



THE JOURNAL

of the New York State Nurses Association

SPRING/SUMMER 2005

- **Moving the New York State Research Agenda Forward:
The Stakeholder is You!**
*by Denise Côté-Arsenault, PhD, RNC, FNAP; Priscilla Sandford Worrall, PhD, RN;
Jeanne-Marie Havener, PhD, RN, CNS, FNP; and Cynthia Gurney, PhD, RN*

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■ EDITORIAL

This edition of the *Journal* was not assigned a theme, but as we selected material, a theme of vital importance to nursing and health care emerged: collaboration.

The concept of collaboration (literally translated, “working together”) fits all of the articles you will find in this edition. It might seem surprising that with all the talk and research about teamwork in health care, working together will always require discipline and conscious effort. Specialized knowledge, skills, and expertise can serve as barriers to working together, but as the authors show in this issue of the *Journal*, working together is critical to building the bridge between the ever expanding research base and nursing practice. Working with others is also a core competency for healthcare professionals if we are going to effectively respond to the increasing complexity of care and keeping pace with the demands of technology.

The update on the NYSNA research agenda written by Denise Coté-Arsenault and colleagues provides rich background and some very exciting examples of how different institutions and groups of nurses have begun to collaborate on research initiatives. The authors, all members of NYSNA’s Council on Nursing Research, provide suggestions and contact information for nurses who wish to become involved in collaborative research efforts in their geographic areas.

Marybeth Ryan and Karen Aloe describe “The Development of Nursing Research Self-Study Modules.” The modules are innovative tools for nurses to increase their comfort and skill with finding and using the best evidence for practice. Sufficient detail about the modules is given so that the reader can begin to replicate this effort. One essential component of using the modules is the partnership between nurse researcher and clinician. The authors suggest a method to evaluate the effectiveness of these kinds of modules.

The article by Karen “Toby” Haghenbeck addresses the challenges of using technology in the critical care setting. Using a phenomenological approach, Haghenbeck describes some of the lived experiences of seven critical care nurses when technology fails. She formulated the following themes and meanings: “I can’t believe it happened.” “Is it the machine or is it me?” and “What about my professional image?” Nurses working together to overcome mechanical challenges and maintain control over the environment are some of the suggestions for dealing with these experiences.

The “Partnership Model for Practice and Education” by Marie Truglio-Londrigan and Margaret Macali describes a mutually beneficial collaboration between a university-based school of nursing and a practice setting. The authors examine the experience of negotiating for such a partnership and the benefits to both the agency and to students and faculty.

Finally, the review of Suzanne Gordon’s newest book, *Nursing Against the Odds*, is related to the collaboration theme. In a broad sense, nurses must increase their collaboration with other professions, particularly medicine, while taking credit for good outcomes. Teamwork within nursing units and with such forces as the media are proposed as solutions to our current crisis within nursing which have led to low morale and nursing shortages.

Tobie Olsan, PhD, RN, CNAA
Jane Tuttle, PhD, RN
Guest Editors



Moving the New York State Research Agenda Forward: The Stakeholder is You!

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Abstract

Health care is more diverse than it has ever been. The point of care can be rural or urban, inpatient or outpatient, individual or community-focused. In this challenging, ever-changing environment, it is critical for nurses to have access to nursing research on the best way to provide care. The New York State Nursing Research Agenda was launched in 2001 as an ongoing action plan to facilitate the conduct, dissemination, and utilization of nursing research in New York. This article describes several initiatives that have been launched to implement that plan. Strategies for local and regional initiatives are outlined. Key to the success of these initiatives is the involvement of nurses at all levels of practice and in all healthcare arenas. All nurses are stakeholders because this is our science and our profession.

The Chinese have a saying: “May you live in interesting times.” As nurses, we certainly do! The face of health care is changing at lightning speed as advances in technology make possible today what was not even imagined 20 years ago. Patients can have robot-assisted coronary artery bypass surgery through a small incision. Rural-dwelling patients with diabetes benefit from telemedical follow-up with their primary care provider without leaving their homes.

Given these “interesting times,” how can nurses keep up best practices so they can provide quality patient care? How do we find and assess the vast array of evidence upon which to base practice decisions? When there is no evidence, how do we generate sound answers to questions from patients, colleagues, and healthcare agencies?

One answer to these questions is summed up in a single word: **together**. Our mutual goal is to achieve and maintain the best outcomes for our patients resulting from care that is based on best evidence, clinical expertise, and patient preferences. The context in which we strive to meet that goal varies across the state, however. We work in rural and urban areas, in hospitals and homes, in solo practices and as members of a multidisciplinary team, with severely limited resources and in well-endowed academic research centers.

Best evidence is generated from rigorously conducted research. If achieving the best outcome for a patient means that we need to better understand that patient’s experience, well-designed qualitative studies can provide evidence on which we can confidently base a patient care

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decision. If achieving the best outcome for a patient means that we need to determine which therapy will best resolve a patient’s lack of mobility, for example, well-designed randomized controlled trials can provide the evidence we seek. In either case, evidence in the form of research must be available, understood, and used.

The purpose of this article is to describe how the New York State Nursing Research Agenda (NYSNRA) can serve as a framework and plan for nurses across the state to work together toward our goal of achieving and maintaining best outcomes for our patients and their families. Since its inception, the NYSNRA has been intended to be a collaborative activity among all registered nurses in New York state, including direct-care nurses, nurse managers, educators, and researchers. It demonstrates an important truth: that *every nurse* is a vital stakeholder in the NYSNRA and the future of research-based nursing in our state. Table 1 on pages 8 and 9 summarizes the agenda and its goals, activities, timeline, progress, and outcomes.

“Every nurse is a vital stakeholder in the New York State Nursing Research Agenda and the future of research-based nursing in our state.”

The Council and the Foundation of NYSNA also held focus groups during NYSNA’s annual convention. While responses to the mail survey were disappointing, 130 nurses attended the focus group sessions in Niagara Falls, NY. These participants represented many nursing specialties and all levels of education — exactly the group most appropriate to forge a research agenda that would be meaningful to all RNs across the state!

