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# Collaboration in Nursing Classification: The Creation of a Common Unifying Structure for NANDA, NIC, and NOC

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*NNN August 2001 Conference Group**

For more than twenty-five years, nurses have struggled unsuccessfully to consistently communicate nursing practice to others. The extensive narrative about patient care in the literature includes descriptions about patient behaviors and reactions, along with specific actions taken by nurses to respond to patients' experiences. In recent years, increased attention has been paid to successful outcomes and changes in plans of care. Methods of documentation have varied over the years, with multiple differences observed in terms of both the language and format used to documenting patient care. Streamlined checklists, critical pathways, and problem-oriented charting have been put in place to reduce documentation and respond to changing regulations related to reimbursement.

In the midst of these changes, nurses have created a variety of documentation forms but have been hindered by the lack of a common disciplinary language that effectively communicates patient problems and supporting data, outcomes, and related nursing actions. As a result, nursing practice is poorly communicated to patients/clients, to other nurses, other healthcare providers, and policy makers. The essence of professional nursing lies within the dynamic nurse–patient relationship. It is important that nursing language captures a portion of this experience directly related to patient behaviors and experiences. Nurses worldwide need to be able to use and expand the language they use so that nursing practice can be articulated, evaluated, and included in discussions of cost-effective, quality patient care.

*The members of the NNN conference group whose work is summarized in this chapter are: Joanne McCloskey Dochterman, Dorothy Jones, Sue Moorhead, Kay Avant, Ida Androwich, Gloria Bulechek, Mary Clarke, Martha Craft-Rosenberg, Janice Denehy, Marjorie Gordon, Pauline M. Green, Barbara Head, Marion Johnson, Mary Ann Lavin, Margaret Lunney, Meridean Maas, Anne Perry, Cheryl Reilly, Cindy Scherb, Sheila Sparks, Judith Warren, and Georgia Griffith Whitley.

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This chapter presents the process, content, and outcomes of a project funded by the National Library of Medicine (Dochterman & Jones 2001) designed to create a common unifying structure for nursing languages, specifically NANDA, NIC, and NOC. In this chapter, we describe the process used to achieve this goal, and then we present a proposed structure that unifies these languages.

## *Issues and Challenges in Using Nursing Language Classifications*

In 1973, Kristine Gebbie and Mary Ann Lavin held the First National Conference on the Classification of Nursing Diagnoses to present "a clear articulation of those health problems that comprise the domain of nursing and the classification of the problems into a taxonomic system" (Gebbie & Lavin 1975: *v*). Since that time, other classification systems (e.g., Nursing Interventions Classification, Nursing Outcomes Classification) and language data sets (e.g., Nursing Management Minimum Data Set) have been developed to organize and describe nursing diagnoses, interventions, and nursing sensitive patient outcomes and other components of the care episode (e.g., staffing, cost). By 2001, the American Nurses Association had recognized eight nursing classification systems, two nursing data sets, and two nomenclatures (Coenen, McNeil, Bakken, Bickford & Warren 2001).

This proliferation of nursing language classification systems has resulted in a lack of a unified disciplinary language, leading to confusion among nurses in practice across specialties and settings. Although mapping efforts associated with the development and use of terminology models (e.g., SNOMED) are underway, these efforts are designed to relate different languages "behind the computer screens" and are, to date, untested. Even when the reference terminology models are successful for the collection and comparison of nursing data, they do not assist the clinician or student to learn or to use the language at the bedside. The inconsistent use of nursing languages in documenting patient problems and responses has minimized nursing's visibility and compromised the contributions of nurses to quality and cost-effective patient outcomes. Lack of consistent use of nursing language in practice has significantly reduced the integration of nursing language and clinical reasoning approaches into academic curricula across programs. This has led to a growing number of new graduates with limited knowledge of nursing language, culminating in inconsistent documentation of patient problems. Failure to effectively communicate nursing practice has compromised reimbursement and limited nursing's ability to provide policy makers with data needed to change these policies.

In addition, the development of the substantive content for the domain of nursing has been compromised and the growth of the science has been restricted. The problems nurses solve each day when they respond to patients and with multiple populations are poorly articulated. As a result, knowledge development and clinical investigation are negatively impacted. The multiplicity of language classification systems has also decreased the inclusion of nursing language within information systems, further compromising nursing's ability to communicate its disciplinary contributions to patient outcomes. Although

nursing has gained the attention of policy makers (Testimony 1999) and there is a willingness to include nursing language in healthcare information systems, system developers also want to harmonize nursing language and move toward a more unified language that is responsive to nurses globally.

