Home Health Care Classification System (HHCC): An Overview

Special Section: Nursing Classifications

The following article in this Special Section for the Topic “Nursing Classifications” provides an overview of the Home Health Care Classification (HHCC). Articles on this subject will continue to be posted. We invite submission of other manuscripts that further this continued discussion of Nursing Classifications Worldwide.

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Abstract

This paper provides an overview of the Home Health Care Classification (HHCC) System focusing on its two interrelated taxonomies: HHCC of Nursing Diagnoses and HHCC of Nursing Interventions both of which are classified by 20 Care Components. It highlights the major events that influenced its development, current status, and future uses. The two HHCC taxonomies and their 20 Care Components provide a standardized framework to code, identify, and classify home health clinical nursing practice. Further, they are used to document, electronically track, evaluate outcomes and analyze home health care over time, across settings, population groups, and geographic locations.


Key words: Nursing Diagnoses, Nursing Interventions, care components, home health systems

Introduction

This section provides the background on the Home Health Care Classification (HHCC) System. It highlights why and how the HHCC System including its two taxonomies were developed. It describes changes with the introduction of the Medicare legislation in 1966 in the home health industry, clinical nursing practice, information technology, classification systems, and federal reporting requirements.

HHCC System Development

The Home Health Care Classification (HHCC) System was developed by Saba and colleagues from research conducted at the Georgetown University School of Nursing...to develop a method to assess and classify home health Medicare patients in order to predict their need for nursing and other home care services (resource requirements) as well as to evaluate (measure) their outcomes of care.
data were collected from 8,967 patient records from a sample of 646 HHAs randomly stratified by staff size, type of ownership, and geographic location. The HHAs represented every state in the nation including Puerto Rico and the District of Columbia. Approximately 5 to 50 recently discharged Medicare patient records for an entire episode of care were abstracted from each of the sample HHAs providing data on the 8,967 patients (Saba, 1991).

The data consisted of all relevant variables considered to be possible predictors of home health care resource requirements. They were collected and analyzed to determine the statistical significance of alternative classification methods. Data were collected consisting of two sets of narrative textual statements focusing on (a) patient problems and/or nursing diagnoses and (b) nursing services, treatments, actions, and/or interventions. Approximately 40,000 narrative statements about patient problems and 72,000 narrative statements representing nursing services provided during their episodes of care were collected from the sample patients.

To code the narrative statements, classification schemes had to be developed, as none of the existing ones were found to be appropriate.

Thousands of statements were keyboarded, using permuted keyword sorts, processed, analyzed, and tested. As a result, two separate vocabularies—nursing diagnoses and nursing interventions—were developed and used to code the narrative statements. The statements, once coded, were analyzed and used to empirically develop the two HHCC System taxonomies classified by the 20 Care Components. The classified taxonomies (list of terms arranged in a hierarchal format) made it possible to predict home health care services and resource requirements as well as to measure outcomes. One major finding from the research demonstrated that the combined nursing diagnoses and interventions data classified by 20 Care Components were the best predictors of resources used (Saba, 1991; Saba & McCormick, 2001).

Home Health Industry

The Home Care Project addressed several important changes in the home health industry. With the enactment of Medicare and Medicaid legislation in 1966, the care of the elderly sick at home changed drastically. Home health care was viewed as a cost effective alternative to institutional care and patients were being discharged "sicker and quicker" from in-hospital stays, increasing the demand for acute, complex, home health services. As a result, home health services expanded and the number of HHAs increased from 1,275 in 1966 to over 10,000 in 1997 (National Association for Home Care, 1997). However, there was a lack of uniform data on home health care resources, services, and reimbursement practices. Further, the ambiguities in terminology and policies as well as the lack of standardized definitions among fiscal intermediaries affected the scope of services provided by the HHAs. The Home Care Project was undertaken to address the issue of predicting home health resource requirements and measuring outcomes.

Clinical Nursing Practice Requirements

With the introduction of Medicare legislation, changes occurred in the documentation of clinical nursing practice requiring the use of nursing classifications for the computer-based patient record (CPR) and/or electronic medical record (EMR) systems.

The American Nurses Association (ANA), for years, promoted the need for classification systems to support clinical nursing practice and data to measure the care process. As early as 1980, the ANA introduced the Nursing: Social Policy Statement (1995) which recommended that the nursing process serve as the standards of care for documenting clinical nursing practice (ANA, 1998). In 1990, the ANA passed a resolution adopting the Nursing Minimum Data Set (NMDS) as the core data set that should be used to manage nursing information in CPRs and included in any national database. In 1991, the ANA further approved the North American Nursing Diagnoses Association (NANDA) Taxonomy I Revised (NANDA, 1991) for classifying nursing problems.