Remaining true to the principle of collaboration, the chair of the NYSNA Council on Nursing Research, the chair of the Foundation’s Center for Nursing Research, and a NYSNA Research Fellow met to analyze feedback from the mail survey and focus groups. Using a Q-sort method to organize data, five key response categories emerged:

1. Infrastructure
2. Involvement/Collaboration/Mentoring
3. Education
4. Dissemination
5. Research Utilization (at micro & macro levels) (Levin et al., 2002)

These five categories and the focus-group comments served as the building blocks for creation of today’s NYSNRA.

History of the NYS Nursing Research Agenda

The genesis of the NYSNRA was in 1987, when the Foundation of the New York State Nurses Association (NYSNA), the NYSNA Council on Nursing Research (CNR), and the Russell Sage College’s Delta Pi Chapter of Sigma Theta Tau International undertook a collaborative effort to forge a unifying nursing research agenda in the state.

As described by Levin and colleagues (2002), planning conferences were held in 1988 and 1989 to identify the current scope of nursing research in New York; outline statewide nursing research priorities; and develop strategies for conduct, coordination, and support of research in the future. The CNR also conducted a Delphi survey in 1988 to elicit input on research priorities from all NYSNA members who held a master’s degree or higher.

After three rounds of the survey, 10 research priorities were identified and categorized into three themes:

- Nurses/context (e.g., job satisfaction, retention);
- Nursing/process (e.g., quality of care, clients/outcomes);
- Effectiveness of nursing care (e.g., patient outcomes related to nursing care, cost effectiveness).

A comprehensive discussion of these activities is documented in *Nursing Research: Forging an Agenda for New York State* (Welch, Shortridge, & Tucker, 1991).

The next decade of development of the NYSNRA was characterized by bursts of enthusiasm followed by months and years of little follow-through. Barriers to nursing research identified at the 1988 conference remained, i.e., lack of resources and lack of an infrastructure to advance a research agenda. This decade of relative inactivity came to an end in 2000, when the CNR conducted a mail survey of 499 individuals, nursing administrators, and research leaders.

The NYS Nursing Research Agenda today

Despite the rapid change and complexity that characterize the current healthcare system, the five major goals developed for the NYSNRA in 2000 remain relevant:

1. Expand the human, technological, and financial infrastructure that is currently available to support the nursing research endeavor.
2. Facilitate collaboration among all stakeholders in the nursing research endeavor to promote sharing of expertise, mentoring of novices, and coordination of resources in order to improve patient care.
3. Create learning opportunities for nursing students and professional nurses to enhance their understanding of nursing research and their ability to apply research findings to practice.
4. Disseminate nursing research findings to members of the nursing profession and the community at large.
5. Promote the use of nursing research findings to solve clinical problems and influence healthcare policy.

Each of the five major goals has sub-goals which, in turn, have related activities with timelines, assigned accountability, progress reports, and outcomes to date. This structure enables the agenda to be both global and specific, both strategic and short-term. The NYSNRA is reviewed and updated four or five times each year by members of the NYSNA Council on Nursing Research with input from the Foundation of New York Nurses Center of Nursing Research. These updates make the agenda a “living document.”

To make the NYSNRA accessible to all stakeholders – all the RNs in New York state – the most current version is available on the NYSNA

*NYSRNA goals are well-tuned to the Magnet Recognition Program
and offer support to institutions interested in achieving and maintaining Magnet status.*

Web site at www.nysna.org/images/pdfs/research/snra.pdf. Nurses are encouraged to read the agenda and send feedback to the Council.

Putting the agenda into action

Are you wondering how the NYSNRA could be relevant to you? Have you ever been affected by the nursing shortage? Do you ever wish you could network with colleagues in your local area to improve patient care or improve how you feel about your work and your profession?

The primary role of the NYSNA CNR and the Foundation's Center for Nursing Research is to turn the research agenda into *action*. The agenda is relevant for answering these questions and more. It is being implemented at national, regional, and local levels, as the following examples illustrate.

Magnet Hospital Recognition Program

The American Nurses Credentialing Center (ANCC) encourages hospitals to seek and achieve the title of Magnet Hospital, a designation that signifies outstanding nursing practice in that hospital and, in turn, increases retention of nursing staff. According to the "Forces of Magnetism," The healthcare environment should support nurses' efforts to: 1) identify practice issues to be studied; 2) use research findings in clinical practice; 3) identify resources needed to support research projects; 4) use continuous quality improvement activities as the basis for ongoing research activities; 5) promote research so that the nursing practice is evidence-based and knowledge-driven; and 6) promote the understanding and effective use of theories and research (ANCC, 2004). Achievement of Magnet recognition by an institution highlights the importance of its nurses in providing quality patient care and meeting organizational goals.

NYSRNA goals are well-tuned to the Magnet Recognition Program and offer support to institutions interested in achieving and maintaining Magnet status. An Interactive Directory of Nurse Researchers on the NYSNA Web site (www.nysna.org) lists nurses who are interested in working with other nurses on specific research topics. Continuing education courses on topics related to research and evidence-based practice have been presented at NYSNA's annual Convention and are being developed for online access. One Research Fellow has used her experience with the CNR to develop several methods for bringing evidence-based practice to the bedside nurses working in her own institution.

Leatherstocking Alliance for Research in Nursing

The Leatherstocking Alliance for Research in Nursing (LeARN) brings together nurses from practice, education, administration, and research

in the south central region of New York for the purpose of improving health outcomes by developing and promoting nursing research and evidence-based nursing practice. LeARN was first formed in March 2004 in response to the recognized need for area healthcare organizations to develop a more research-nurturing environment within the context of fiscal constraints.

LeARN has created a local nursing research agenda using the NYSRNA as a template. During its formative phase, Priscilla Worrall and Cynthia Gurney from the CNR introduced the agenda as a possible tool for assisting the group in actualizing a structure. Participants broke into small groups to examine the agenda and brainstorm ways to localize the mission, vision statement, and strategic goals. Subsequent meetings focused on developing sub-goals, activities, and priorities. Future meetings will focus on developing the infrastructure needed to bring the vision to fruition.

LeARN has hosted guest speakers on various research topics, such as "Conducting a Review of the Literature," and "Failure to Rescue." Nurses interested in conducting research also have had an opportunity to discuss their interests with colleagues and discuss overcoming barriers to research, accessing populations, and finding and selecting instruments to measure particular concepts.

This collaborative network has received the support of over 40 nurses from practice, academia, research, and administration. Numerous practice-administrative partnerships have been formed between area stakeholders. Financial support for LeARN has been received from Bassett Healthcare and the Omicron Rho Chapter of Sigma Theta Tau.

