care**	**Planned interventions**	**Nursing Interventions**	**Evaluation of Nursing Outcomes**
SKIN INTEGRITY/Pressure ulcer Stage I pressure ulcer (Pressure Ulcer Helper STAGES: I to IV) in the sacral region, a round ulcer with a 5 cm diameter. High risk of developing a pressure ulcer. Score on the Braden Scale 11 points on 1 October 2019. Bed-bound patient. **SKIN INTEGRITY/Changes in skin integrity** Both heels appear flushed. **PAIN MANAGEMENT/**	**SKIN INTEGRITY/Pressure ulcer** The pressure ulcer in the sacral region heals, redness decreases. **SKIN INTEGRITY/Changes in skin integrity** No new pressure ulcers develop and heels become less flushed. The risk of developing pressure ulcers decreases. **PAIN MANAGEMENT/ Pain related to tissue damage**	**SKIN INTEGRITY/Pressure ulcer risk assessment** Use the Braden Scale at least once a week to asses the risk of developing pressure ulcers. Use the Pressure Ulcer Helper on a daily basis to determine the stage (I to IV) of a pressure ulcer. **SKIN INTEGRITY/Assessment of skin condition/*Flushed skin*** Assess daily the redness of the skin in the sacral region, heels and other body parts subject to pressure in connection with other nursing interventions. **SKIN INTEGRITY/Wound dressing/*Application of a silicone layer dressing*** Changed when necessary.	**SKIN INTEGRITY/Pressure ulcer risk assessment** Braden Scale score: 14 points moderate risk of developing a pressure ulcer, redness remains when pressure applied to the area, stage I pressure ulcer. **SKIN INTEGRITY/Assessment of skin condition/*Dry skin*** ⊙ Yes **SKIN INTEGRITY/Assessment of skin condition/*Flushed skin*** ⊙ Yes **SKIN INTEGRITY/Wound dressing/*Application of a silicone layer dressing*** ⊙ Yes	**SKIN INTEGRITY** Risk of developing pressure ulcers is decreased. Compared to the right heel, the left heel is more flushed, although redness in both heels has decreased. Mild redness in the sacral region, floor of the ulcer clean. **PAIN MANAGEMENT** Pain in the sacral region and left heel when touched. To some extent able to independently change positions and move into a better position in bed. Continued regular implementation of postural therapy.

Pressure ulcer in lower back. **Status at arrival: an elderly, somewhat forgetful bed-bound patient in long-term care. Pressure ulcer developed in the sacral region. Risk of developing pressure ulcers in body parts subject to pressure.**				
Pain related to tissue damage Pain on body parts subject to pressure.	Pain relief using appropriate postural therapy.	**PAIN MANAGEMENT/Assessment of the timeliness of pain/*Pain occurs in specific situations*** Assess pain in the body parts subjected to pressure in connection with other nursing interventions and position changes. **PAIN MANAGEMENT/Non-pharmacological management of pain/*Postural therapy*** Position change from one side to the other using a draw sheet, pillows used for support, tilt angle 30 degrees, every two hours or more often. Heels supported so that they do not touch the mattress, a pillow placed under the calves. **ELIMINATIONS/Treatment of urinary incontinence** Needs to be dried often, heavy wetting. **SKIN INTEGRITY/Treatment of skin and skin lesions** Skin kept clean with adequate basic care. Lotion applied every morning and night to moisturise the skin.	**SKIN INTEGRITY/Treatment of skin and skin lesions** Basic lotion applied after showering in the mornings. Barrier Cream applied on the skin in the pad area. **PAIN MANAGEMENT/Assessment of the timeliness pain/*Pain occurs in specific situations*** ⊙ Yes **PAIN MANAGEMENT/Non-pharmacological management of pain/*Postural therapy*** ⊙ Yes ⊙ Yes ⊙ Yes **ELIMINATIONS/Treatment of urinary incontinence** Dried, heavy urine output into pad. **COORDINATION OF CARE AND FOLLOW-UP CARE/Instruction in mobility** Patient encouraged and instructed to move independently in bed and to change the centre of gravity often. **NUTRITION/Monitoring weight** 95 kg, sit-on weighing scale	**NUTRITION** Dietician participates in the care of the patient, nutritional plan followed. Appetite occasionally better and manages to eat independently from time to time, needs assistance. Gaining weight. **FLUID BALANCE** Must be reminded to drink. Requires assistance in drinking. **Status of nursing outcome** EN Stabilised