In 1989, the ANA formed the Steering Committee on Databases to Support Clinical Nursing Practice renamed in 1998 Committee for Nursing Practice Information Infrastructure (CNPII). The committee was involved in several activities one of which was recognizing classification systems to support nursing practice. In 1991 the Database Steering Committee recognized the first four classification systems under the umbrella of the NMDS and approved them as nursing data standards. The systems were: NANDA Taxonomy I, The Omaha System, Nursing Intervention Classification (NIC), and Home Health Care Classification (HHCC). Since then eight classification systems have been recognized (Coenen, McNiel, Bakken, Bickford, & Warren, 2001). They include: Nursing Outcomes Classification (NOC), Patient Care Data Set (PCDS), Perioperative Nursing Data Set, Nursing Minimum Data Set, Nursing Management...
Information Technology

Since the 1950s and 1960s, computer hardware, software, and communication networks changed radically. Computer hardware advanced in size, speed, storage capacity, and processing capability. The multi-user mainframe computer systems of the 1960s advanced to the single desktop (microcomputer) personal computer (PC) of the 1980s, laptop PCs of the 1990s, and hand held PCs of the 21st century. Computer software advanced from programming languages to the windows platform with user-friendly icons, navigation mouse, and generic programs. The computer communication networks advanced from local area networks (LANs), to wide area networks (WANs), to the World Wide Web, and the Internet. The Internet offers unlimited access to resources and offers free electronic mail (e-mail).

Computer-Based Patient Record Systems

In the early 1990s, the Institute of Medicine (IOM) identified the computer-based patient record (CPR) and CPR system (CPRS). The IOM recommended that standardized classifications and code sets, using a uniform structure be developed for the health care industry. (Computer-Based Patient Record Institute, 1994; Dick & Steen, 1991). The CPRSs were developed to collect, store, process, display, retrieve, and communicate timely data and information in and across health care facilities. To use CPRSs, nursing data need to be collected as discrete facts (atomic-level data), stored in a relational database, processed, and transformed into meaningful information. Such systems are needed to ensure the visibility and viability of nursing practice as well as for its advancement.

Home Health CPRS.

The home health CPRS emerged to process federal requirements for participation in their programs. They emerged as information systems critical to the delivery of home health nursing practice, management of care services, and determination of care resources. They were used for the management of the continuum of care from hospital to the home and community. They required classification systems/taxonomies to ensure the comparability of where, why, and when data are collected, processed and aggregated across systems, settings, and geographic populations.

CMS Requirements

The Outcome and Assessment Information Set (OASIS) data set (Shaughnessy, Crioler, & Schienker, 1997) was implemented in 1998 by the newly named CMS as the condition of participation for home health agency Medicare services. The OASIS reporting requirement was implemented as a stand-alone instrument that consisted of 79 core sets of data items for the assessment of patient condition and measurements of patient outcomes. The OASIS was and continues to be aimed at measuring changes in health status from admission until discharge or between two or more points. In the year 2000, the Prospective Payment System (PPS) was added as another requirement of participation. The home health (HHPPS) is a method that extracts from the OASIS a core set of 20 data items that serve as a grouper and payment source for services for an episode of home health care. These two new requirements for participation in the program. The forms include (a) HCFA 485: Home Health Certification and Plan of Treatment Form, (b) Outcome and Assessment Information Set (OASIS) Instrument, (c) OASIS Prospective Payment System (HHPPS) Instrument, (d) visit and billing record forms, and (e) a Plan of Care for documenting home visits.
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The manual method of documenting each visit makes it difficult to predict requirements, measure resources and evaluate outcomes. However, by using the standardized HHCC System taxonomies classified by the 20 Care Components in a CPRS, clinical nursing practice can be documented, coded, tracked and analyzed electronically.

**HHCC System’s Two Taxonomies**

This section describes the HHCC System focusing on its two taxonomies and classification framework. It provides a description of the two taxonomies and care component classes, highlights their definitions, coding structure, current status, educational uses, and research and evaluation studies.

**Overview**

The HHCC System is specifically designed for the documentation of patient care using a CPRS.

