

## An Exemplar of the Use of NNN Language in Developing Evidence-Based Practice Guidelines

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### **Abstract:**

**PURPOSE.** To explore the use of standardized language, NNN, in the development of evidence-based practice (EBP).

**DATA SOURCES.** Published research and texts on family interventions, nursing diagnoses (NANDA-I), nursing interventions (NIC), and nursing outcomes (NOC).

**DATA ANALYSIS.** Research literature was summarized and synthesized to determine levels of evidence for the NIC intervention Family Integrity Promotion.

**CONCLUSIONS.** The authors advocate that a “standards of practice” category of levels of evidence be adopted for interventions not amenable to randomized controlled trials or for which a body of research has not been developed. Priorities for nursing family intervention research are identified.

**IMPLICATIONS FOR NURSING PRACTICE.** The use of NANDA-I nursing diagnoses, NIC interventions, and NOC outcomes (NNN language) as research frameworks will facilitate the development of EBP guidelines and the use of appropriate outcome measures.

### **Article:**

A review of nursing texts, journals, conference programs, and nursing Web sites reveals that evidence-based practice (EBP) is becoming the global standard for nursing care. Nurses in clinical practice are encouraged to determine the level of evidence for their work, develop evidence-based clinical practice guidelines, and implement care based on the best evidence available. Much of the impetus for evidence-based nursing practice in clinical settings in the United States comes from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and a desire to maintain Magnet designation by the American Nurses Credentialing Center. Pierce (2007) recently published a guideline for assisting rehabilitation nurses in the United States with this process, and others (Malloch & Porter-O’Grady, 2006; Melynk & Fineout-Overholt, 2005) have provided guidance for nurses in other clinical practice settings in choosing the best evidence for their care.

Standardized nursing language using Nursing Diagnoses, Nursing Interventions Classifications (NIC), and Nursing Outcomes Classifications (NOC), also referred to as NNN (NANDA, NIC, and NOC) language, is also used in many settings worldwide. Yet when combining “EBP” and “NNN language” in a computerized literature search, no articles were found that applied NNN language in developing evidence-based guidelines. However, two articles were noted that have tied together the concepts of NNN language and EBP. Berg, Fleischer, and Behrens (2005) explored search strategies to find NNN taxonomies in the EBP literature. Levin, Lunney, and Krainovich-Miller (2004) proposed using NANDA diagnoses as a guide for improving evidence-based diagnostic accuracy. The purpose of this review was to explore the NIC intervention Family Integrity Promotion in the development of EBP. The NIC intervention Family Integrity Promotion is presented as an exemplar of an evidence-based guideline using NNN language.

Nursing instructors, students, and nurses in some practice settings have been using nursing diagnoses for decades. Some nurses in educational and practice settings have also used nursing outcomes classification

(NOC) (Moorhead, Johnson, & Maas, 2004) and nursing interventions classification (NIC) (Dochterman & Bulechek, 2004), which were developed by research teams in the Center for Nursing Classifications at the University of Iowa College of Nursing. Johnson, Bulechek, Butcher, et al. (2006) have also published the Nursing Diagnoses, NOC, and NIC linkages text to assist nurses in linking these three classification systems.

NIC interventions and NOC outcomes can provide appropriate foundations for evidence-based guidelines. Each NOC outcome contains a list of indicators which can be measured to document progress towards the desired goal. Each NIC intervention contains a list of activities or interventions from which nurses can choose. Appropriate references are provided for all NOC outcomes and NIC interventions. All NOC outcomes and NIC interventions have also been reviewed by clinical experts, and a multimethod research approach was used in their development. However, the level of evidence is not specified in the texts, and it is not possible to determine whether the evidence is expert opinion, clinically based, or research based.

### Data Analysis

To illustrate the combined use of NNN standardized nursing language and evidence for practice, the NIC intervention Family Integrity Promotion was examined. Family Integrity Promotion is defined as the “promotion of family cohesion and unity” (Dochterman & Bulechek, 2004, p. 366). The focus is the family of adults with acute and chronic illnesses in acute care settings and the community. Family integrity promotion is important for several reasons. Working with families is a part of holistic care of the patient, and nursing has traditionally ascribed to family-centered care. In addition, anxious families in conflict demonstrate an increased need for nursing care. However, assisting families to resolve conflict and decrease anxiety may actually make the nurse's work more effective. Further, resolving family conflicts while the patient is in the hospital may facilitate the patient's posthospital recovery. Families that are supportive and calm can reassure and care for patients, and facilitate their recovery.

When linking Nursing Diagnoses, NOC outcomes, and NIC interventions for Family Integrity (see [Table 1](#)), an appropriate Nursing Diagnosis is Family Process, Readiness for, enhanced (Johnson et al., 2006). One appropriate NOC outcome would be Family Integrity, defined as “family members’ behaviors that collectively demonstrate cohesion, strength, and emotional bonding” (Moorhead et al., 2004, p. 276), and one major NIC intervention would be Family Integrity Promotion (Dochterman & Bulechek, 2004).