The future success of this endeavor lies in expanding these partnerships and actualizing the agenda. Nurses who live or work near Cooperstown, N.Y., are welcome to attend a LeARN meeting or presentation. For information, contact Jeanne-Marie Havener at the Department of Nursing, Hartwick College, Oneonta, N.Y. 13820.

Nursing Research Alliance of the Capital District Region

This group was formed in 2004 to reach nurses in the Albany area. The brainchild of Patricia Edwards at Excelsior College, its purpose was to provide a forum for local nurses to network with doctorally prepared nurse colleagues and for doctorally prepared nurses to share responsibilities for coaching nurses. A similar alliance in Hartford, Connecticut served as a model for the Capital District effort.

Faculty from Excelsior College and The Sage Colleges' nursing program in Albany, N.Y., met to discuss the idea. The reaction was favorable and two more exploratory meetings were held, one with nursing leaders from area healthcare organizations and one with administrators and

faculty from area nursing programs. When both groups indicated interest, steering and program committees were formed. In April 2005 the group offered a research conference that included poster presentations and oral presentations of research studies.

Through the networking among CNR members and local stakeholders, additional research alliances are in their embryonic stages in the Rochester and Syracuse areas. Nurses who would like to participate in an existing group or get in on the ground floor of these new alliances may e-mail NYSNA at practice@nysna.org for local contact information. Please indicate which area of the state you are interested in (Capital, Leatherstocking, Central, Buffalo, or Rochester.)

Columns in Report

One of the primary purposes of the NYSRNA is to bring research findings to bear on patient care. To advance that effort, a column titled "Research News You Can Use" was introduced in *Report*, *The Official Newsletter of the New York State Nurses Association*. The column, which appears every other month, summarizes research studies and their findings with a minimum of research jargon. These columns are written by researchers from across the state, have a varied focus, and are available to be inserted

or copied into local nursing publications (with appropriate copyright permission).

In addition, the "Ask the Experts" column in *Report* now addresses two research-related topics per year. Researchers answer submitted or common research-related questions. Both columns are available in the "Publications" section of the NYSNA Web site.

Hospital research councils and committees

Intra-institutional research committees or councils are great examples of local initiatives. Many New York hospitals have research committees that promote the use of research and evidence-based practice within the hospitals. Culture change and education of nurses are among these committees' goals.

Syracuse's University Hospital has moved well beyond education. Priscilla Worrall helped initiate a research council in 1995 that focused on research issues. This body now has authority to make recommendations for evidence-based changes to nursing policies. The research council's process includes conducting literature reviews and critiques and then rewriting existing nursing protocols to guide specific interventions. The NYSRNA serves as one template for research council activities.

The second biennial Nursing Summit was held recently in central New York to promote collaboration among professional nursing organizations and continuing education of their members. Collaboration among most area nurses in hospitals, schools, and other institutions, as well as individual practitioners, has been the hallmark of this initiative. Resources have been consolidated to provide all nurses a local venue for dissemination of cutting edge projects and programs throughout the region. The NYSRNA has been presented here as a beacon and foundation to guide future endeavors.

Conclusion

There are undoubtedly many more examples of creative and effective research initiatives that are alive and well in the New York nursing community. If so, the CNR wants to hear about them. Council members also are available to review the NYSRNA with individuals or in presentations to nurses at one facility or from many agencies. Send an e-mail to practice@nysna.org or write to the NYSNA Council on Nursing Research, 11 Cornell Rd., Latham, NY 12110.

The NYSRNA belongs to every New York nurse. Help put the agenda into action in your area, your school of nursing, and your workplace.

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New York State Nursing Research Agenda

Subgoals

Activities

Timeline

Progress

Outcome

Goal 1. Expand the human, technological, and financial infrastructure that is currently available to support the nursing research endeavor.

<p>1a. Develop a statewide clearinghouse to link experts in clinical research, education, and administration with practicing nurses and each other to facilitate research and evidence-based practice.</p>	<p>Maintain contact with ENRS and Sigma Theta Tau chapters to ascertain their interest in operationalizing this resource (see 2a). Enhance marketing of directory. Examine means to make the directory communicate with other directories such as university faculty directories.</p>	<p>Ongoing</p>	<p>Ongoing marketing.</p>	<p>Directory currently has 23 records.</p>
<p>1b. Seek funding to help move the research agenda.</p>	<p>Develop proposal for small grants to support efforts to build the infrastructure for pushing the state nursing research agenda. Proposal directed toward strategies for training for evidence-based practice, including a systematic mentoring program for developing EBP teams.</p>	<p>Proposal for Fall 2005 submission.</p>	<p>Collaborating with U of Rochester, Pace University, the Foundation, University Hospital SUNY Upstate, Arizona State University. Pilot project underway at the U of Rochester and Pace University. CE program on pilot accepted for 2005 NYSNA Convention. Grant proposal submitted.</p>	<p>Pilot work underway. Grant proposal submitted to The Commonwealth Fund.</p>
<p>1c. Organize and distribute a list of funding and other resources that can be used to support nursing research.</p>	<p>Update nursing research Web links on Foundation and NYSNA Web pages.</p>	<p>Ongoing</p>	<p>Web page being refined.</p>	<p>Web page hyperlinked to funding centers.</p>

Goal 2. Facilitate collaboration among stakeholders in nursing research endeavor to promote sharing of expertise, mentoring of novices, and coordination of resources to improve patient care.