**HHCC of Nursing Diagnoses**

The HHCC of Nursing Diagnoses consists of 145 categories (50 two-digit major categories and 95 three digit subcategories) that depict nursing diagnoses and/or patient problems. The terms in this taxonomy include over 50 unique home health nursing diagnostic terms as well as several of the 104 NANDA terms derived from the Taxonomy I Revised (1991). Further, the NANDA terms were transcribed from verb phrases to noun clauses to conform to the structure of the HHCC terms. A Nursing Diagnosis is defined as:

A clinical judgement about an individual, family, or community response to actual and potential health problems/life processes. Nursing Diagnoses provide the basis for the selection of nursing interventions to achieve outcomes which the nurse is accountable (NANDA, 1992, p. 5).

This taxonomy is expanded by using three qualifiers (improve, stabilize, deteriorate). These qualifiers expand by modifying each diagnostic term to code the expected outcomes and the same qualifiers (improved, stabilized, deteriorated) are used to code actual outcomes.

**HHCC of Nursing Interventions**

The HHCC of Nursing Interventions consists of 160 categories (60 two digit major categories and 100 three digit subcategories) that depicts nursing interventions, procedures, treatments, activities, and/or services. A single nursing action is designed to achieve an outcome for a diagnosis (medical/nursing) for which the nurse is accountable. This taxonomy is expanded by four qualifiers (assess/monitor, care/perform, teach/supervise, manage/refer) that represent a specific type of intervention action. These qualifiers enhance and expand by modifying each intervention to code the specific action making a total of 640 terms that comprise the HHCC of Nursing Interventions.

**HHCC 20 Care Components**

The 20 Care Components classify the two interrelated HHCC taxonomies and serves as the standardized framework. The 20 Care Components have been found to be the most clinically relevant assessment classes, best predictors of home health care resource requirements, and the most appropriate framework for classifying home health nursing diagnoses and interventions (Holzemer et al., 1997).

The HHCC 20 Care Components represent a cluster of elements that depict the four health care patterns; health behavioral, functional, physiological, and psychological representing a holistic approach to patient care (Saba, 1994b, 1995; Saba & Sparks, 1998) (see Table 1).
The two HHCC taxonomies are coded using a five character alphanumeric code based on the International Classification of Diseases and Health Related Health Problems (ICD-10-CM) and the ICD-10-CM Health Care for Inpatient Procedures called ICD-10-CM-PCS. The 20 Care Components are similar to the chapters used in ICD-10-CM (WHO, 1992). Each vocabulary term consists of a five-character alphanumeric code as follows:

1st position: One alphabetic character for the Care Component.
2nd & 3rd positions: Two digit code for a core data element (major category representing either a nursing diagnosis or a nursing intervention) followed by a decimal point.
4th position: One digit code for a subcategory, if used, (representing either a nursing diagnosis or a nursing intervention.
5th & last position: One digit code for the qualifier.

An example of a Nursing Diagnosis Coding Structure for an assessed patient problem "Unable to Walk" is classified as "Activity" Component problem, diagnosed as "Physical Mobility Impairment" with the expected outcome/goal to "To Improve Physical Activity Impairment," and coded as A.01.51:

A = Activity (Component)
A.01.5 = Physical Mobility Impairment (Diagnostic SubCategory)
A.01.51 = To Improve Physical Mobility Impairment (Expected Outcome/Goal)

An example of a Nursing Intervention Coding Structure for the same assessed patient problem "Unable to Walk" is classified as "Activity" Component activity, the plan of care intervention "Ambulation Therapy," and the intervention qualifier action "Teach" to expand the intervention to "Teach Ambulation Therapy" is coded as A.03.03:

A = Activity (Component)
A.03.0 = Ambulation Therapy (Major Diagnostic Category)
A.03.03 = Teach Ambulation Therapy (Type Action)

This coding structure facilitates computer processing, provides linkages, and word mappings between the two taxonomies and other health care classifications.

Why Use HHCC Taxonomies

There are several major reasons why the HHCC of Nursing Diagnoses and HHCC of Nursing Interventions taxonomies will continue to be included in home health CPRSs (Saba, 1997). They are used to facilitate the electronic documentation of patient care at the point-of-care, instead of the traditional paper-based method. They are classified by the 20 Care Components that serve as a standardized framework.

The Care Components represent four different patterns (Functional, Health Behavior, Physiological, and Psychological) of care and focus on a holistic approach to patient care. They consist of discrete atomic-level data (terms) that use qualifiers to enhance and expand other dimensions of terms (data elements). Data, once collected, are used many times and for many purposes making for more efficient aggregation, summarization, and analysis. The taxonomies use a coding structure of five alphanumeric digits similar to ICD-10 to link and cross-map the terms of the two taxonomies to each other and to other classifications. The codes make it possible to assess, document, and track the care process data during and between visits. They are flexible, adaptable, and expandable. Further, the two classified taxonomies are in the public domain and available to anyone for manual and/or electronic use without any cost but with permission. Web Site www.sabacare.com/.