## *Contributions of a Common Unified Structure for Nursing Language*

The time has come for development of a common unified structure[1] for nursing language. Within existing terminologies certain points of consensus have been reached, particularly within the North American Nursing Diagnosis Association classification, the Nursing Interventions Classification, and the Nursing Outcomes Classification. Although these three classifications have been linked with each other (Johnson, Bulechek, Dochterman, Maas, & Moorhead 2001), the lack of a common organizing structure does not visually indicate that the three classifications are related. Developers of these structures share common thinking around nursing language and professional nursing. The development of a common unifying structure for these nursing languages will provide significant contributions for nursing knowledge development, clinical practice, education policy, and information systems development. These contributions, which we have culled from the literature and our collective experience, are acknowledged in the following:

*For **Knowledge Development** a unified structure will:*

- Enable scientists to focus on concept development and isolate the essential content of the discipline.
- Contribute to the definition of nursing science and professional nursing practice.
- Support the contributions of language to knowledge development and the development and use of midrange and practice theory.
- Articulate further the phenomena of concern to the discipline and lead to the development of new knowledge.

*For **Clinical Practice** a unified structure will:*

- Improve the articulation of diagnoses, interventions, and outcomes.
- Reduce the complexity of integrating these three elements of nursing care.
- Differentiate more clearly the contributions of the discipline to cost-effective quality care.
- Reflect the complexity of clinical nursing practice.
- Contribute to nursing's visibility in evidence-based practice.
- Help to standardize documentation across settings and improve communication among nurses and other care providers.
- Create movement toward a standardized nursing assessment.

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[1]The terms *common unified structure, common organizing structure,* and *taxonomic structure* or *taxonomy* have a common meaning in this chapter.

*For **Education** a common unified structure will:*

- Guide faculty in curriculum development and evaluation.
- Foster the integration of language into nursing curricula at all program levels.
- Organize the language of the content of the discipline for teaching clinical decision-making.
- Help to provide graduates with knowledge and expertise for communication of nursing judgments, interventions, and measurement of outcomes.

*For **Research** a common unified structure will:*

- Guide researchers in the development, testing, accuracy, and refinement of nursing diagnoses, interventions, and outcomes.
- Promote the development and testing of predictive models that will link patient outcomes to practice contributions across clinical specialties.
- Facilitate research to identify high-incidence problems that are critical for all nurses to know and resolve.
- Facilitate the integration of nursing knowledge into clinical databases that are used for effectiveness research.

*For **Health Policy** a common unified structure will:*

- Help to integrate nursing information within the electronic patient record and national nursing databases used for health policy decision-making.
- Provide a structured, unified framework for capturing clinical nursing information.
- Help to create an accurate model for administrators and insurers to determine the cost of nursing care.
- Facilitate reimbursement for specific dimensions of nursing practice related to patient problem identification, interventions, and outcomes.
- Help to accurately define provider mix and complexity of patient care used to make patient assignments and assign resources.

*For **Information Systems** a common unified structure will:*

- Create an improved structure for inclusion of nursing language into new and existing information system models.
- Aid in the development of a database that fosters the mapping/linking of diagnoses, interventions, and outcomes across terminology models.
- Improve data access, storage, and retrieval needed by researchers, clinicians, policy makers, and administrators.
- Enable systematic evaluation of existing terminologies and their relevance and use in clinical practice.
- Increase the overall use of nursing languages and long-term viability of NANDA, NIC, and NOC internationally.

## *The Invitational NNN Conference: Drafting a Common Structure*

An invitational conference, funded by a grant from the National Library of Medicine, was held at the Starved Rock Conference Center in Utica, Illinois, August 12–14, 2001. The grant project objectives are listed in Table 2-1. The purpose of the conference was to develop a first draft of a common unified taxonomic structure for the three classifications of the North American Nursing Diagnosis Association (NANDA), the Nursing Interventions Classification (NIC), and the Nursing Outcomes Classification (NOC). Twenty-five participants knowledgeable in the development, testing, and refinement of classification systems were invited to participate in the conference. One participant became ill a few days before the conference and was unable to attend. Representatives from the Omaha and HomeHealth Care systems were among those who were initially invited but later declined the request to participate. The meeting convened with 24 participants, including 22 nurse experts, a keynote speaker, and a staff person (see Chapter Appendix 2.1 for a list of conference participants). The two-day conference agenda is outlined in Table 2-2.