<p>2a. Bring together nursing clinicians, administrators, educators, and researchers to identify strategies for working together.</p>	<p>Organize and convene regularly scheduled statewide meetings among the stakeholders to develop and maintain a nursing research implementation plan (perhaps through local districts, consider teleconferencing, consider chat room/discussion forum). Task Force of Council and Foundation formed to plan an invitational conference hosted by the Foundation of NYSNA. Attendance will be self-funded with lunch hosted by Foundation. Include nurse clinicians, nursing administrators, educators and researchers in the local workgroup. Facilitate regional consortia activities. Offer research columns to Districts, collective bargaining units, local Sigma Theta Tau chapters for publication in newsletters. Share the "Research News You Can Use" columns with the districts (and other local groups) for publication at the local level. Advertise the existence of the NYSNA research Web site in Report and other publications. Prepare materials for District newsletters. Emphasize highlights of the work of the CNR in an annual article. Summarize collaborative efforts in Report and on Web.</p>	<p>Late Sept 2006 if funded internally. Late Sept 2004 if funded by grant. Ongoing Ongoing Ongoing Ongoing Fall 2003 Ongoing</p>	<p>Diverse group contributed to designing the agenda plan in 2001. Meeting conducted at Convention to begin planning. Mapping study seeking funding to identify resources and geographical gaps. Regional consortia developed in Cooperstown and Capitol District Discussions underway to initiate one in Rochester. Communications Dept has asked that agencies seeking to use the columns request copyright permission. A permission statement will be published with the column. Marketing of Web site ongoing.</p>	<p>Agenda presented at 2004 Convention, discussion included. Two regional groups underway. District 15 initiated research study of rural nursing needs. Publicized availability of articles on the Web to districts. Columns archived on Web site. Foundation's newsletter, summer 2003. Feature article published in the July/August 2004 issue of Report.</p>
<p>2b. Promote mentoring of nurses who are novices in nursing research.</p>	<p>Develop and distribute a list of nurse researchers in NYS who are willing to serve as mentors outside their local institutions. Promote the Nursing Research Fellowship program. Consult with NYSNA members during Convention to assist their research.</p>	<p>Ongoing Annual</p>	<p>Option included in interactive directory to indicate if willing to mentor. Recruitment continues. Access to application on the Web.</p>	<p>23 records in directory. 2 highly qualified applicants for the fellowship. CNR members consulted with 4 NYSNA members during Convention (2004).</p>
<p>2c. Communicate collaborative research agenda plan to colleagues in NYS, regionally, nationally, and internationally if possible to facilitate participation in the plan's activities and generate additional ideas to enhance it.</p>	<p>Present regionally. Meet with colleagues at ENRS and EBP conferences. Pursue proposal for State of the Science Conference. Prepare an article for Journal targeted at staff nurses. Consider Advance for Nurses. Participate in regional research consortia. Ask for annual feedback from them and disseminate.</p>	<p>Ongoing</p>	<p>A number of presentations and publications have been made.</p>	<p>Multiple presentations over past 4 years.</p>

Goal 3. Create learning opportunities for nursing students and professional nurses to enhance their understanding of nursing research and their ability to apply research findings to practice.

<p>3a. Stimulate interest of nursing students and professional nurses in nursing research.</p>	<p>Hold a workshop at Foundation or NYSNA headquarters for nurse educators in academia and service on how to stimulate interest in nursing research among student and graduate nurses.</p> <p>Hold forums across the state on innovative strategies to enhance teaching nursing research led by Council members and Center for Nursing Research Planning Committee members who have this expertise and experience.</p> <p>Publish a regular column in Report that summarizes a nursing research study and emphasizes the implications of a research study for practice. Emphasis on being understandable to the clinical nurse. Track topics and authors.</p>	<p>Fall 2005</p> <p>Ongoing</p> <p>Ongoing</p>	<p>Awaiting funding of mapping study.</p> <p>Program on teaching EBP to the clinical nurse presented Sept. 2002 convention. Pushed for inclusion of EBP topics in regional Magnet conference in Rochester, Nov. 2005.</p> <p>Columns are archived on Web site.</p>	<p>5 issues of Report yearly contain a half-page summary of research — targeted toward direct-care providers.</p>
<p>3b. Provide learning opportunities for student and professional nurses to enhance their understanding of nursing research and research utilization.</p>	<p>Present a CE program at NYSNA Convention on research and/or evidence-based practice.</p> <p>Convert CE programs to papers and follow by making them online courses</p> <p>Contribute "Ask the Experts" column to Report.</p> <p>Provide consultation at Convention exhibit booth. Advertise the availability of such consultation.</p> <p>Develop online courses related to nursing research.</p>	<p>Ongoing</p> <p>Fall 2005</p> <p>Begin Fall 2002</p> <p>Each Fall</p> <p>Winter 2006</p>	<p>Presented EBP, Action Research, Magnet requirements for research, agenda progress.</p> <p>Ongoing</p> <p>Ad published in Report & on Web site.</p> <p>Replace the Compendium. Master outline of courses needed.</p>	<p>Programs well attended and participants spoke highly of them.</p> <p>Two columns published per year.</p> <p>Four members signed up for consultation in 2004.</p>

Goal 4. Disseminate nursing research findings to members of nursing profession and community at large.

<p>4a. Translate studies into language that is understandable by non-researchers.</p>	<p>See earlier reference to research column in Report (2a). Include in grant proposal. Promote the ethic that puts research into the consumer literature.</p>	<p>Fall 2006</p>		
<p>4b. Publish summaries of nursing research.</p>	<p>See 5a. and 2a.</p>	<p>See 5a.</p>		<p>See 5a.</p>
<p>4c. Publish articles for the lay public citing nursing research.</p>	<p>Establish connection with a lay publication. Discuss freelance articles.</p>			

Goal 5. Promote use of nursing research findings to solve clinical problems and influence healthcare policy.

<p>5a. Develop strategies to promote utilization of nursing research to improve patient care at the local and state level.</p>	<p>Summarize nursing research reports in Report column and invite feedback on Web site.</p> <p>Contribute to "Ask the Experts" column.</p> <p>Solicit input from nursing administrators regarding clinical issues and work problems they are facing. Provide pertinent research findings as appropriate. Include in grant proposal.</p> <p>CE program proposed for convention to examine administrative issues related to promoting evidence-based practice.</p> <p>Collaborate with the Council on Nursing Practice to develop strategies to promote evidence-based practice.</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Winter 2003</p> <p>Summer 2005</p>	<p>Underway</p> <p>2 scheduled per year</p> <p>Not selected for 2003</p> <p>Presented to Organizational Unit Meeting, December 2003.</p>	<p>Research summaries in Report: 10 published to date.</p>
<p>5b. Develop strategies to include and promote nursing research findings to influence healthcare policy.</p>	<p>Provide summaries of nursing research findings to Foundation and NYSNA representatives and members to use when lobbying for improved health care.</p> <p>Monitor the use of these summaries, include in grant proposal.</p> <p>Assist NYSNA staff and members in the use of research to support the legislative agenda. When summarizing nursing research, include "implications for policy."</p>	<p>As needed</p> <p>Ongoing</p>	<p>Consult with staff periodically when preparing testimony and articles for Report.</p>	<p>Ongoing input into papers by Communications Dept. and testimonies as well as talking points on health policy issues.</p>
<p>5c. Provide input to agencies public and private conducting research related to nursing.</p>		<p>Summer 2002</p>	<p>Contributed to SED survey of NYS nurses.</p>	<p>SED report published on Web. Research is being used to promote legislative agenda.</p>



