

# NURSING TERMINOLOGIES

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Since the early 1970's, nurses have been developing sets of terms to define nursing's professional identity and to represent nursing data in clinical information systems. At the time of the early efforts, developers of nursing terms had limited knowledge of semiotics, informatics, or desiderata for standard languages<sup>1-4</sup>. As a result, the sets of terms generally lack one or more of the characteristics desirable in standard terminologies for use in computer-based information systems.

In 1991 the American Nurses Association (ANA) created a committee to review nursing languages and to recognize those that had met the committee's own criteria as potentially useful to support nursing practice. Since that time, the ANA criteria have evolved with the growing knowledge of terminology standards in health informatics. Currently (May 2003), there are 13 terminologies recognized by the ANA. These are listed below<sup>5</sup>.

## ANA Recognized Terminologies that Support Nursing Practice

Resource	Recognition Date
<b>1. NANDA-Nursing Diagnoses, Definitions, and Classification 2003-2004</b> NANDA-International 1211 Locust Street Philadelphia, PA 19109 Phone: 1-800-647-9002 FAX: 1-215-545-8107 Email: <a href="mailto:nanda@nursecominc.com">nanda@nursecominc.com</a> Website: <a href="http://www.nanda.org">www.nanda.org</a>	1992
<b>2. Nursing Interventions Classification System (NIC)</b> Joanne McCloskey Dochterman, Center Director and Barbara Head, Research Associate The Center for Nursing Classification University of Iowa College of Nursing, 407B Iowa City, IA 52242-1121 Phone: 319-335-7051 FAX: 319-335-6820 Website: <a href="http://www.nursing.uiowa.edu/centers/cncce/">www.nursing.uiowa.edu/centers/cncce/</a> (NIC/NOC can be obtained from the same source)	1992
<b>3. Home Health Care Classification (HHCC)</b> Virginia K. Saba, EdD, RN, FAAN, FACMI Georgetown University School of Nursing 3700 Reservoir Road, NW Washington, DC 20007 Phone: 703-521-6132 (h) FAX: 202-687-5553 Website: <a href="http://www.sabacare.com">www.sabacare.com</a>	1992



<b>Resource</b>	<b>Recognition Date</b>
<p><b>4. Omaha System</b>  Karen Martin  Martin Associates  2115 S. 130<sup>th</sup> Street  Omaha, NE 68144  Phone: 402-333-1962  FAX: 402-333-2091  Email: <a href="mailto:martins@tconl.com">martins@tconl.com</a>  Website: <a href="http://www.omahasystem.org">www.omahasystem.org</a></p>	1992
<p><b>5. Nursing Outcomes Classification (NOC)</b>  Joanne McCloskey Dochterman, Center Director  Shawn Gibbs, Coordinator  Center for Nursing Classification and Clinical Effectiveness  University of Iowa  College of Nursing, 407B  Iowa City, IA 52242-1121  Phone: 319-335-7051  FAX: 319-335-6820  Website: <a href="http://www.nursing.uiowa.edu/centers/cncce/">www.nursing.uiowa.edu/centers/cncce/</a>  (NIC/NOC can be obtained from the same source)</p>	1997
<p><b>6. Nursing Management Minimum Data Set (NMMDS)</b>  Connie Delaney, PhD, RN, FAAN  Co-PI, NMMDS  College of Nursing  University of Iowa  Iowa City, IA 52242-1121  Phone: 319-335-7113  FAX: 319-335-7129  Email: <a href="mailto:connie-delaney@uiowa.edu">connie-delaney@uiowa.edu</a></p> <p>Diane Huber, PhD, RN, FAAN, CNA  Co-PI, NMMDS  1222 Oakes Drive  Iowa City, IA 52245-0113  Phone: 319-335-7122  FAX: 319-354-0113  Email: <a href="mailto:diane-huber@uiowa.edu">diane-huber@uiowa.edu</a></p>	1998
<p><b>7. Patient Care Data Set (PCDS)</b>  Judy G. Ozbolt, PhD, RN, FAAN  Vanderbilt University  School of Nursing, Rm. 46, Godchaux Hall  461 21<sup>st</sup> Avenue South  Nashville, TN 37240-0008  Phone: 615-936-1557  FAX: 615-936-1427  Email: <a href="mailto:judy.ozbolt@vanderbilt.edu">judy.ozbolt@vanderbilt.edu</a></p>	1998