### Method Used to Develop a Common Unified Structure

The conference began with a keynote presentation on the science of classification by Geoffrey Bowker, professor in the Department of Communication at the University of San Diego, La Jolla, California. Dr. Bowker has spent his academic career studying the structure of knowledge in various disciplines. His presentation reinforced the need for nursing classifications and placed the current nursing work in the context of the development, articulation, and growth of knowledge. His paper is presented in full in this monograph.

During the first afternoon and morning of the second day, conference participants reviewed the need for a common structure (M. Lunney's presentation is included in this monograph) and the structures of NANDA, NIC, and NOC, as well as other nursing classification systems and data sets currently in use.

**TABLE 2-1 Conference Objectives**

| Language Structure |
|---|
| 1. Articulate the assumptions underlying each language (diagnoses, interventions, and outcomes). |
| 2. Identify issues that will need to be addressed to achieve a common taxonomic structure. |
| 3. Examine existing taxonomic structures currently in use clinically. |
| 4. Prepare a first draft of a "White Paper" on the common taxonomic structure linking NANDA, NIC, and NOC. |
| 5. Plan strategies for dissemination and feedback of the "White Paper" at venues including an open forum at the April 2002 NANDA, NIC, and NOC conference. |
| *Following dissemination and feedback of the document:* |
| 6. Develop a position paper detailing the need for the common structure and the methodology used to develop the proposed structure. |
| 7. Create mechanisms to integrate feedback and to disseminate the final structure to nurses globally. |

**TABLE 2-2 NNN Conference 2001 Schedule**

| | |
|---|---|
| **Sunday, August 12, 2001** | |
| *Afternoon* | |
| 1:00 | Registration |
| 1:30 | *Welcome and Conference Overview*<br>Joanne McCloskey Dochterman and Dorothy Jones |
| 1:45–3:00 | *Opening Address: The Science of Classification*<br>Geoffrey Bowker |
| 3:00–3:30 | Break |
| 3:30–5:00 | *Statement of the Problem*–Joanne McCloskey Dochterman, Moderator<br>Overview of the existing taxonomic structures of NANDA, NIC and NOC<br>Kay Avant, NANDA<br>Gloria Bulechek, NIC<br>Marion Johnson, NOC |
| **Monday, August 13, 2001** | |
| *Morning* | |
| 8:00 | *Overview of Day*<br>Dorothy Jones |
| 8:30–10:00 | *The Need for One Taxonomic Structure: Three Perspectives*<br>Dorothy Jones<br>Margaret Lunney<br>Judy Warren |
| 10:00–10:30 | Break |
| 10:30–12:00 | *Panel Presentations and Discussion: Overview of Other Relevant Organizing Structures; Comparison of these with structures of NANDA, NIC, and NOC; Discussion of Issues*<br>Functional Health Patterns–Marjory Gordon<br>Omaha System–Anne Perry<br>Home Health Care Classification–Barbara Head<br>Others: Patient Care Data Set, Perioperative Data Set, and International Classification of Nursing Practice–Sue Moorhead |
| *Afternoon* | |
| 12:00–1:00 | Lunch |
| 1:30 | *Guidelines and Tasks for Smal-Group Work*<br>Joanne McCloskey Dochterman |
| 2:00–5:30 | *Small-Group Work* |
| After Dinner As needed | See Small-Group Instructions |
| **Tuesday, August 14, 2001** | |
| Morning | |
| 8:30–10:00 | *Report of Progress from Groups* |
| 10:00–10:30 | Break |
| 10:30–12:00 | *Total Group Discussion–Coming to Consensus*<br>Led by Joanne McCloskey Dochterman and Dorothy Jones |
| Afternoon | |
| 12:00–1:00 | *Plans for Preparation of Position Paper and Dissemination* |
| 1:00 | Conference Adjournment |
| 1:30–4:00 | *Post-Conference Meeting–Putting together final draft of one structure*<br>Joanne Dochterman, Dorothy Jones, Kay Avant, Sue Moorhead |

Although all participants were familiar with some of the systems, this review helped to assure a common starting place for each conference participant. Discussions relating to each presentation helped to uncover issues and to offer solutions in areas of concern. The time spent examining existing nursing terminologies helped each member establish some common expectations and generated enthusiasm for the current project and the importance of the work at hand.