Pressure ulcer in lower back. **Status at arrival: an elderly, somewhat forgetful bed-bound patient in long-term care. Pressure ulcer developed in the sacral region. Risk of developing pressure ulcers in body parts subject to pressure.**				
		SKIN INTEGRITY/Wound dressing / ***Applying a film or cream to protect the skin*** Barrier Cream applied when changing incontinence pads to protect the skin in the pad area from moisture. **COORDINATION OF CARE AND FOLLOW-UP CARE/Arranging assistive products for the customer** 3 October Mattress changed to pressure-relieving mattress. **COORDINATION OF CARE AND FOLLOW-UP CARE/Instruction in mobility** Patient encouraged to change positions in bed provided has sufficient functional ability. **NUTRITION/Mapping nutrition** 2 October NRS2002 score 5 points. Serious risk of malnutrition. Screening performed again after one week or according to dietician's instructions **NUTRITION/Monitoring feeding** Independent feeding and taking meals is monitored. Eating assisted, if necessary. Clinical nutrition	**NUTRITION/Monitoring feeding** Nutridrink Compact Protein supplement offered during lunch, drank with good appetite. **COORDINATION OF CARE AND FOLLOW-UP CARE/Coordination of specialist services** Phone call to dietician to discuss nutritional plan. Researches the patient's situation and then calls back. **FLUID BALANCE/Securing fluid balance/** ***Oral rehydration*** 1,000 ml on the fluid intake and output sheet. Instructed to have an adequate amount to drink.	

Pressure ulcer in lower back. **Status at arrival: an elderly, somewhat forgetful bed-bound patient in long-term care. Pressure ulcer developed in the sacral region. Risk of developing pressure ulcers in body parts subject to pressure.**				
		products offered. Raised into eating position by raising the end of the bed up. **NUTRITION/Following a special diet** High-energy diet. **NUTRITION/Monitoring weight** Weighed on Mon, Wed, Fri. **FLUID BALANCE/Securing fluid balance** Fluid intake and output sheet, goal: 2,000 ml/day. Intravenous fluid therapy, if necessary.		

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Appendix 1. FiCND 4.0

Component	Main category	Subcategory
Metabolic – Items related to endocrinology and the immune system	Hormonal change	
	Change in metabolism	
	Change in blood sugar levels	Low blood sugar
		High blood sugar
	Icterus	
	Changes in the immune system	Impaired resistance to infections
	Hypersensitivity reaction	Precautions required for infection control
	Fracture risk	
	Lymph circulation disorder	
Sensory and neurological functions – Items related to sensory functions and neurological functions	Changes in neurological function	Change in the level of consciousness
		Tremor
		Stiffness
		Speech disorder
		Loss of sensation
		Dizziness
		Convulsions
		Stroke symptoms
		Flaccidity
		Tic disorder
	Change in sensory functions *(impaired or disordered sensory function)*	Change in hearing
		Change in taste
		Change in smell
		Change in vision
		Change in sense of touch
		Change in balance
		Sensitivity to stimuli
Life cycle – Items related to the different stages in life	Pregnancy	
	Labour	
	Growth and development by age	
	Sexual health	
	Reproductive health	
	Growth and development of a newborn	
	Impending death	
	The ability to work and functional ability	
	Parenting needs	

