

# Measuring the Outcomes of School Nursing Practice:

## Showing that School Nurses Do Make a Difference

Janice Denehy, RN, PhD, Editor

In today's cost conscious health care system, there is tremendous emphasis on demonstrating effectiveness. Nurses in all settings are being asked to show that what they do, their interventions, makes a difference in achieving desired outcomes. The same is true in the business and educational sectors — outcomes are the bottom line. In the educational setting, educators are being asked to show that students are achieving specific learning outcomes in the classroom. For school nurses, the emphasis on measuring outcomes provides a particular challenge not only to show their interventions positively influence the health of children, but also have an effect on educational outcomes.

School nurses have worked tirelessly to assess the health needs of students and to implement interventions targeted to meet the identified needs. These are skills learned in nursing school and perfected with years of practice. However, with today's emphasis on outcomes, nurses in all settings are realizing they do not have the education, skills, or tools necessary to evaluate the effectiveness of their nursing care. Sure, evaluation is a major component of the nursing process most of us learned in nursing school, but did we really have as much emphasis on this part of the nursing process as we had on the assessment, diagnosis, planning and intervention phases of the process? In today's baccalaureate nursing education programs, much time is devoted to teaching physical assessment and taking a holistic health history, including gathering information on family, culture, and community. From this data, students are encouraged to formulate a nursing care plan outlining nursing diagnoses, goals articulating the desired outcomes, and nursing interventions thoughtfully designed to meet the stated goals. Students are required to have complete information about the client and family, the related condition, any medications to be administered, and how to safely and efficiently deliver the planned nursing interventions. However, what has been missing is equal emphasis on evaluating the outcomes of care. Although the outcomes may have been listed and potential methods to measure the outcomes identified, students often do not care for or follow clients over time and have had little or no experience in gathering concrete data on outcomes. Therefore, they are not likely to see the results of their interventions or have an opportunity to evaluate their care over time (Denehy, 1998). Once on the job, most nurses find they are so busy they have difficulty delivering the care required in the manner they believe is at a level consistent with what they have been taught and their professional values. The immediacy of caring for many students, often in a number of school buildings, makes evaluation of outcomes a low priority for many school nurses.

For school nurses the task of measuring outcomes presents a number of challenges. First of all, they not only need to measure short-term outcomes on a regular basis, for example determining the

effectiveness of medications delivered, but they also have to measure the outcomes that are likely to be expected over a longer period of time, for example, outcomes related to support or health education. Students come to the nurse's office for a variety of reasons, from minor injuries, to major needs for information or support. Their needs are assessed and addressed; however, many may not return so the nurse can determine the outcomes of the interventions delivered. To complicate the picture, educators are demanding to know what effect nursing care has on educational outcomes.

For nurses with limited experience in actually gathering data on the outcomes of care on a regular basis, it is difficult to know where to begin on what appears to be a daunting task. First, a plan is needed to measure outcomes. However, before beginning this process you need to know the student's condition or status, baseline data, prior to the implementation of any interventions. This important step is essential if you are to have evidence that what you did really made a difference in the child's health status, health knowledge or health behaviors. Using the same tool or criteria to gather baseline data and outcome data is crucial to validating the contributions nurses make. Therefore, planning for outcome measurement begins during the planning phase of the nursing process, well before the actual interventions are implemented. Hence, school nurses will need to have a repertoire of outcome measures or tools readily available.

School nurses are familiar with the process of having a standardized classification of nursing diagnosis readily available to them to name or label responses to actual or potential health problems experienced by children and their families. Nursing diagnoses have become an accepted part of nursing practice and are used to promote communication, documentation, and standardization of care (Hootman, 1996; Lunney, 1996). The current North American Nursing Diagnosis Association classification lists 149 nursing diagnoses (NANDA, 1999), with numerous others being developed by interested nurses and specialty groups. School nurses are able to list a number of nursing diagnoses they see frequently in their practice, such as Risk for Infection, Nausea, Pain, Hyperthermia, and Knowledge Deficit. Familiarity with nursing diagnoses helps the nurse focus on the problem and then move quickly to the planning stage where the outcome goal is articulated and the interventions designed to reach the goal are listed.