On the second day, the group was divided into four small work groups, each with an assigned leader and recorder. Before arriving, the participants had received for review the organizing structures of six languages to help create a common structure for NANDA, NIC, and NOC. Participants were also instructed to bring with them to the conference the classification books of NANDA, NIC, and NOC, as well as any other materials, such as a dictionary or thesaurus, that might be helpful in advancing the work of the group.

## Overview of the Organizing Structures Reviewed

The six organizing structures on which information was sent to every participant in advance for review were: NANDA's Taxonomy 2, NIC's Taxonomy, NOC's Taxonomy, Gordon's Functional Health Patterns, Home Health Care Classification's 20 components, and the Omaha System's structure. The six structures were selected because they are used frequently in clinical practice. They are commonly acknowledged as "front- end" clinical terminologies useful in helping practicing nurses to plan and document care. Each of the structures selected has an organizing structure thought be helpful to the purpose at hand.

### *North American Nursing Diagnosis Association (NANDA)—Taxonomy 2*

The NANDA Taxonomy 2 (NANDA 2001) was approved for adoption by the NANDA members at their conference in April 2000. It consists of 12 domains (e.g., Health Promotion, Nutrition) and 46 classes (e.g., Health Awareness, Ingestion). Each domain and class has a definition, and a total of 155 diagnoses are included at the third level of the taxonomy.

### *Nursing Interventions Classification (NIC), 3rd ed.*

The NIC taxonomy (McCloskey & Bulechek 2000) consists of 7 domains (e.g., Physiological: Basic, Behavioral) and 30 classes (e.g., Activity and Exercise Management; Coping Assistance). Each domain and class has a definition. The 486 interventions are placed in the classes at the third level of the taxonomy.

### *Nursing Outcomes Classification (NOC), 2nd ed.*

The NOC taxonomy (Johnson, Maas, & Moorhead 2000) consists of 7 domains (e.g., Functional Health, Physiologic Health) and 29 classes (e.g., Energy Maintenance; Growth & Development). Each domain and class has a definition. The 260 outcomes are placed in the classes at the third level of the taxonomy.

### *Gordon's 11 Functional Health Patterns*

The Functional Health Patterns (Gordon 1994) contain 11 pattern areas (e.g., nutrition-metabolic, health perception–health management, elimination) and

are used by numerous educators, students, and clinicians to organize the nursing assessment data and information from physical examination to arrive at nursing diagnoses. Gordon has organized the NANDA diagnoses into 11 patterns, and the new NANDA Taxonomy 2 domains reflect a modification of the Functional Health Patterns.

### *Home Health Care Classification (HHCC)*

The 145 diagnoses and 160 interventions in this system (Saba, 1992) were developed for home healthcare nurses to use in practice and are classified in 20 categories (e.g., Activity, Bowel Elimination, Cardiac, Cognitive). The classification reflects diagnoses, interventions, and outcomes. The 20 components are at the class level of some of the other classifications and may be helpful in the design of a common structure.

### *Omaha System*

The Omaha System, developed in the mid-1970s for use in community health (Martin & Scheet 1992), contains three schemes for problems, interventions, and outcomes. Forty problems are organized in four domains: environmental, psychosocial, physiological, and health-related behaviors. The intervention scheme consists of four broad categories (e.g., the first category is health teaching, guidance, and counseling) and 62 targets for intervention. The outcome ratings are measured by using three 5-point scales for the concepts of knowledge, behavior, and status.

## Small-Group Work: Guidelines for a Common Structure

The small-group work began following a review and discussion of nursing languages and presentations from group members. There was a general session in which one of the group leaders presented guidelines for constructing a common structure. This information had been prepared in advance of the conference and was based on personal experience and the literature. Table 2-3 presents the "Guidelines for Constructing a Common Organizing Structure: The Desiderata" for consideration and use by groups as they deliberated on developing a common unified structure for nursing language. (The word "desiderata" and some of the content were adopted from the article by Cimino [1998].)

In the small-group sessions that followed this presentation, each group (Table 2-4) was asked to work through the development of a draft of a common structure according to written instructions found in Table 2-5. Participants were told that they could deviate from the instructions if they thought another approach would achieve the outcome, that is, a draft of a common structure.