The Development of Nursing Research Self-Study Modules

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Abstract

Research utilization and evidence-based practice are processes that require nurses to have research knowledge and skills. Yet many nurses are fearful of research and avoid reading nursing research studies or using research in their practice. Members of a hospital's Nursing Research Team developed nursing research self-study modules for use by the nursing staff. The goal of this innovative project was to enhance a nurse's ability to critically read nursing research studies and determine their usefulness for practice. As a result, it is hoped that nurses will be more knowledgeable about research and more comfortable participating in the evidence-based practice and research utilization processes. The development, implementation, and evaluation of nursing research self-study modules are described and implications for nursing practice identified.

Quality patient care has been a long-standing goal within the nursing profession. The use of evidence-based practice (EBP), a process that has received increasing attention in the last decade, now allows nurses to determine whether they are delivering the best care possible. Evidence-based practice literature and models indicate that research is the core component or key source of evidence used to determine best practice (Ervin, 2002; Goode, 2000; Stevens, 2004).

Nurses need to be able to use research knowledge and skills, particularly the research utilization process, to determine if findings in published research reports have scientific merit and are clinically relevant to their practice. To do this, nurses must be able to critically read nursing research studies and evaluate the quality of the reported research.

Nurses often avoid reading nursing research and their inability to critically read research has been identified as a barrier to research utilization (Funk, Champagne, Tornquist, & Wiese, 1995). In describing a nurses' journal club in their institution, Kirschoff and Beck (1995) reported that even master's-prepared nurses were reluctant to critique research studies.

Other barriers to research utilization and EBP include nurses' lack of time, lack of support and other resources, and their perception that the research process is intimidating (Maljanian, Caramanica, Taylor, MacRae, & Beland, 2002). Newhouse and Mills (2001) stated that "a mechanism to teach nurses to critique and utilize research findings ... must be included in the [organization's] plan" (p. 586).

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This article presents an account of the development, implementation, and evaluation of nursing research self-study modules by the Nursing Research Team (NRT) at a 429-bed, not-for-profit, full-service community hospital. The goal of this innovative project was to enhance nurses' ability to critically read nursing research studies and determine their usefulness for practice. Strengthening nurses' research-related knowledge and skills will allow them to participate more knowledgeably and comfortably in the research utilization and evidence-based practice processes.

Development of self-study modules

To promote the continuing education of the nursing staff regarding nursing research, the NRT considered various strategies proposed by Newhouse and Mills (2001), such as journal clubs and research grand rounds. These were deemed unrealistic approaches in the present environment due to limited staff and, often, insufficient time for educational activities. Further discussion led to a proposal to develop nursing research self-study modules that could be completed independently, on nurses' own time.

Rossi, Lipsey, and Freeman's (2004) methodological framework for program evaluation was used for the project. Having identified the previously discussed problem and the need to develop a strategy to solve it, the team began to design the intervention. During scheduled monthly NRT meetings, members initially reviewed research studies from Peteva's (2003) collection of nursing journal articles. Three articles were selected on topics pertaining to pain management, an ongoing organizational initiative. It was proposed that participating nurses would learn to critically read research articles and also would gain more knowledge about pain management. Three articles were selected so staff would have a choice of which articles they wanted to read. Copyright permission was obtained from the publisher of each article to allow multiple copies to be made for inclusion in the self-study module packets.

The contents of the module packets were either created or selected from material previously developed by the NRT. Packet materials are summarized in Table 1.

Table 1: Contents of self-study module packet

- Guidelines for using the module.
- Learner objectives: completing warm-up exercises and questions for the selected research article; identifying areas where research knowledge and skills need to be strengthened; participating more confidently in the research utilization and evidence-based practice processes; and reporting level of satisfaction with completing the self-study module.
- A copy of *Reading and Utilizing Quantitative Nursing Research: A Guide for the Neophyte* (Ryan, 1996), which presents the various reading and research skills needed to critically read a research study
- A nursing research study article on pain management.
- Four brief, written warm-up exercises (Part I), developed by one of the authors, to assist the participant in examining the surface of the research article and gaining a broad overview of its contents (Wilson, 1985). Using a checklist format, the nurse identifies whether the article has the major sections present in a research article (e.g. title, abstract, introduction, etc.). Next, the nurse writes one or two sentences about what was being studied, and summarizes one study finding. Finally, the nurse lists any unfamiliar research terms or words encountered in the article.
- An answer sheet (Part II), on which the nurse responds to seven questions posed at the end of the research study. Based on Peteva's *Factual Questions* (2003, p. vii), these questions pertain to specific information in the article. The correct answers to the questions are not provided in the packet but are reviewed with the nurse when she or he meets with an NRT member.

Project implementation

After all the material was compiled, each team member completed all three modules. During NRT meetings, responses were compared to determine the degree of difficulty

involved in doing the work and to ensure consistency of answers among NRT members who would later be working with nurses who completed the modules. Members agreed that answers to questions in Part II could readily be found in the research articles. This was viewed positively, as staff would most likely be able to choose the correct answer, thereby providing satisfaction and motivating them to complete the other self-study modules.

According to Rossi et al. (2004), program participants are either direct or indirect targets. Direct targets are individuals who receive the program intervention directly while indirect targets receive the program's services or benefits through intermediate individuals or processes. The intended direct targets for this program were the nurses who would complete the self-study modules. The indirect targets included a variety of stakeholders, such as patients and their families, other professional nurses, and the institution itself.

Project launch

Two in-house sessions titled "Best Practice Begins with Nursing Research" were held to launch and promote this endeavor. They were widely advertised via flyers, e-mail, and announcements at nurse manager meetings.