Similarly, school nurses are becoming acquainted with the *Nursing Interventions Classification (NIC)*, a standardized classification of 486 nursing interventions (Iowa Intervention Project, 2000). This classification provides school nurses with a method of clearly articulating the interventions, both direct and indirect, they implement on behalf of the students, families, staff, and communities they serve. Two recent research studies have identified which NIC inter-

ventions are used in school nursing practice (Pavelka, McCarthy, & Denehy, 1999; Cavendish, Lunney, Luise, & Richardson, 1999). In addition to a taxonomy which organizes the interventions into seven domains and 30 classes, each of the current NANDA nursing diagnoses has been linked to appropriate NIC interventions. "A linkage is defined as a relationship or association between a nursing diagnosis and a nursing intervention that causes them to occur together in order to obtain an outcome or the resolution of a patient's problem" (Iowa Intervention Project, 2000, p. 711). These linkages are useful in care planning and provide a standardized and consistent approach to nursing practice.

As the outcome goal is stated the nurse needs to be mindful of how this goal will be measured. A standardized system similar to NANDA's classification of nursing diagnoses and the *Nursing Interventions Classification (NIC)* that provides a mechanism to measure the outcomes of nursing care is the *Nursing Outcomes Classification (NOC)* (Iowa Outcomes Project, 2000). The second edition of *NOC* lists 260 nurse-sensitive outcomes that will assist nurses gather concrete data about outcomes. Each outcome has a label or name, a definition, and a list of indicators that describe client, caregiver or family status. Each outcome includes a five-point Likert scale to evaluate the indicators listed. There are 17 different scales developed by the *NOC* research team to evaluate the wide variety of outcomes that are part of the classification. *NOC* provides a mechanism to gather baseline data as well as post-intervention outcome data at specific intervals appropriate for the situation. The 260 outcomes have been organized into a taxonomy that facilitates retrieval and use. In addition, the outcomes have been linked to all the current NANDA nursing diagnoses, giving the

nurse a menu of outcomes from which to choose. For example, outcomes that may be appropriate for a student with the nursing diagnosis of Risk for Infection might include Risk Control: Sexually Transmitted Diseases, Knowledge: Infection Control, Tissue Integrity: Skin and Mucous Membrane, or Immunization Behavior, depending on the factors putting the student at risk for infection. For students with the nursing diagnosis of Pain, appropriate outcomes might include Pain Level, Pain Control, or Comfort Level. Finally, when the nursing diagnosis is Knowledge Deficit, *NOC* lists 25 knowledge outcomes, many of which are applicable to school nursing practice, such as Knowledge: Medication, Knowledge: Treatment Regimen, and Knowledge: Health Behaviors.

School nurses need to examine each outcome to determine which are most appropriate for the population they serve and the problems most frequently seen in their practice. Then they need to select those indicators which capture the health status they desire to modify with their nursing interventions. Because *NOC* was developed for use by nurses in all settings and specialties, there are outcomes and indicators that may not seem appropriate for use with children or in the school setting. However, it is not necessary to use all the indicators listed. For example, Pain is a common nursing diagnosis in school nursing practice, characterizing students with headaches, menstrual pain, as well as minor playground trauma. While the interventions may vary from supportive, pharmacological, to topical in nature, the outcome goal is reduction or eradication of pain. An appropriate *NOC* outcome to measure this would be Pain Level, defined as "severity of reported or demonstrated pain" (Iowa Outcomes Project, 2000, p. 328). Of the 12 indicators listed, the nurse needs to select only those

## Lice outbreaks affect millions of children each year. Give them the non-toxic solution that works.



From Tec Laboratories comes LiceFreee!, a new non-toxic treatment proven to kill head lice and their eggs through in vitro tests. With a soothing aroma, non-toxic formula and easily understood directions all packed into a double-dose kit, LiceFreee! is the solution you've been looking for. Available at major drug stores.