Each group worked independently throughout the afternoon and into the evening. Individuals demonstrated a readiness for the task at hand and a willingness to take the next step: the creation of a common taxonomic structure. Although differences of opinion arose, these differences were addressed through discussion, compromise, and consensus. The next morning each group presented its unique picture of a common unified structure, with a clear rationale for the perspective taken.

**TABLE 2-3 Guidelines for Constructing a Common Organizing Structure: The Desiderata**

**The users of the proposed structure will include:**

1. Developers of NANDA, NIC, and NOC and other nursing classifications.
2. Practicing nurses, students, and other clinicians who wish to locate a particular diagnosis, intervention, or outcome.
3. Developers of information systems who will use the structure to organize screens.
4. A host of others, including faculty, for use in courses and curriculum design, researchers, and policy makers.

**Ten Desiderata for Developers:**

1. *Simplicity of Structure:* Keep the structure simple–two levels above the concept label level seems to work, naming them domains and classes.
2. *Parsimony of Groups:* The second level (classes) should be around 25 to 30 groups; first level (domains) under 10. More than this is hard to handle mentally and is beyond what can be easily put on a computer screen.
3. *Clear Language:* The names of the groups (domains and classes) should be clear, short (three words or fewer), and descriptive enough to know what kinds of diagnoses, interventions, and outcomes are included.
4. *Formal Definitions:* Each domain and class should have a definition.
5. *Distinct Groups:* The structure should minimize need/desire to cross-reference; classes/domains should be distinct so that diagnoses, interventions, and outcomes can preferably be placed in only one location.
6. *Graceful Evolution:* The structure should resonate with users; be similar to what is now familiar so that the move to new structure is relatively easy.
7. *Domain Completeness:* An "other" category (not elsewhere classified) should *not* be included.
8. *Theory Neutral:* The structure should be useful in any institute, nursing specialty, or care delivery model regardless of philosophical orientation.
9. *Other Discipline Friendly:* Headings (domains and particularly classes) should preferably be recognizable and useful for all disciplines–e.g., process and body system.
10. *Scientific Common Sense:* The structure should look and feel scientific but also reflect common sense.

**TABLE 2-4 Work Group Member Assignments**

| *Group A* | *Group B* |
|---|---|
| Martha Craft-Rosenberg, Leader | Gloria Bulechek, Leader |
| Pauline M. Green, Recorder | Sheila Sparks, Recorder |
| Mary Clarke | Kay Avant |
| Dotty Jones | Marion Johnson |
| Meridean Maas | Cheryl Reilly |
| Judy Warren | |
| *Group C* | *Group D* |
| Cindy Scherb, Leader | Georgia Whitley, Leader |
| Mary Ann Lavin, Recorder | Janice Denehy, Recorder |
| Ida Androwich | Joanne Dochterman |
| Marjorie Gordon | Anne Perry |
| Barbara Head | Sue Moorhead |
| Margaret Lunney | |

**TABLE 2-5 Directions for Group Work**

*Instructions*: You are encouraged to plan your time carefully so that you address the languages and have adequate time to complete number 4.

*Select two* of the organizing structures (NANDA, NIC, NOC, Functional Health Patterns, Home Health Care, Omaha) and:

*Step 1.* 30 minutes

Identify a few assumptions underlying the structures you are working with and identify considerations that need to be addressed using these as the basis for a common structure.

*Step 2.* 30 minutes

Review the selected taxonomic structures and try to fit some examples from the NANDA, NIC, and NOC languages. (For example, if you have chosen NANDA, try to fit NIC and NOC; if you have Gordon, fit examples from NANDA, NIC, or NOC.)

*Step 3.* 30 minutes

Identify any issues and problems that arise. What modifications can be made to make the structure work, or should another approach be taken?

*Step 4.* 90 minutes

Propose a draft of a common taxonomic structure, including some examples. This draft can be a modification of an existing structure or a totally new structure. Include examples of placement of NANDA diagnoses, NIC interventions, and NOC outcomes.

*Assumptions:* Two of the four work groups spent part of their time identifying the assumptions on which a combined taxonomic structure for NANDA, NIC, and NOC would be based. One of the groups identified four assumptions, whereas the other group identified nine assumptions. The following list combines the ideas of both groups.

1. Nursing classifications (NANDA, NIC, and NOC) describe the phenomena of nursing practice and represent the clinical judgments nurses need to make.
2. Nursing classifications represent the knowledge base of nursing and relate to all settings and specialties.
3. Nursing classifications are useful for clinical practice, education, research, and administration.
4. The nursing classifications are advanced enough to identify key concepts that can be harmonized.
5. The classifications need to address individual, family, community, and health system dimensions.
6. Classifications evolve and change as nursing changes, and a structure can evolve to handle these changes.
7. Classifications can capture the holistic nature of nursing's perspective.