At the first session, participants worked in groups, with the assistance of NRT members, to complete the Part I exercises in the first module. At the second session, nurses who attended the first session were invited back to continue with Part II of the same article while new participants worked on Part I. In this way, staff became familiar with the module content and the completion process. It was hoped that they would complete other modules and inform other staff about this research-related opportunity. At each session, module packets were available for nurses to sign out.

Sign-out process

Nursing staff may sign out a module packet for a one-week period from the Education, Development and Research Department. The packets are stored in that department and are available to nursing staff on all shifts. Nurses complete the module when it is convenient for them, return the completed packet, and meet with an NRT member to review their

work and discuss any research-related concerns. A letter is sent to the nurse manager upon completion of the module so that this professional development activity can be noted in the annual evaluation.

Evaluating the project

Rossi et al. (2004) state that an impact assessment of a program's outcomes is done to determine whether program objectives have been attained and if there has been an impact on the social conditions the program was intended to improve.

When an NRT member meets with a nurse who has finished a module, the nurse completes a four-item evaluation form that addresses learner objectives. The form's 5-point Likert-type format ranges from 1 (strongly disagree) to 5 (strongly agree) to determine if the nurse believes the objectives have been met. Summated rating is used to score this part of the form.

Space is provided on the form for nurses to write comments about the self-study module. NRT members also interview participants to ascertain the impact of this work on their research knowledge and skills and its relevance to their clinical practice.

The project is still in its infancy, and more quantitative and qualitative data are needed before the success of this program can be determined. A mean will be obtained when a substantial number of nurses have participated in the project and themes will be gleaned from the written comments and interview data.

A major value of the project is that it is an important step in promoting evidence-based practice.

A cost-effectiveness analysis remains to be done. It will examine the outcomes of the program in relation to the costs expended (Rossi et al., 2004). Identified areas for analysis include the cost of materials and other resources and staff satisfaction.

Maintaining momentum

The team realizes the importance of maintaining its efforts to promote the project. Letters have been sent to all continuing education participants to remind them about the modules. Periodically, the team will post flyers and submit information to the hospital's newsletter.

Two members of the team presented a poster regarding the project at the National Association of Clinical Nurse Specialists annual conference. The conference provided networking opportunities to share the project in a national forum. Feedback from those viewing the poster included the suggestion to provide continuing education credits for nurses who complete a module. This should motivate

more staff to complete a self-study module and make the project particularly relevant to nurses who need these credits to maintain certification.

Several conference participants requested more information about the project to bring back to their institutions and one participant intends to replicate the project. It is hoped that this will allow the project to have an impact on advancing EBP in other facilities.

Implications for nursing practice

Various implications for nursing practice can be gleaned from this work. A major value of the project is that it is an important step in promoting EBP. Learning to read nursing research with a more critical lens and becoming more familiar with the research process should enable nurses to feel more comfortable about the research utilization and EBP processes. Nurses also have the opportunity to be mentored by and collaborate with members of the NRT. This research-related support should stimulate them to incorporate research findings into all aspects of their clinical practice.

The project is congruent with the mission of the institution. The facility's continued support of this innovation will help strengthen the staff's knowledge and skills and ultimately improve the quality of care provided and the level of patient/family satisfaction. Lastly, this project can be a springboard to other research activities with nursing staff.

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Critical Care Nurses' Experiences when Technology Malfunctions

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Abstract

When caring for critically ill patients, critical care nurses work with technology every day. Technology and equipment malfunctions can have a profound effect on nurses' practice and self-image. In this article, a descriptive phenomenological methodology was chosen to explicate the experience of seven critical care nurses. While participants realized that machines might malfunction, they experienced surprise, shock, and feelings of being "let down" and inadequate when malfunctions occurred. They questioned their competence and felt malfunctioning technology jeopardized their credibility and professional image. These findings are useful when structuring educational sessions on technology and in facilitating a supportive environment for critical care nurses when technology malfunctions.

"As goes technology, to a great extent, so goes critical care" (McConnell, 1996, pg. 1). Critical care is the management of patients with life-threatening physiologic crises. Healthcare providers apply sophisticated technology and an increasingly complex knowledge base to care for these critically ill patients (Ayres, 1995). In general, the use of technology has become equated with modern, state-of-the-art healthcare delivery. Consumers and professionals alike expect that the technology will allow patients to be monitored, assessed, and supported so that timely and appropriate interventions can be provided during critical illness.

The use of technology by critical care nurses has increased dramatically since the early 1960s (Barnard, 1997). Initially, nurses working in areas of concentrated technology were optimistic that they would be able to

monitor patients more closely (Fagerhaugh, Strauss, Suczek & Weiner, 1987; Zalumas, 1989). Technology was seen as a boon to nursing and a facilitator of nursing practice, and it was expected to save time, save labor, and make nursing practice more scientific (Sandelowski, 2000).

Paradoxically, technology also created extra work for nurses, because they had to learn mechanical operation, use, maintenance, and troubleshooting techniques to utilize technology safely and efficiently (Fagerhaugh et al., 1987; Sandelowski, 2000).

Technology can create such nervousness and dread that the nurse may wish to avoid, or try to avoid, working with it. Pillar and Jacox (1991) compared this "technological anxiety" to "math anxiety," a learning disability in math caused by a highly emotional state that affects concentration.

A nurse with little or no experience in the use of technology will perceive it as new, unfamiliar and complex (Walters, 1995). A study conducted by Kjerulff, Pillar, Mills and Lanigan and reported by Pillar and Jacox (1991) indicated that nurses feared using complex modern equipment and dealing with technology that malfunctioned or failed. They felt incompetent in using equipment, and felt anxiety about the high price of errors. Less common fears included "looking awkward in front of the patient's family, accidentally disconnecting the equipment, sustaining personal injury, and making mistakes that damage the machine or causes loss of data" (Pillar & Jacox, 1991, p. 51).

Sandelowski (1993) proposed that nurses' increased reliance on technology and monitoring devices may decrease their assessment skills, as nurses accept data without

evaluating its validity. According to McConnell and Murphy (1990), the sophistication of technology may cause nurses to develop a false sense of security. In addition, reliance on technology and acceptance of the information at face value decreases the chance that malfunctions will be recognized (Fairman, 1992).

An important aspect of the critical care nurse's clinical judgment is recognizing malfunctioning technology and determining when equipment must be replaced or removed. Clinical judgment related to technology involves assessing the validity and efficacy of machine readings, treatments, and functions. Technology, when used in conjunction with competent clinical judgment, promotes safe and efficient care by the nurse.