Eliminations – Items related to digestion, urinary tract function, haemorrhage and other eliminations	Problem in passing stools	Faecal incontinence
		Constipation
		Diarrhoea
		Difficulty with passing stools
		Flatulence
		Bloody stools
		Soiling
	Problem in urinating	Urinary incontinence
		Residual urine
		Urinary retention
		Urinary frequency
		Decreased excretion of urine
		Increased excretion of urine
		Haematuria
		Wetting
	Haemorrhage	
	Other disturbance related to eliminations	Vomiting
	Drainage	
	Impaired renal function	
	Nausea	
Respiratory – Items related to pulmonary function	Difficulty breathing *(caused by oxygen deprivation or hypoventilation)*	Shortness of breath
		Hyperventilation
		Hypoventilation
		Decreased respiration rate
		Increased respiration rate
		Abnormal breath sounds
		Fluctuations in respiratory rhythm *(including interruptions of breathing, for example)*
	Irritative cough	
	Aspiration risk	
	Mucus production	
	Respiratory depression	
	Airway obstruction	
	Oxygen deprivation	
Coordination of care and follow-up care – Coordination of multi-professional care and follow-up care, examinations and interventions	Need for specialist services *(care related treatment organised in co-operation between health care and other professionals)*	
	Need regarding patient rights	
	Need for follow-up care	
	Knowledge deficit regarding sleep disorders	

	Knowledge deficit regarding eliminations	
	Knowledge deficit regarding health behaviour	
	Knowledge deficit regarding medication management *(insufficient information on medication and implementation of medication management)*	
	Knowledge deficit regarding nutrition	
	Knowledge deficit regarding respiratory function	
	Knowledge deficit regarding circulation	
	Knowledge deficit regarding metabolism	
	Knowledge deficit regarding safety	
	Knowledge deficit regarding support in independence	
	Knowledge deficit regarding sensory functions	
	Knowledge deficit regarding pain	
	Knowledge deficit regarding skin integrity	
	Knowledge deficit regarding neurological changes	
	Knowledge deficit regarding sexual health	
	Knowledge deficit regarding reproductive health	
	Knowledge deficit regarding pregnancy	
	Knowledge deficit regarding labour	
	Knowledge deficit regarding breastfeeding	
	Knowledge deficit regarding the growth and development of a newborn	
	Knowledge deficit regarding growth and development by age	
	Knowledge deficit regarding interventions *(includes examinations and sample collection, for example)*	
	Knowledge deficit regarding fluid balance	
	Knowledge deficit regarding ageing	

	Knowledge deficit regarding mobility	
Pain Management – Items related to pain and the management of pain.	Abdominal pain	
	Ear pain	
	Back pain	
	Labour pain	
	Acute pain	
	Chest pain	
	Headache	
	Inflammatory pain	
	Pain related to an intervention	
	Traumatic pain	
	Persistent pain	
	Pain related to tissue damage	
	Neuropathic pain	
	Idiopathic pain	
	Cancer pain	
Skin integrity – Items related to the condition of the mucous membrane, cornea, skin and subcutaneous layers	Broken skin	
	Risk of breaking the skin	
	Dermatitis	
	Surgical wound	
	Skin graft	
	Skin graft donor site	
	Diabetic foot ulcer	
	Leg ulcer	
	Pressure ulcer	
	Infected wound	
	Change in the integrity of the mucous membrane *(impairment of the mucous layer)*	
	Burn	
	Frostbite	
	Skin inflammation caused by a foreign object	
	Intertrigo	
	Muscle flap	
	Contusion	
	Cut	
	Puncture wound	
	Contused wound	
	Gunshot wound	
	Bite wound	
	Skin inflammation	