Current Status

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The two HHCC taxonomies: HHCC of Nursing Diagnoses and the HHCC of Nursing Interventions were recognized by the ANA in 1991 as appropriate for documenting nursing practice in CPRSs. Since then, they have been registered as a Health Leven 7 (HL7) language; integrated into Logical Observations, Identifiers, Names, and Codes (LOINC), the Systematized Nomenclature of Human and Veterinary Medicine Reference Terminology (SNOMED RT), and the Metathesaurus of the Unified Medical Language System (UMLS) of the National Library of Medicine (NLM); indexed in Cumulative Index of Allied and Health Literature (CINAHL); and used as the basis for the International Classification of Nursing Practice (ICNP) developed by the International Council of Nursing (ICN). The two HHCC taxonomies have been approved by American National Standards Institute Healthcare
Current Uses

The two classified HHCC taxonomies have been accepted by home health nursing...to document home health care...

During the past ten years the HHCC taxonomies and 20 Care Components have been introduced in several schools of nursing to document clinical nursing practice by students using computer-based software. At the Georgetown University School of Nursing, Sparks, Saba, and faculty tested using the 20 care components to structure learning modules and the two HHCC taxonomies to document patient care following the nursing process. The 20 Care Components were used to implement a holistic approach to patient care and to classify the learning modules (Saba & Sparks, 1998). In other universities the HHCC taxonomies are being used to teach basic nursing, community, and home health nursing. In others they are being used to document clinical care using pathways for specific disease conditions by computer at the point-of-care.

Educational Uses

The HHCC taxonomies and 20 Care Components have been introduced in several schools of nursing to document clinical nursing practice by students...

Several nursing researchers have conducted studies on the two interrelated HHCC Terminologies categorized by 20 Care Components...

Research and Evaluation Studies

Several nursing researchers have conducted studies on the two interrelated HHCC Terminologies categorized by 20 Care Components and/or evaluated their structure and usability. They are described as follows:

Ozbolt, Fruchtnicht, and Hayden (1994) determined that the HHCC Systemâ€™s 20 Care Components were useful in an organizing framework for nursing problems and interventions in the hospital setting. They adapted only the 20 Care Components and expanded them to 22 by splitting Metabolic/Immunological into two and adding Pre/Intra/Post procedure for the Patient Care Data Set (PCDS).

Holzemer and colleagues (1997) conducted a study of 600 patient encounters for 201 patients with AIDS who were hospitalized with pneumonia. They determined that all terms could be categorized using the 20 Care Components and the major categories of Nursing Diagnoses and Nursing Interventions of the HHCC System. They further demonstrated that all Nursing Intervention terms could be coded according to the Type of Nursing Intervention Action qualifiers and concluded that the Action qualifiers had a potential useful attribute for the comparison of patient care among care settings.

Henry and Mead (1997) in a theoretical paper analyzed the HHCC of Nursing Interventions, the Intervention Scheme of the Omaha System, and NIC addressing the activities nurses perform when caring for patients. They conceptualized that one of the three principles of a coding system is the capture of granular information and found that the HHCC was inherently more "granular" (terms more refined), and at atomic level than the Nursing Intervention Classification (NIC).

Henry, Warren, Lange, and Button (1998) compared the evaluation literature related to the six major nursing classifications approved by the ANA, the HHCC, NANDA, NIC, NOC, Omaha System, and ICNP. Their goal was to determine the extent to which they possess the characteristics needed to implement a computer-based system including such criteria as (a) atomic and compositional characters, (b) attributes, (c) hierarchies and inheritance, (d) unique identifiers, and (e) definitions. They concluded that none met all criteria but HHCC, Omaha System, and ICNP did meet five of the criteria.

Parifoche and Henry (1998) conducted a research study which tested the usefulness of the HHCC taxonomies for coding patient problems and nursing interventions of psychiatric patients with major depression disorders in the home health care setting. They found that the HHCC taxonomies could be used to code and classify the majority of problems and interventions and identified several new potential categories for the psychiatric population.

Zielstorff, Tronni, Basque, Griffin, and Welebob (1998) conducted a study cross-mapping patient...
problems or diagnosis terms from three nomenclatures, the HHCC, Omaha System, and NANDA, term to term, to determine commonalities and differences. They concluded, that at that time, the structure and incompatibilities in the three classifications made cross-mapping impossible. The team found that the Unified Medical Language System (UMLS) lacked concept matches for the majority of terms in the three classifications.