*Issues*: Several issues were obvious at the beginning of the discussion in the work groups. The two principal ones were:

1. Dealing with their own sense of "territoriality" regarding the various languages represented. Participants had to agree upfront in the dialogue that each person would keep an open mind and would try to think in terms

of what the best overarching structure would be, regardless of personal or professional inclinations. This proved to be surprisingly easy once the small-group work began. The various language developers were pretty evenly divided in each group, allowing everyone to have a say in the product of the group but with no language predominating.

2. Concern about composing a framework that encompassed "patient-focused concepts" with "nurse-focused concepts." Some of the participants voiced a concern that it was not appropriate to combine patient-focused diagnoses and outcomes with nurse-focused interventions. Others felt that since all three (diagnoses, interventions, and outcomes) are in the domain of nursing, an overarching framework could encompass all three. After some discussion, they agreed that if they didn't try, they would never know. By the time all the groups had completed their work, there was a general consensus that a unifying structure was possible and that, although the approaches by each group were different, the final initial drafts of structures had many similarities.

*Results:* One group produced a list of new classes for all three structures, another group identified new classes and domains, while a third group placed the current classes of NANDA, NIC, and NOC in a modified version of the Gordon Functional Health Pattern structure. A fourth group identified new domains and placed the current classes in these domains according to type of recipient (i.e., individual, family, and community). Each of these drafts was discussed in terms of the issues and challenges it presented.

The final session of the third day was spent identifying the common challenges and the direction the group desired to take on each challenge. For example, the group was unanimous in its desire that the new structure include both new classes and new domains in which the labels of all three classifications could be placed. Although the importance of family and community was acknowledged, the majority of participants did not want to see these as domains. There was total agreement that the terms used should clearly communicate the type of concepts included and that the words used should be familiar to clinicians. On the third day of the conference, the group adjourned in high spirits at mid-day, expressing their feelings that they had accomplished a lot and that they believed that, though a perfect document was not possible, a final draft of one common structure could be achieved.

## *Post-Conference Activity: Synthesizing a Common Structure*

Immediately following the conference, a small-work group [Joanne Dochterman (NIC), Dorothy Jones (NANDA), Sue Moorhead (NOC), and Kay Avant (NANDA)] met for the afternoon to prepare a first draft of the proposed structure based upon the work of the four groups and the general discussion for the two days. Owing to the structure of NANDA, it was desirable to have both the current president of NANDA (Kay Avant) and the past president and co-organizer of this conference (Dorothy Jones) participate in the post-conference activities.

Following a brief discussion of the four proposed structures from the conference work groups, the post-conference task force decided that a first step would be to compare the two drafts of new classes with each other as well as with the modified Gordon classes prepared by a third group. When this was done, a number of similarities were noted—although named differently, the same classes were identified. The task force discussed each of the alternative names and selected the one that communicated the best or chose a new name. The end result of this exercise was 28 potential classes.

The next step was to organize these classes into domains. One group at the conference had produced four new domains that were well received by the participants. The task force used these four domains plus one other suggested in the discussion as the initial starting point for the domains of the common structure. Each of the 28 classes was then placed in the five domains. At this point the five domains were labeled Health/Life Style, Physiological Function, Psychosocial Function, Life Principles, and Environment/Health Protection.

As the process evolved, some of the classes were thought to be relevant to two of the domains, with the greatest amount of redundancy seen between Health/Life Style and Physiological Function as well as Health/Life Style and Psychosocial Function. For example, the classes of Activity/Exercise and Sleep/Rest were initially placed in both Health/Life Style and Physiological Function. After discussion of these and other classes placed in two locations, each class was placed in only one location, where it was thought to fit best. The placement was helped by the definitions of each domain which the post-conference group generated. As work progressed, it became apparent that the proposed domain of Life Principles was overlapping with the domain of Health/Life Style, and since the Life Principles domain had only one class in it (Values/Beliefs, which includes spirituality), it was decided to combine these domains calling them, at this time, Health/Life Styles.