Technical clinical judgment and technical skills, however, are not the same thing. A nurse can be skilled in the physical manipulation of technology, but not proficient in synthesizing data to make appropriate clinical judgments.

In a survey conducted by *Nursing '95* magazine, nurses were asked to report their experiences with technology. Nurses said they felt stress when using technology for direct patient care because they were concerned about harming patients and using the equipment properly. Mechanical ventilators were most frequently cited as causing increased stress, followed by chest tube drainage units, intravenous infusion pumps, and intracranial pressure monitors (McConnell, 1995) All of these technologies are commonly used in critical care units.

Respondents reported that, when patients were harmed by equipment, nurses notified physicians, requested more information about the device, and, when necessary, reported the incident to the Food and Drug Administration. They took appropriate action, but it is not known how they became aware of the problems or what their subjective experiences were like.

It is important to understand critical care nurses' experiences with malfunctioning technology so their experiences can be acknowledged and support interventions can be developed to help them cope with and learn from their experiences. In addition, this information will be helpful in developing appropriate educational standards. The purpose of this study was to explicate critical care nurses' lived experiences when technology malfunctioned.

Method

The investigator used the phenomenological method for this study. This method assumes that each person's experience is distinct and has particular meaning for the individual. The phenomenological method offers a way to glimpse the complicated character, organization, and logic of a phenomenon (Moustakas, 1994; McCracken, 1988).

Phenomenology is a qualitative research tradition with roots in philosophy and psychology. It holds that essential truths about reality are grounded in people's lived experiences. Lived experience lies beyond the immediate awareness of the mind but can be brought into consciousness (Husserl, 1970).

Phenomenology holds that "what is experienced by people is the result of a constitutive process within consciousness" (Polkinghorne, 1983, pg. 42). Phenomenology focuses on individuals and their views

of phenomena. The phenomenon is what appears in consciousness. Phenomenology tries to give a direct description of an individual's experience as it is, without taking account of its psychological origin and causal explanations (Merleau-Ponty, 1962). Phenomenologic research involves describing and clarifying the essential structure of the lived world of conscious experience by reflexively mediating the origins of experience (Colaizzi, 1973).

Sample

More than 150 letters were distributed to members of urban Northeast chapters of the American Association of Critical Care Nurses (AACN), randomly selected from a mailing list and from among staff members of critical care units.

The investigator received 15 responses; seven respondents indicated they were not eligible to participate. The remaining eight respondents were contacted by phone. One person stated that she was a staff nurse, but revealed during a subsequent interview that she was currently working as a critical care educator.

The final sample consisted of seven critical care nurses who had been providing direct patient care in adult critical care units for at least three years. They were employed within the tri-state area of New York, Connecticut, and New Jersey. All spoke English, and were able to verbally describe their experiences. Characteristics of the participants in this study are listed in Table 1. In this article, their names have been changed to maintain confidentiality.

Data collection and analysis

Data were collected through audiotaped interviews with the seven participants. The interviews were transcribed by the researcher to retain nuances and emotions and to gain a feeling for the information shared. Colaizzi's (1973) method of data analysis provided a fundamental description of the phenomenon. This method is: 1) read all protocols to acquire a feeling for them; 2) extract phrases or sentences that directly pertain to the phenomenon being investigated; 3) formulate meanings

Table 1: Characteristics of Participants

Characteristic	Participants
Gender	1 Male 6 Female
Age	Ranged from 31-69 years 6 were over 41 years of age
Years of critical care experience	Ranged from 7-31 years Average of 21 years
Nursing Education: Basic	Diploma – 1 AAS - 3 BS – 3
Nursing Education: Highest	Diploma – 1 BS - 4 MS in nursing – 2
Other	Critical Care (AACN)- 1

of each significant statement using creative insight; 4) organize the formulated meanings into themes; 5) integrate the themes into an exhaustive description; and 6) validate the themes.

Examples of significant statements and formulated meanings for this study are listed in Table 2 and themes with the formulated meanings are listed in Table 3.

Significant Statement	Formulated meanings
One thing happened. I think for me it's the little things that break down that cause the problems. Not when your ventilator breaks, because then you just automatically bag somebody. It's when the backup happens [malfunctions]. Like you go to turn on the [oxygen] flow meter and the dial breaks off the flow meter.	She was confident about what to do when major technology failed but was upset and scared when the backup system failed.
It was completely out of my hands.	She felt helpless. She had no control over the situation.
I depended on this piece of machinery and it totally fooled me.	She was dependent on the technology. The technology disappointed her.
Well, of course I was crushed! You know as a nurse you always feel that you have this really high sense of responsibility that you should know exactly what is going on every second whether you're in the room or not in the room. And you know, it always is one of those things that you just say – what did I miss? Should I have picked it up sooner? You know you constantly question yourself.	She was crushed that technology could malfunction. She felt responsible that the problem had occurred. She felt guilty, fearing she had missed something.
I was like, well I was stupid. Her I am this Miss Experienced Nurse, faculty person and I screwed up big time! So yeah, I felt, I <i>personally</i> felt my credibility was questioned. But I also felt like especially the more people that would find out, they would think I was, they couldn't trust me with critically ill patients.	She felt that her credibility as a critical care nurse was questioned because she was experienced and didn't know what to do. She felt her peers would not trust her to care for a critically ill patient again.
So we went downstairs, everything was fine, did the whole CAT scan, as soon as we took him off the table onto the stretcher, the entire hospital went black (said with a tone of incredulousness).	She was shocked and couldn't believe the electrical system failed.

Theme #1: "I can't believe it happened!" formulated meanings	Theme #2: "Is it the machine or is it me?" formulated meanings	Theme #3: "What about my professional image?" formulated meanings
<ol style="list-style-type: none"> 1. Trusted technology and valued technology over one's own skills and competence. 2. Technology should function as it is intended and not malfunction. 3. Valued information provided by technology but questioned the accuracy of other components. 4. Distrusted people from the company she was dealing with. 5. Angry that technology malfunctioned when parameters were set correctly. 6. "Crushed" and anxious that technology could malfunction. 	<ol style="list-style-type: none"> 1. Confidence was shaken because could not control the problem even though certified in the procedure 2. Questioned own competence. 3. Confident about knowledge of procedures to follow when major technology failed but was upset and scared when the backup system failed. 4. Felt insecure about knowledge base to be able to correlate the data to the individual patient. 5. Internalized feelings to portray a façade of being cool, calm, and in control. 	<ol style="list-style-type: none"> 1. Feared being perceived as untrustworthy by peers. 2. Felt observations were not considered valid. 3. Concerned about professional consequences. 4. Fearful and anxious about possible professional consequences. 5. Felt credibility was questioned by the patient and family when unable to fix the technology.