Medication – Items related to the use of medications and implementation of medication management	Medication not tolerated by the patient	
	Risk of intoxication	
	Drug allergy	
	Negative attitude towards medications	
	Adverse reactions to medicinal products	
	Pharmacodynamic interactions	
	Needs assistance in the management of medications	
	Medication subject to additional monitoring	
Fluid balance – Items related to hydration	Risk of fluid balance disorder	
	Dehydration	
	Need to restrict fluid intake *(including polydipsia, for example)*	
	Increased volume of fluids	
	Electrolyte imbalance	
Mental capacity – Items related to achieving mental equilibrium	Change in self-image *(difficulties in accepting oneself and in self-perception)*	Eating disorder
		Change in body image
		Self-esteem disorder
		Anxiety *(vague, unexplained negative feeling)*
	Mood swing *(fluctuation between high and low spirits)*	Euphoria
		Manic state
		Apathy
		Depression
		Fatigue
		Panic disorder
	Change in behaviour *(behaviour disrupting oneself and/or others)*	Aggressiveness
		Self-destructiveness
		Repeated compulsive actions
		Restlessness
	Impairment of reality function	Hallucinations
		Delusions
		Disconnectedness
		Confusion
	Phobia	
Activities of daily living and independence – Items related to independence	Change in activity	Lack of mental stimulation
		Hyperactivity
		Fatigue
		Poor tolerance of stress
		Limited mobility
		Poor muscle condition

	Deterioration of activity	
	Sleeping disorder (changes in the amount and quality of sleep)	Change in circadian rhythm
	Need for assistive products *(use of assistive products to compensate for deteriorated functional abilities)*	
	Needs assistance in bathing and personal hygiene	
	Needs assistance in getting dressed	
	Needs assistance in eating/feeding	
	Needs assistance in mobility	
	Needs assistance in toileting	
	Needs assistance in other activities	
Nutrition – Items related to securing adequate nutrition	Disorder in food intake	Heartburn
		Lack of appetite
		Difficulty swallowing
		Malabsorption
		Eating difficulties
		Difficulty with breastfeeding
		Difficulty with sucking
	Needs to follow a special diet *(individual nutritional needs)*	
	Needs nutritional supplements	
	Increased need for food intake	
	Decreased need for food intake	
	Need to limit food intake	
	Food allergy	
	Risk of malnutrition	
Coping – The ability of an individual or a family to cope with problems related to or caused by a health condition, changes in health and social interaction	Deteriorated coping abilities (*a change in cognitive function)*	Inability to concentrate
		Lack of initiative
		Learning disability
		Inability to adapt
		Forgetfulness
		Marginalisation risk
	Needs support to cope	Sorrow
		Needs emotional support
		Feelings of guilt
	Communication problem	
	Change in social interaction - Change in social abilities	Needs company
		Needs solitude
		Social isolation
		Difficulty acting in a group
		Difficulty being alone

	Health hazards related to the living environment *(including radiation hazard, for example)*	
Health behaviour – Items related to health promotion	Non-adherence	Refuses care
	Alcohol and drug addiction	
	Exercise addiction	
	Codependency	
	Internet addiction disorder	
	Compulsive buying disorder	
	Gambling/gaming addiction	
	Sex addiction	
	Prescription drug addiction	
Safety – Safety hazards caused by disease or present in the caring environment	Risk of injury	
	Fall risk	
	Risk of elopement	
	Insecurity	
	Carrier of an infectious disease *(includes exposure or being an asymptomatic carrier which is observed in care)*	
	Risk of endangering others	
	Risk of endangering self	
Circulation – Items related to blood circulation in various organs	Swelling	
	Circulatory disorder	Change in blood pressure
		Change in cardiac rhythm
		Peripheral circulation disorder
	Change in body temperature	Hypothermia
		Fever

Appendix 2. FiCNI 4.0

Component	Main category	Subcategory
Metabolic – Items related to endocrinology and the immune system	Monitoring blood sugar levels	
	Monitoring and treatment of icterus	
	Identification of infection risk	
	Implementation of reverse isolation	
	Implementation of protective isolation	
	Treatment of blood sugar levels	
	Implementation of location isolation precautions	
	Implementation of isolation precautions to prevent air-borne infections	
	Implementation of droplet Isolation precautions	
	Implementation of contact isolation precautions	
	Identification of fracture risk	
Sensory and neurological functions – Items related to sensory functions and neurological functions	Observing sensitivity to stimuli	
	Assessment of the level of consciousness	
	Monitoring the size of pupils	
	Testing motor response/motor function	
	Testing muscle strength	
	Testing for sensory loss	
	Monitoring facial expressions and symmetry	
	Monitoring strength and coordination of extremities	
	Monitoring articulation	
	Assessment of orientation	
	Monitoring scotoma	
	Monitoring dizziness	
	Assessment of muscle rigidity	
	Monitoring epileptic seizures	
	Assessment of cognitive function	
	Monitoring spasms	
	Monitoring tremor	
	Monitoring sensory functions	