Resource	Recognition Date
<p><b>8. PeriOperative Nursing Data Set (PNDS)</b>  Melissa Parlapiano, Administrative Assistant  Association of periOperative Registered nurses  2170 South Parker Road, Suite 300  Denver, CO 80231-5711  Phone: 1-800-755-2676, Ext. 248  Email: <a href="mailto:mparlapiano@aorn.org">mparlapiano@aorn.org</a>  Website: <a href="http://www.aorn.org">www.aorn.org</a></p>	1999
<p><b>9. SNOMED RT/ CT</b>  Debra J. Konicek, RN, BSN, BC  Terminology Manager, Nursing  SMOMED International  College of American Pathologists  325 Waukegan Road  Northfield, IL 60093  Phone: 1-800-323-4040, ext. 7351  847-832-7351  FAX: 847-832-8335  Email: <a href="mailto:dkonice@cap.org">dkonice@cap.org</a>  Website: <a href="http://www.snomed.org">www.snomed.org</a></p>	1999, 2003
<p><b>10. Nursing Minimum Data Set (NMDS)</b>  Connie Delaney, PhD, RN, FAAN  College of Nursing  University of Iowa  Iowa City, IA 52242-1121  Phone: 319-335-7113  319-335-7122  FAX: 319-335-7129  Email: <a href="mailto:connie-delaney@uiowa.edu">connie-delaney@uiowa.edu</a></p>	1999
<p><b>11. International Classification for Nursing Practice (ICNP®)</b>  Amy Coenen, PhD, RN, CS, Associate Professor  Director, International Classification for Nursing Practice (ICNP®)  International Council of Nurses  Marquette University  College of Nursing  P.O. Box 1881  Milwaukee, WI 53201  Phone: 414-288-3861  FAX: 414-288-1939  Email: <a href="mailto:amy.coenen@marquette.edu">amy.coenen@marquette.edu</a>  Website: <a href="http://www.icn.ch/icnp/htm">www.icn.ch/icnp/htm</a></p>	2000

<b>Resource</b>	<b>Recognition Date</b>
<p><b>12. ABCcodes</b>  Melinni Giannini, CEO  Connie Koshewa, Director of Research  Alternative Link  1065 S. Main, Building C  Las Cruces, NM 88005  Phone: 505-527-0636  FAX: 505-523-4152  Email: <a href="mailto:cheri.dunkleberger@alternativelink.com">cheri.dunkleberger@alternativelink.com</a>  Website: <a href="http://www.alternativelink.com">www.alternativelink.com</a></p>	2000
<p><b>13. Logical Observation Identifiers Names and Codes (LOINC®)</b>  Susan Matney, RN, MS  Team Lead Health Data Dictionary Team  110-720-S4-22  Scott S. Parker Administrative Building  4646 West Lakepark Boulevard  Salt Lake City, UT 84120-8212  Phone: 801-442-4488  FAX: 801-442-6996  Email: <a href="mailto:cosmatne@ihc.com">cosmatne@ihc.com</a>  Website: <a href="http://www.loinc.org">www.loinc.org</a></p>	2002

Six of the ANA-recognized terminologies specific to nursing have been included in the 2003AA edition of the UMLS Metathesaurus<sup>6</sup>. These are:

1. Classification of Nursing Diagnoses. NANDA. 1999.
2. Home Health Care Classification of Nursing Diagnoses and Interventions. 1996. (An updated version will be included in the next UMLS release, 2003AB.)
3. Nursing Interventions Classification (NIC). Iowa Intervention Project. 1999.
4. Nursing Outcomes Classification (NOC). Iowa Outcomes Project. 1997.
5. OMS94. The Omaha System: Applications for Community Health Nursing. 1994.
6. PCDS97. Patient care Data Set (PCDS). Version 4.0. 1997. Nashville, TN. Vanderbilt University School of Nursing.