Bakken, Cashen, Mendonca, O’Brien, and Zeniewicz, 2000 studied nursing activities in relation to concept-oriented terminologies and identified three concepts as necessary for each activity; namely, delivery mode, activity focus, and recipient. They conducted research on 1,038 terms found in patient records and found that 73.9 terms could be cross-mapped to ICNP of which 91.3 percent were found in the HHCC and only 63.5 percent in the Omaha System.

Another study conducted by Bakken, et al. (2000) was to test the adequacy of the semantic structure of Clinical LOINC (Logical Observation Identifiers, Names and Codes) as a terminology model for standardized assessment measures. They dissected 1,096 items from 35 standardized assessment instruments, into the elements of LOINC. The HHCC classified by 20 Care Components was included and considered to be a standardized nursing-sensitive assessment instrument and its three outcome qualifiers as possible measures to evaluate outcomes of health care. They further suggested that care components could be useful for the classification of standardized assessments.

Recent research by Hardiker (2001) from the United Kingdom compared three terminology systems... the HHCC of Nursing Interventions had the largest number of terms...and the richest taxonomic structure between nursing interventions...

New Release

This section addresses plans for the next revisions of the two taxonomies. Innovative uses of the HHCC System Taxonomies in clinical care pathways are described.

Next Steps

This section addresses plans for the next revisions of the two taxonomies. Innovative uses of the HHCC System Taxonomies in clinical care pathways are described.

Clinical Pathways

The HHCC System taxonomies are being used to develop HHCC Clinical Pathways for the electronic documentation of clinical nursing practice for CPRRs.

The HHCC System taxonomies are being used to develop HHCC Clinical Pathways for the electronic documentation of clinical nursing practice for CPRRs. The HHCC Pathways use the 20 Care Components as its framework and the two standardized HHCC System taxonomies to (a) assess and diagnose care needs on admission, (b) document and track care during and between visits/encounters, and (c) evaluate and measure care outcomes on discharge for an episode of illness.

Pathway definition. An electronic pathway is a method such as a summarized worksheet that can be computerized. The electronic pathway format makes it possible to track interventions and actions as well as to facilitate for flexibility and individualized care, while monitoring actions to see if expected outcomes are being met. An electronic pathway can assist in the case management of patient care by providing comprehensive, coordinated, and cost-effective care (Zander, 1986; Spaeth, 1993).

Clinical pathway uses. The Clinical HHCC Pathways are used on admission to link the OASIS Instrument, the PPS Instrument, and the HCFA Forms to the patient assessment. The HHCC Pathways are used to identify clinical actions and events for the entire episode and specifically for each visit to determine the patient, family, and resources needed for the care process. The pathway events and actions are planned based on the admission assessment of the patient by component and then tracked
The HHCC Pathways are used to measure quality, provide evidence for the evidence-based practice, decision making, benchmarking, and standards of cost-effective care. Further, they are used to summarize the episode to provide clinical, financial, and research information as well as manage the care provided, determine resources required, and measure the outcome of home health care.

Summary

The HHCC System, consisting of the HHCC of Nursing Diagnoses and the HHCC of Nursing Interventions classified by 20 Care Components, facilitates the documentation of patient care by computer at the point-of-care, and replace the traditional paper-based method. The HHCC System is being used for documenting nursing practice in computer-based systems as well as in nursing education. The HHCC System’s two taxonomies make it possible not only to assess and document, but also code, index, classify, link, and map the care process according to the 20 Care Components. These two innovative taxonomies provide coding term structure and the 20 Care Components the classification framework for the CPRSs. They are used to track the clinical nursing care across time, different settings, populations groups, and geographic locations. The collected data can be used many times which facilitates improved documentation and analysis.

The two HHCC System taxonomies can be integrated into any home health system and linked electronically to any CPRS designed to collect the data required for federal home health care reporting and reimbursement. The system is being used to (a) improve the efficiency of assessing and documenting home health nursing care, (b) provide the strategy for evaluating quality and measuring outcomes of care, and (c) develop a costing method for reimbursement and payment. They are used to develop electronic clinical pathways, measure practice, and determine care costs. The two HHCC System taxonomies are available on the Internet, offering the world-wide nursing community the means to manage and monitor clinical nursing practice.

Web Site

Download the web site www.sabacare.com/ to review the two HHCC taxonomies and the 20 Care Components lists, codes, and definitions in Table 1-8.

Table 1:

**HHCC 20 Care Components by Four Clinical Care Patterns**

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References


Bibliography


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