**Table 1. Nursing Diagnosis, NOC Outcome, and NIC Intervention Linkages**

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1. Source consulted: [Johnson et al. \(2006\)](#).

Nursing Diagnosis	Family Process, Readiness for, Enhanced
NOC Outcome	Family Integrity
NIC Intervention	Family Integrity Promotion

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The authors examined the level of evidence to support the NIC intervention Family Integrity Promotion by evaluating the research literature on the 23 activities or interventions nurses may choose from when implementing family integrity promotion (Van Horn & Kautz, 2007). Several models have been advanced to evaluate published research focusing on the development of EBP guidelines, including the Iowa Model of EBP to Promote Quality Care (Titler, Kleiber, Steelman, et al., 2001) and the Stetler Model of Research Utilization to Facilitate EBP (Stetler, 2001). For this project, Melynck and Fineout-Overholt's (2004) levels of evidence were used, which range from level 1 (LOE = 1) to level 7 (LOE = 7; see [Table 2](#)). Level-1 evidence requires either three or more randomized controlled trials (RCTs), a systematic review of the literature, or a meta-analysis to support the activity. Level 7 indicates that the evidence includes only expert opinion or committee reports. Using Melynck and Fineout-Overholt's model, some NIC intervention activities were found to be effective, others were possibly effective, others were determined to be standards of practice (see [Table 3](#)), and some activities were identified as areas for future research. Effective NIC intervention activities include: “counsel family members on additional coping skills for their own use” (LOE = 1); “monitor current family

relationships” (LOE = 1); “facilitate open communication among family members” (LOE = 2); and “provide for family visitation” (LOE = 3). Possibly effective activities include: “identify typical family coping mechanisms” (LOE = 6); “assist family with conflict resolution” (LOE = 7); and “facilitate a tone of togetherness within/among the family” (LOE = 5).

**Table 2. Levels of Evidence**

Level	Criteria
1.	Adapted from <u>Melynk and Fineout-Overholt (2004)</u> .
1	Systematic review or meta-analysis of RCTs
2	One RCT
3	Nonrandomized controlled trials
4	Case-control or cohort studies
5	Descriptive or qualitative studies
6	Single descriptive or qualitative studies
7	Expert opinion or committee reports

**Table 3. Family Integrity Promotion NIC Intervention Activities**

\*

LOE determined using Melynk and Fineout-Overholt (2004) criteria.

†

Level 1A The authors’ proposed designation for standards of practice.

- Source consulted: Van Horn and Kautz (2007).

Effective Activities

Counsel Family Members on additional coping skills for their own use (LOE = 1)\*

Monitor current family relationships (LOE = 1)

Facilitate open communication among family members (LOE = 2)

Provide for family visitation (LOE = 3)

Possibly Effective Activities

Identify typical family coping mechanisms (LOE = 6)

Assist family with conflict resolution (LOE = 7)

Facilitate a tone of togetherness within/among family members (LOE = 5)

Standards of Practice Activities

Establish a trusting relationship with families (Level 1A)†

Provide for family privacy (Level 1A)

**Table 2. Levels of Evidence**

**Level            Criteria**

Be a listener for family members (Level 1A)

Determine family understanding of causes of illness (Level 1A)

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Evaluation of the research literature resulted in the designation of the following four NIC intervention activities as standards of practice: establish a trusting relationship with families, provide for family privacy, be a listener for the family members, and determine family understanding of causes of illness. Examining the level of evidence for activities designated as standards of practice prompted two questions. First, how old is the research that led to these interventions? Nursing research on families conducted as early as the 1970s (Kleinpell & Powers, 1992; Molter, 1979; Van Horn & Tesh, 2000) found that families have several common needs, including privacy, understanding the patient's illness, and having their concerns heard; these needs continue to be valid. Second, is it ethical and practical to test the effectiveness of these activities? A nurse cannot decide to establish a trusting relationship with some families, but not with others. A nurse cannot give some families privacy to be with their family member, and not others. Further, it would be unethical to decide to avoid listening to some families' questions and not answer them. Even testing different approaches for these interventions would be impractical. For example, nurses cannot randomize some families to one kind of "listening" and other families to another kind. Finally, these interventions are impossible to control, given that so many members of the healthcare team are involved. Ethical issues arise when consideration is given to research that would withhold these activities. However, a retrospective study that would identify families who both did and did not experience this care is a possibility.