Life cycle – Items related to the different stages in life	Caring for a dying patient *(interventions implemented over the course of impending death and death)*	
	Genetic counseling	
	Intrapartum care	
	Monitoring pregnancy	
	Treatment in case of a miscarriage	
	Monitoring and treatment of growth and development by age	
	Monitoring and caring for a newborn	
	Palliative care	
	Postpartum monitoring	
	Follow-up care after abortion	
Eliminations – Items related to digestion, urinary tract function, haemorrhage and other eliminations	Monitoring the volume and type of stools	
	Monitoring bowel sounds	
	Treatment of diarrhoea	
	Treatment of constipation	
	Bowel lavage	
	Long term catheterisation	
	In-and-out catheterisation	
	Irrigation of the urinary tract or bladder	
	Treatment of a urinary stoma	
	Treatment of urinary incontinence	
	Treatment of an intestinal stoma	
	Prevention and treatment of nausea and vomiting	
	Monitoring the volume and type of drainage from a nasogastric tube	
	Monitoring the volume and type of drainage	
	Monitoring and treatment of haemorrhage	
	Implementation of dialysis treatment (renal function replacement therapy)	
	Monitoring frequency of micturition	
	Measurement of post-void residual urine volume	
	Bladder training	
	Monitoring the volume and quality of amniotic fluid	

	Monitoring urine quality	Clear urine
		Haematuria
		Cloudy urine
		Melanuria
	Monitoring the volume of urine collected over a 24-hour period	
	Monitoring hourly urinary output	
	Removal of a long term catheter	
	Insertion of a nasogastric tube	
	Securing catheter or nasogastric tube function	
	Removal of a nasogastric tube	
Respiratory – Items related to pulmonary function	Monitoring respiration	
	Monitoring respiration quality	Gasping respiration
		Shallow breathing
		Stertorous breathing
		Wheezing respiration
		Loud breathing
	Monitoring respiratory discharge	
	Administration of supplemental oxygen	
	Performing breathing exercises	
	Lung lavage	
	Aspiration of mucus	
	Blowing into a bottle	
	Treatment of tracheostomy	
	Intubation	
	Extubation	
	Mechanical ventilation	
Coordination of care and follow-up care – Coordination of multi-professional care and follow-up care, examinations and interventions	Instruction related to sleep and waking states	
	Instruction in the prevention and treatment of nausea	
	Instruction in dialysis treatment	
	Instruction related to fluid balance	
	Instruction promoting health behaviour	
	Coordination of specialist services	
	Securing patient rights	
	Performing an intervention	
	Preparing for an intervention	
	Observation post-intervention	
	Instruction in medication	
	Instruction on nutrition	

	Instruction regarding breathing	
	Instruction related to circulation	
	Instruction related to metabolism	
	Instruction related to infections	
	Arranging assistive products for the customer	
	Instruction in hearing	
	Instruction in pain	
	Instruction related to skin care	
	Instruction in oral hygiene	
	Instruction related to eye care	
	Instruction related to wound care	
	Planning and coordination of follow-up care *(preparing a plan for follow-up care or arranging control visits)*	
	Instruction in pregnancy	
	Instruction in breastfeeding	
	Request for assistance	
	Instruction in sexual health	
	Instruction in reproductive health	
	Instruction in mobility	
	Instruction regarding eliminations	
	Instruction in safety	
	Instruction related to the neurological state	
	Instruction regarding labour	
	Instruction in cast treatment and supportive treatment	
	Instruction related to the ability to work and functional ability	
	Instruction related to parenting	
Pain Management – Items related to pain and the management of pain.	Assessment of the intensity of pain at rest	
	Assessment of the intensity of pain when mobile	
	Determining the location of pain	
	Assessment of the type of pain	Piercing pain
		Sharp pain
		Dull pain
		Burning pain
		Superficial pain
		Undulant pain
		Aching pain
		Cramping pain