Each kit contains:

- Professional stainless steel comb
- 2 complete treatments

**Licefreee!**<sup>TM</sup>  
HOMEOPATHIC PEDICULICIDE  
The non-toxic lice-killing solution.

**Call 1-800-ITCHING to receive a free sample kit.**



TEC LABS<sup>®</sup>  
Albany, Oregon

that appear relevant to the situation, for example, reported pain, protective body position, and restlessness. The five-point Likert scale, 1 = Severe, 2 = Substantial, 3 = Moderate, 4 = Slight, and 5 = None, provides the nurse with a concrete scale to measure the student's pain level at the time of initial assessment (baseline data), as well as a mechanism to evaluate the pain level at different intervals post intervention. This outcome would be particularly helpful to monitor students with chronic or recurring pain, as well as students with acute pain.

The use of nursing outcomes in Individualized Healthcare Plans (IHP) for children with special health needs provides a framework to determine how outcome goals are being met over time. Indicators specific to the outcome goals are selected or created. The outcome goals are evaluated on a periodic basis, and the IHP revised accordingly. *NOC* outcomes provide a mechanism to formally measure the outcomes of care and to communicate these outcomes to others in the school setting (Denehy & Poulton, 1999).

More challenging is evaluating the outcomes of daily care delivered to students who come to the nurse's office with unexpected episodic conditions. Frequently these visits are short, during which time the school nurse gathers data to make a nursing diagnosis and intervenes appropriately. What is needed here is a mechanism to measure the outcomes of these brief encounters on the health of children as they are an important and time-consuming part of school nursing practice. In addition, the challenge of determining the effect of school nursing services on the educational outcomes of students needs to be addressed. It has been proposed that healthy students have the potential to learn better (Novello, DeGraw, & Kleinman, 1992). However, what data do we have to back up this claim? Outcomes such as learning readiness, attendance, and academic performance are potential measures to be considered. Coupling data on health and educational outcomes will provide powerful evidence of the contribution school nurses make in the school setting. However, to get to this point, school nurses will need to develop a systematic plan to gather outcome data on each child seen in the nursing office. Using computers to enter, store, and analyze this data will be essential in generating statistical evidence of the contributions nurses make to the health and educational outcomes of children.

The profession of nursing is now retooling to meet the demands of the health care system in the new millennium. An important priority is to clearly articulate what contributions nursing makes to the health of the nation. For school nurses, the time has come when attention needs to be focused on how outcomes of care will be measured in the school setting. We have a long way to go to achieve this goal, and it will be difficult to reorganize our thinking and procedures to include outcome measurements. But that's no reason to avoid what needs to be done. School nurses are a committed and creative group of profes-

sionals who have adjusted to the changing demands of school nursing practice. As dwindling resources are more carefully and thoughtfully allocated, school nurses know they will have to clearly demonstrate in a concrete way what they contribute to the health of the school communities they serve. In order to determine outcomes of care, a mechanism is needed that assists in gathering data about nursing outcomes. The *Nursing Outcomes Classification (NOC)* provides such a mechanism that will assist the profession in articulating and measuring outcomes of nursing care. The classification is in its infancy, and more outcomes specific to children in the school setting need to be identified and developed. As school nurses begin to use *NOC* to measure outcomes, they will become familiar with the classification, they will become more proficient in the outcome measurement process, and they will identify new outcomes needed that reflect school nursing practice. In addition, they will see how the classifications of nursing diagnoses, interventions and outcomes form an organized framework of nursing practice needed for the 21st century. School nurses need to seize the moment and be proactive in systematically measuring the outcomes of their care. Providing concrete data on the contribution school nurses make to the health and educational outcomes of children will solidify nursing's position in the school setting — and show that school nurses *do* make a difference! ●