Those responsible for twelve of the ANA-recognized terminologies submitted responses to a questionnaire distributed by the National Committee on Vital and Health Statistics Subcommittee on Standards and Security. Analysis of responses as presented in the April 17, 2003 draft report showed that ten of those reviewed failed to meet one or two of the following criteria<sup>7</sup>:

<b>Criterion</b>	<b>1</b>	<b>0</b>
<b>Concept Orientation</b>	Elements of the terminology are coded concepts, with possibly multiple synonymous text representations, and hierarchical or definitional relationships to other coded concepts. No redundant, ambiguous, or vague concepts exist.	The terminology is not concept oriented.
<b>Concept Permanence</b>	The meaning of each coded concept in a terminology remains forever unchanged. If the meaning of a concept needs to be changed or refined, a new coded concept is introduced. No retired codes are deleted or re-used.	The meanings of coded concepts may change OR retired codes are deleted OR retired codes are re-used
<b>Non-Ambiguity</b>	Each coded concept in the terminology has a clear, unique meaning	Certain coded concepts in the terminology have a vague meaning or more than one meaning
<b>Explicit Version IDs</b>	Each version of the terminology is designated with a unique identifier, such that parties exchanging data can readily determine if they are using the same set of terms.	The terminology has no version identifiers, or the terminology content may change without a change to the version identifier.

**Table 2. Scoring Metrics for Essential Technical Criteria** <sup>7, p. 8</sup>

The terminologies reviewed and the criteria they failed are listed below <sup>7, p. 9</sup>:

ABC Codes	Concept Orientation (?), Concept Permanence
HHCC	Concept Orientation
ICNP	Concept Permanence
NANDA	Concept Orientation (?), Concept Permanence
NIC	Concept Orientation, Concept Permanence
NMMDS	Concept Orientation
NOC	Concept Orientation (?), Concept Permanence
Omaha	Concept Orientation (?), Concept Permanence
PCDS -VU	Concept Orientation
PNDS	Concept Orientation, Concept Permanence

Failure to meet the essential technical criteria would disqualify these terminologies from consideration by the National Committee on Vital and Health Statistics for inclusion in a “Core Terminology Group” for a national standard medical terminology. The two ANA-recognized terminologies that passed all the essential technical criteria were LOINC and SNOMED CT.

Some of the ANA-recognized terminologies are mapped partly or completely to SNOMED CT. The SNOMED Convergent Nursing Terminologies Group started by mapping diagnoses, progressed to interventions, and is working now on outcomes. NANDA and NIC are fully mapped to SNOMED CT. The PNDS mapping (including outcomes) will be included in the July 2003 release of SNOMED CT. The diagnoses and interventions of HHCC and Omaha are included in the current version of SNOMED CT; outcomes in these terminologies have not yet been mapped. NOC mapping is expected to be included in the January 2004 release of SNOMED CT<sup>8</sup>.

Nursing terminology developers have been meeting with one another and with experts in language and standards annually since 1999 in a series of Nursing Terminology Summit Conferences at Vanderbilt University, with both public and private sponsorship<sup>9, 10</sup>. These meetings and the intervening work by participants have contributed substantially to the development of reference terminology models of diagnoses and interventions now accepted as draft standards by the International Standards Organization. These models have guided the work of the Convergent Nursing Terminologies Group at SNOMED. In addition, collaboration at the Summit Conferences has led to revision of LOINC standards to accommodate nursing concepts and measures and to testing of the Health Level 7 Reference Information Model for representing nursing concepts. Nursing participation and leadership in LOINC and HL7 have increased. Perhaps most importantly, nursing terminology developers have learned about the characteristics needed for standard terminologies to be incorporated in computer-based systems, and experts on language and standards have learned about the kinds of information nurses generate and use. There is reason to expect that nursing terminologies will evolve to become fully useful as standards to represent important clinical information.

## References

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