	Assessment of the duration of pain	
	Assessment of the timeliness of pain	Constant pain
		Intermittent pain
		Paroxysmal pain
		Pain occurs in specific situations
	Non-pharmacological management of pain	Massage
		Acupuncture
		Cryotherapy
		Thermotherapy
		Hydrotherapy
		Postural therapy
		Kinesiotherapy
		Relaxation techniques
		Distraction to reduce pain
		Mental imagery
		Mindfulness training
	Assessment of the effects of non-pharmacological management of pain	
Skin integrity – Items related to the condition of the mucous membrane, cornea, skin and subcutaneous layers	Assessment of skin condition *(caring for the skin)*	Intact skin
		Dry skin
		Oily skin
		Intertriginous skin
		Dermatitis
		Vesicle
		Skin redness
		Skin swelling
		Skin warmth
		Smelly skin
	Monitoring mucous membrane health	
	Mucous membrane care	
	Monitoring ocular function	
	Wound dressing	Wound adhesive
		Polyurethane film
		Hydrocolloid dressing
		Alginate dressing
		Hydrogel
		Polyurethane foam dressing
		Hydrofiber dressing
		Hydrophobic dressing
		Composite dressing
		Silicone dressing

		Mesh dressing
		Silver dressing
		Activated charcoal dressing
		Honey
		Coniferous resin salve
		Surgical tape
		Application of bandages *(includes the application of supportive bandages and tubular bandages)*
		Application of a gauze swab
		Application of an absorbent dressing pad
		Applying a film or cream to protect the skin
		Application of a gel dressing
		Application of a silicone layer dressing
		Application of silicone gel
		Application of zinc oxide tape
		Application of scar salve
		Application of compression fabric
		Application of some other wound dressing
	Monitoring a skin graft	
	Monitoring the skin graft donor site	
	Implementation of negative pressure wound therapy	
	Eye care	
	Monitoring ear function	
	Ear care	
	Pressure ulcer risk assessment	
	Treatment of skin and skin lesions	
	Monitoring the vital reaction of a flap	
	Monitoring the colour of a flap	
	Monitoring the temperature of a flap	
	Monitoring the swelling of a flap	
	Monitoring an open wound	
	Monitoring wound exudate	Scant wound exudate
		Moderate wound exudate
		Heavy wound exudate
	Assessment of the quality of wound exudate	Wound exudate clear
		Wound exudate bloody
		Wound exudate cloudy

	Monitoring wound inflammation	Black necrotic tissue
		Yellow fibrinous tissue
		Red granulation tissue
		Pink epithelialised tissue
	Wound cleansing	Therapeutic bath
		Chemical debridement
		Wound cleansing using tap water
		Wound cleansing using saline solution
		Wound cleansing using wound irrigation solution
		Wound cleansing using a wound cleanser
		Wound cleansing using a therapeutic bath
		Chemical wound debridement
		Mechanical wound debridement
		Wound cleansing using a collagenase product
		Biological wound debridement
		Wound cleansing, other
	Measuring the length of a wound	
	Measuring the width of a wound	
	Measuring the depth of a wound	
	Assessment of wound dimensions	
	Removal of wound closure materials	Removal of sutures
		Partial removal of sutures
		Removal of wound staples
		Partial removal of wound staples
		Retention suture removal
		Partial removal of retention sutures
	Wound closure	Wound closure with sutures
		Wound closure with staples
		Wound closure with surgical tape
		Wound closure with tissue adhesive
	Cast and supportive treatment	Application of a plaster splint
		Closed-plaster treatment
		Positioning of a prefabricated orthosis
		Supportive taping
		Traction therapy
		Positioning of an orthosis
	Scar care	