— JD

#### REFERENCES

- Cavendish, R., Lunney, M., Luise, B.K., & Richardson, K. (1999). National survey to identify the nursing interventions used in school settings. *Journal of School Nursing, 15*(2), 12-19.
- Denehy, J.A. (1998). Integrating *NOC* into nursing education. *Journal of Nursing Care Quality, 12*(5), 73-84.
- Denehy, J. & Poulton, S. (1999). The use of standardized language in individualized healthcare plans. *Journal of School Nursing, 15*(1), 38-45.
- Hootman, J. (1996). Nursing diagnosis — a language of nursing; a language for powerful communication. *Journal of School Nursing, 12*(4), 19-23.
- Iowa Interventions Project, (2000). *Nursing Interventions Classification (NIC)*, (3rd Ed.), St. Louis: Mosby.
- Iowa Outcomes Project, (2000). *Nursing Outcomes Classification (NOC)*, (2nd Ed.), St. Louis: Mosby.
- Lunney, M. (1996). The significance of nursing classification systems to school nursing. *Journal of School Nursing, 12*(2), 35-37.
- North American Nursing Diagnosis Association (NANDA), (1999). *Nursing Diagnoses: Definitions & Classification 1999-2000*. Philadelphia: Author.
- Novello, A.C., DeGraw, C., & Kleinman, D.V. (1992). Healthy children ready to learn: an essential collaboration between health and education. *Public Health Reports, 107*(1), 3-10.
- Pavelka, L., McCarthy, A.M., & Denehy, J. (1999). Nursing interventions used in school nursing practice. *Journal of School Nursing, 15*(1), 10-17.

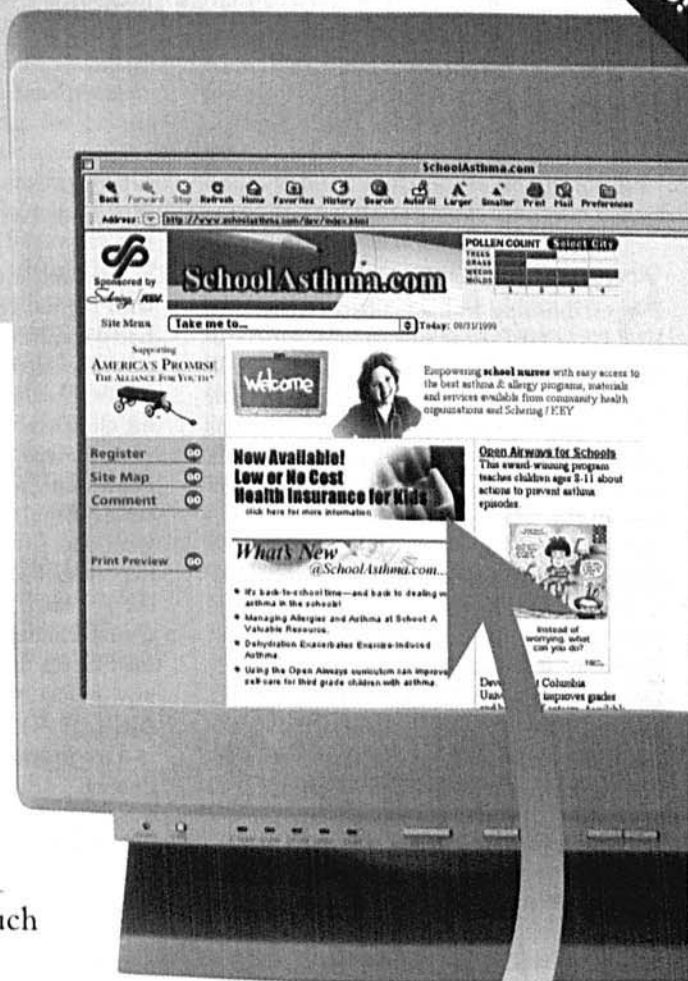
# Asthma is a Leading Cause of Missed School Days<sup>†</sup>

Check Out Our New Features!

*Introducing the Leading Resource to Help School Nurses Fight Back*

Log on to [www.schoolasthma.com](http://www.schoolasthma.com) and empower yourself to help students, parents, and physicians better control asthma and allergies in school. This comprehensive online resource lets you:

- Tap into valuable materials from trusted sources such as the American Lung Association, NHLBI, AAFA, ACAAI, AAAAI, AAP, and The Allergy and Asthma Network\*Mothers of Asthmatics.
- Review, sample, and order asthma and allergy education programs, materials, and services—online.
- Download free tools such as permission forms.
- Trade inside information with your peers.
- Now available on site! Information concerning low or no cost insurance for every state, plus downloadable health insurance forms.



**[www.schoolasthma.com](http://www.schoolasthma.com)**  
**Log On Today**

*www.schoolasthma.com* is proudly sponsored by Schering/KEY Pharmaceuticals.