While RCTs may be impractical or unethical for some interventions, other longstanding effective nursing interventions do not have empirical support and cannot be classified using the levels of evidence scale. Therefore, a separate designation of levels of evidence entitled "standards of practice" is proposed. Two criteria for standards of practice are proposed: (a) interventions which are supported with seminal, descriptive, and/or qualitative research, and (b) where the conduct of RCTs to test the interventions is either unethical or impractical. Many of the procedures and methods of providing nursing care, which may include RCTs, need further study. However, some of the techniques nurses use can be classified as Level 1A, even though they have not been studied in randomized controlled trials. Providing for family privacy, being a listener, and establishing trusting relationships are interventions that meet the study criteria for standards of practice.

Other activities may be priorities for nursing research. One such area is the development and testing of effective nursing interventions for families who are overwhelmed by guilt, anger, or hopelessness. Family integrity may be threatened by feelings of guilt or anger, which can lead to despair and poor outcomes for both patients and families. Nurses frequently work with patients and families expressing these emotions. While nurses make referrals to therapists, counselors, pastoral services, or social workers, referring every patient and family is impractical and in some settings even impossible or inappropriate. Instead, nurses may intervene by implementing the appropriate NIC intervention to assist in promoting family integrity, including Forgiveness Facilitation, Anger Control Assistance, and Hope Instillation.

**Implications for Research and Nursing Practice**

The research literature requires evaluation to establish the level of evidence for all NIC intervention activities and all NOC outcome indicators. Several guides for implementing EBP have also been developed, although most do not use NIC interventions and NOC outcomes as frameworks for developing evidence-based guidelines. A notable exception is the new EBP medical–surgical guidelines based on NIC interventions by Ackley, Ladwig, Swan, and Tucker (2007).

Identification of some activities as standards of practice and others as priorities for nursing research leads to several implications for both research and practice in the promotion of family integrity. Nurses can be educated to perform basic interventions to assist individuals and families to manage the difficult emotions of anger, guilt, and hopelessness. Clinical trials can then be implemented to determine which interventions are most effective. Tools have been developed and tested to measure hope, such as the Herth Hope Index (Herth, 1992), and Festa and Tuck (2000) have provided a review of forgiveness literature, which includes tools to measure forgiveness, nursing interventions, and an outline for forgiveness-related nursing research. Nurses can test the effectiveness of their interventions using these tools. Nurses can assess the need for interventions and measure the outcomes of interventions using the NOC outcome Family Integrity indicators, which include Likert-type rating scales for each indicator. Measures of family integrity can be compared to functional health outcomes for the patient, individual family members, and the family as a whole.

Using the NOC outcome “indicators” to measure families’ current level of functioning will ensure that nurses focus on the families who most need help. This is a key point. Hinds's (2004) research on the hopes and wishes of adolescents with cancer has found that very few adolescents actually lose hope and need intervention. Further, while families may lose hope, feel guilty, and experience out-of-control anger, research has indicated most families deal with these emotions effectively without nursing intervention. Therefore, assessment is important prior to intervening, and the NOC outcome indicators provide a tool for the nurse to conduct family assessments.

It is also important to use appropriate outcome measures. Future research regarding the needs of families should focus on family outcomes, rather than individual outcomes. Among family intervention studies published from 1997–2007, only a few have reported the use of at least one instrument that measured some type of family functioning or a family outcome (e.g., Chien, Chiu, Lam, & Ip, 2006; Clark, Rubenach, & Winsor, 2003; Dunbar, Clark, Deaton, Smith, De, & O'Brien, 2005). Most family intervention studies are directed towards families, yet measure the success of the intervention through evaluating individual outcomes.

Moorhead et al. (2004) provided clear family outcome measures for nurses to use in conducting family intervention research and in working with families in clinical settings. For example, indicators from the NOC outcome Family Integrity include “participates in family rituals and traditions, members express loyalty, members express affection to one another, members help one another in performing roles and daily tasks” (Moorhead et al., p. 276). Each of these indicators can be measured using a Likert scale to determine family outcomes. Conducting research using NOC outcome indicators to measure family functioning will add to the level of evidence of these NOC outcome indicators.

Standardized NNN language can be used in conducting research and developing EBP guidelines. Johnson et al. (2006) have noted the following purposes in adopting uniform language: (a) NNN language promotes consistent documentation of nursing practice in multiple settings; (b) nurses can better compare and evaluate the effectiveness of nursing care if we ensure that we are all talking about the same thing; (c) standardized language increases communication across disciplines as nurses provide interdisciplinary care. The challenge now is to utilize NNN language in the development of EBP guidelines to facilitate the development of both standardized language and EBP guidelines. NIC intervention and NOC outcome texts have already specified nursing activities (interventions) and outcomes (indicators) for evaluating the effectiveness of nursing care, and thus provide a framework for EBP research. Furthermore, the use and continued development of uniform, standardized language capture the essence of nursing practice and help to advance nursing knowledge in addition to providing an appropriate framework for evidence-based practice.

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