After some editing, a new proposed structure consisting of four domains (Health/ Lifestyle, Physiological, Psychosocial, and Environment/Health Protection) and 27 classes was created. The task force reviewed each of the issues that were raised by the four conference groups against the proposed structure and determined that the proposed structure had addressed each of the concerns. For example, various participants strongly indicated that the new structure must be able to accommodate "growth and development," medications, and the care in the community.

A few months after the conference, this draft of the proposed unified common structure was sent to each conference participant for review and feedback, along with a set of questions that addressed particular aspects of the proposed structure (e.g., Should the Comfort class be divided into two classes—Physical Comfort and Physiological Comfort—and then be placed in different domains?) Based on the participants' comments, changes were made in the proposed structure. For example, the word "health" was taken out of the titles of two of the domains and two of the classes, with the rationale that all of this pertained to health. Definitions of two of the domains and some of the classes were changed, and titles of some classes were changed. All changes were made in the interest of keeping the practicing nurse in mind and focusing on what the practitioner would find most helpful and easiest to understand.

## *The 2002 NNN Conference: Presenting the Proposed Structure*

At the April 2002 NNN conference in Chicago, the structure was disseminated and there was further discussion by a larger community. During this conference, attended by over 300 individuals from the United States and nearly a dozen other countries, a plenary session was held, with 90 minutes devoted to presentation of the process used, the proposed structure, and discussion. All participants had copies of the draft of the paper and proposed structure, and a lively discussion ensued. One suggestion was to post the paper and structure on the web and to allow more time for feedback. One week after the conference, the paper and structure were posted on the web sites of both NANDA and the Center for Nursing Classification and Clinical Effectiveness, and the feedback was requested via the Center's listserv. Based on the feedback presented during the discussion period at the conference and the responses received from the web postings, the paper and structure were again revised. Among the major changes were a change in the name of the first domain from lifestyle to functional; a change in the definitions of three of the domains and several of the classes; the addition of the emotional class; and a name change from safety promotion class to risk management. Several other minor changes were made to reduce wordiness and to improve consistency in format. (Chapter Appendix 2.2 contains a summary of the comments on drafts 2 and 3 and the resulting changes that were made in each round. Chapter Appendix 2.3 acknowledges the individuals and groups that gave verbal or written feedback on draft 3.)

Although several of the issues raised have been resolved by the changes in names and definitions, some differences of opinions remain that cannot be reconciled in one structure; the revised structure will not be entirely to everyone's liking. This is the nature of consensus. It is also the nature of nursing—nurses work in a variety of settings with different philosophical orientations and levels of skill. The effort to achieve a common structure to account for all of nursing practice is a tall order. Nonetheless, we believe that the result is a very good beginning—a harmonization of all views has been accomplished.

## *Proposed Taxonomy of Nursing Practice*

The proposed structure, consisting of 4 domains and 28 classes, integrates the work of all participants and work groups at the conference and takes into account the reflection and feedback of the participants following the conference (see Table 2-6). This structure is different from the existing structures of NANDA, NIC, and NOC, and yet is not a radical departure from any of them. This is considered desirable inasmuch as it favors none and at the same time forms an effective transition to the use of a common structure. The structure is also in the public domain, available for use by any group or individual.

The proposed structure meets the desired guidelines (see Table 2-3) for a common structure. The two-level structure is simple, consistent with existing structures, and will be easy for clinicians to use. The number of classes