Medication – Items related to the use of medications and implementation of medication management	Monitoring the effect of medication	
	Deviation from medication management	
	Involuntary administration of medications	
	Responsibility for dispensing pharmaceuticals	
	Immunisation	
	Oral administration of medication	
	Administration of medication by injection	
	Rectal administration of medication	
	Inhalation administration	
	Application of a transdermal patch	
	Intravaginal administration of medication	
	Administration of drug infusion	
	Administration of medication directly into the stomach	
	Application of creams	
	Administration of drops	
	Administration of sprays	
	Topical anaesthetic	
	Administration of medication using a pump or automated infusion	
	Epidural administration of medication	
	Implementing chemotherapy	
	Other route of administration	
Fluid balance – Items related to hydration	Determining fluid balance	Monitoring swellings
		Securing fluid balance
		Intravenous fluid therapy
		Transfusion of blood products
		Limiting fluid intake
		Enhanced hydration
		Oral rehydration
		Rehydration using other routes
	Securing cannula function	
Mental capacity – Items related to mental capacity	Monitoring of mental state	Monitoring the patient's mood
	Identification of thought disorders	
	Development of a therapeutic relationship	
	Group treatment/therapy	
	Individual treatment/therapy	

	Implementation of seclusion	
	Supporting mental capacity	
	Creative methods and therapies	
	Interaction and monitoring the patient's mood during seclusion	
	Termination of seclusion	
	Assessment of mental capacity	
	Seclusion prevention	
Activities of daily living and independence – Items related to independence and physical capability	Organising play and cognitively stimulating activities	
	Responsibility for exercises	
	Restricting activity	
	Monitoring sleep and waking states	
	Assisting in bathing/showering	
	Assisting in getting dressed	
	Implementation of postural therapy	
	Encouraging independency	Assisting in oral hygiene
	Providing support in everyday routines	
	Implementation of passive exercise	
	Assessment of physical capability	
Nutrition – Items related to securing adequate nutrition	Mapping nutrition	
	Monitoring weight	
	Monitoring height	
	Calculating BMI	
	Monitoring feeding	
	Following a special diet	
	Implementation of fasting	
	Insertion of a feeding tube	
	Removal of a feeding tube	
Coping – The ability of an individual or a family to handle problems or adjust to them and to take care of their responsibilities and tasks	Assessment of coping abilities	
	Providing support for coping	
	Providing emotional or spiritual support	
	Supporting communication *(enabling communication)*	
	Supporting social abilities	
	Assessment of social abilities	
Health behaviour – Items related to health promotion	Determining dietary habits	
	Monitoring exercise habits	
	Testing for the use of alcohol and drugs	
	Promoting adherence	
	Determining living conditions	

	Testing for codependency	
	Testing for internet addiction disorder	
	Testing for compulsive buying disorder	
	Testing for gambling/gaming addiction	
	Testing for sex addiction	
	Treatment of addiction	
Safety – Safety hazards caused by disease or present in the caring environment	Securing a safe environment	
	Rooming-in	
	Confiscating belongings	
	Restricting freedom of movement	
	Restricting communication	
	Use of restraints	
	Physical intervention	
	Calming	
	Enhancing a sense of security	
	Presence	
	Therapeutic holding	
	Confiscating substances and items	
	Body search	
	Intimate body search	
	Short-term removal from the company of others	
	Necessary involuntary care	
	Monitored movement	
	Exit prevention	
	Searching belongings or deliveries	
	Fall risk assessment	
	Injury detected	Fall without injury
		Fall resulting in injury
Circulation – Items related to blood circulation in various organs	Monitoring oxygen saturation	
	Blood pressure monitoring	
	Heart rate monitoring	
	Monitoring cardiac rhythm	
	Maintaining body temperature	Monitoring body temperature
	Resuscitation	
	Resuscitation of a newborn infant	
	Monitoring peripheral circulation	
	Swelling prevention interventions	

Appendix 3. FiCNO 1.0

Abbreviation (Finnish)	Name
EN	Stabilised
HUO	Deteriorated
PA	Improved