**TABLE 2-6 Taxonomy of Nursing Practice**

| Domains | | | |
|---|---|---|---|
| **I. Functional Domain** Includes diagnoses, outcomes, and interventions to promote basic needs. | **II. Physiological Domain** Includes diagnoses, outcomes, and interventions to promote optimal biophysical health. | **III. Psychosocial Domain** Includes diagnoses, outcomes, and interventions to promote optimal mental and emotional health and social functioning. | **IV. Environmental Domain** Includes diagnoses, outcomes, and interventions to promote and protect the environmental health and safety of individuals, systems, and communities. |
| **Classes** includes diagnoses, class outcomes, and interventions that pertain to: | | | |
| **Activity/Exercise**—Physical activity, including energy conservation and expenditure. | **Cardiac Function**—Cardiac mechanisms used to maintain tissue profusion. | **Behavior**—Actions that promote, maintain, or restore health. | **Health Care System**—Social, political, and economic structures and processes for the delivery of healthcare services. |
| **Comfort**—A sense of emotional, physical, and spiritual well-being and relative freedom from distress. | **Elimination**—Processes related to secretion and excretion of body wastes. | **Communication**—Receiving, interpreting, and expressing spoken, written, and nonverbal messages. | **Populations**—Aggregates of individuals, or communities having characteristics in common. |
| **Growth and Development**—Physical, emotional, and social growth and development milestones. | **Fluid and Electrolyte**—Regulation of fluid/electrolytes and acid base balance. | **Coping**—Adjusting or adapting to stressful events. | **Risk Management**—Avoidance or control of identifiable health threats. |
| **Nutrition**—Processes related to taking in, assimilating, and using nutrients. | **Neurocognition**—Mechanisms related to the nervous system and neurocognitive functioning, including memory, thinking, and judgment. | **Emotional**—A mental state or feeling that may influence perceptions of the world. | |
| **Self-Care**—Ability to accomplish basic and instrumental activities of daily living. | **Pharmacological Function**—Effects (therapeutic and adverse) of medications or drugs and other pharmacologically active products. | **Knowledge**—Understanding and skill in applying information to promote, maintain, and restore health. | |
| **Sexuality**—Maintenance or modification of sexual identity and patterns. | **Physical Regulation**—Body temperature, endocrine, and immune system responses to regulate cellular processes. | **Roles/Relationships**—Maintenance and/or modification of expected social behaviors and emotional connectedness with others. | |
| **Sleep/Rest**—The quantity and quality of sleep, rest, and relaxation patterns. | **Reproduction**—Processes related to human procreation and birth. | **Self-Perception**—Awareness of one's body and personal identity. | |
| **Values/Beliefs**—Ideas, goals, perceptions, spiritual, and other beliefs that influence choices or decisions. | **Respiratory Function**—Ventilation adequate to maintain arterial blood gases within normal limits. | | |
| | **Sensation/Perception**—Intake and interpretation of information through the senses, including seeing, hearing, touching, tasting, and smelling. | | |
| | **Tissue Integrity**—Skin and mucous membrane protection to support secretion, excretion, and healing. | | |

(parsimony of groups) is not overwhelming. The names for domains and classes are clear, and each has a formal definition. The names will also be familiar to members of other disciplines, thereby allowing for use across disciplines if desired. All classes are listed in only one domain. The classification is theory neutral and may be used with any philosophical orientation as well as any specialty or care delivery model.

The structure was developed so that the NANDA, NIC, and NOC developers (as well as others, if desired) could place their diagnoses, interventions, and outcomes in these same classes and domains. Initially, these are likely to be separate publications (each using the same structure), but over time, and perhaps with some modifications, the three languages can be placed together and published together in the one structure.[2] Information systems can use the one structure to help students and practicing nurses to locate and select the appropriate diagnosis, intervention, or outcome. The use of one common structure should facilitate the identification of linkages between diagnoses, interventions, and outcomes and thus encourage research that examines the relationships. Nursing curricula can be designed using the structure as a framework. It is also possible that, in time, the structure's 28 classes will evolve into a common assessment tool usable by all nurses to collect and communicate patient data.

## *Conclusion*

Having a nursing language facilitates communication between nurses and with the providers. Using nursing language can promote:

- Describing the substantive content of the discipline,
- Defining the in elements of care and assigned a cost based upon parameters such as complexity and acuity,
- Developing a database that can be analyzed and used to predict staffing mix and care requirements, and
- Articulating the focus of nursing practice and nursing's unique contributions to patient care outcomes to other disciplines.

When nursing care is documented with standardized language, the resulting data can be aggregated and studied. The results of nursing care are known.

Changes in practice can be made based on the results of research that was real clinical data. New avenues of research using clinical databases based on the documentation, actual care delivered and outcomes achieved are opened. Nurses can study the cost and effectiveness of care.

The proposed "Taxonomy of Nursing Practice" (Table 2-6) is a structure specifically designed for the integration of NANDA, NIC, and NOC, but it can also be used by other language developers and others who desire to organize

[2]At the time we submitted this manuscript for publication, it was our understanding that the developers of NANDA, NIC, and NOC had each agreed that they would place their diagnosis, intervention, or outcome concepts in their forthcoming editions of the classifications.

or index nursing content. Within this proposed framework, gaps in language about the human experience and the nurse patient/client relationship can be identified and studied. The presentation of diagnoses, interventions, and outcomes in one unifying structure will facilitate the teaching and use of the languages and further the goals of the profession as they relate to delivering and assuring quality patient care. We believe that this effort in collaboration and harmonization is one more step toward a preferred future.

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