"I thought I was doing everything right," but "a faulty piece of equipment just throws you. It does just throw you."

Discussion of findings

Theme 1: I can't believe it happened

Technology symbolizes critical care. By virtue of the environment in which they practice, critical care nurses are dependent upon technology. The critical care nurses in this study trusted technology to function accurately and safely. When technology malfunctioned, that expectation was not met. Words such as "angry," "frustration," "it totally fooled me," "distrust," "surprise," and "shock," were used to describe their experiences when technology malfunctioned.

The critical care nurses participating in this study expressed ambivalence about technology, vacillating between confidence and lack of confidence. They expected the technology to work and were surprised and shocked when it did fail. Connie stated, "We assume it should work because we always do our best and so everything else should do its best."

Anne was concerned that "[critical care nurses] rely on the technology very heavily." She added, "I mean, you rely on the pumps heavily because there's no way ... that you could possibly physically hand titrate all these drips." She described her response when an IV pump malfunctioned and delivered an incorrect amount of medication, but did not alarm: "Well, of course I was crushed!" She had "certain confidence in the equipment because it had been well tested" and did not expect it to malfunction.

Donna, who was caring for a patient in an ICU who required continuous veno-venous hemofiltration (CVVH) said:

The CVVH pump is something that we got a whole course on. It was the IV pump, not the CVVH pump, that was giving me trouble. It was the IV pump that I was replacing fluids with ... it was just a regular IV pump.

Donna depended on the IV pump to function correctly and could not believe that a routine, regularly used piece of technology could malfunction. She said, "I thought I was

doing everything right," but "a faulty piece of equipment just throws you. It does just throw you." Her reaction corresponds to findings by Weil and Rosen (1997) who noted that when computer technology fails, the user may be thrown for a loop and temporarily knocked off balance.

Critical care nurses interviewed for this study felt a loss of control when technology malfunctioned. One participant had initiated a gastric tube feeding for her patient using a tube-feeding pump. Upon her return from lunch, the nurse covering for her told her that she had replaced the tube feeding because the bag was empty. The participant was surprised and shocked that an entire tube feeding had infused in such a short time. "I went in to see what I had the pump on. It was on 20 cc an hour, but the thing was spinning like mad. It was on 20 cc and my whole tube feed had gone in in an hour."

Thompson described a typology of control, including behavioral and cognitive control. Behavioral control is defined as "a belief that one has a behavioral response available that can affect the aversiveness of an event" and cognitive control is defined as the belief that "one has a cognitive strategy available that can affect the aversiveness of an event" (Thompson, 1981, p. 91). The nurses in this study felt a loss of control because they were not able to implement either a behavioral or cognitive strategy to avoid the malfunction.

When a ventilator malfunctioned, Connie immediately removed the patient from the ventilator and was about to provide oxygenation for the patient via an ambu bag when the dial on the oxygen flowmeter fell off. Connie stated:

For me it's the little things that break down that cause the problems [the flowmeter]. You automatically assume [the technology] will work, especially in an ICU. You say okay, I'm in the ICU; I'm in the best unit in the hospital. I should have the best equipment that works the best and everything is fine. Everything should be okay.

Ambivalence about technology was evident in the participants' experiences with false alarms. Alarms on the technology alert nurses to a change in a patient's condition or a change in operation of the technology that requires intervention. One nurse stated she was upset by the "99,000 misalarms and the five alarms that were true." These critical care nurses were upset and shocked when alarms did not occur and malfunctions were discovered by chance.

The participants had developed trust in the technology over time and expected it to function as intended, providing them with information necessary for the care of critically ill patients. Distrust of the technology developed when the technology malfunctioned resulting in feelings of anger, frustration, and vulnerability. Yet they continued to use technology though with heightened vigilance.

Trust in critical care technology emerges from the need to have physiological data on which to assess patients' hemodynamic stability and to base required interventions. Trust, however, is fragile and when technology malfunctioned, trust in the technology suffered.

Theme #2: Is it the machine or is it me?

Competence has been defined as possession of the skills, knowledge and behaviors required to perform a task with desirable outcomes under the varied circumstances of the real world (Benner, 1982; Jeska, Anderson & Bach, 1995). Competence gives the nurse a sense of control over the patient and the technology used in the care of the patient. These critical care nurses expressed confidence in their competence to perform their jobs, and they felt a pivotal part of their clinical competence was detecting a malfunction in technology and preventing harm to the patient.

Participants said they "went back to basics" and relied on their own assessment skills when there was a discrepancy between the data presented by the technology and their

assessment findings. When caring for a patient with increased intracranial pressure, Mary distrusted the numbers provided by the technology because they did not correlate with the parameters she obtained from her physical assessment. "It's not that number that's so important; it's the total assessment of the patient," she said.

Interestingly, this conflicts with Sandelowski (1993) and Titler (1993), who observed that increased reliance on technology was related to a decrease in assessment skills. One participant stated, "Merlin [the cardiac monitor] didn't know what the BP was, but I did."

In some situations when technology malfunctioned, however, participants began to doubt their own competence. The nurses experienced uncertainty, questioned their knowledge and skills, and doubted their performance as well as the performance of the equipment. Weil and Rosen (1997) noted that when people cannot get technology to work right, they assume *they* have a problem. Technology produces hard facts. When assessment values differ from those presented by technology, individuals may assume they are wrong and the technology is correct. Donna explained:

It kept alarming and I thought at first that I was doing something wrong. ... I thought maybe my hookup was incorrect, so I was checking everything but the pump, ... thinking it wouldn't have been the pump. I'm just thinking that it was me who was doing something wrong there.

Even though Anne identified a malfunctioning IV pump and intervened quickly, she experienced uncertainty. "I was not vigilant enough, maybe I didn't pick up something quick enough. I mean you always second-guess yourself," she said. "You bring up all these self doubts ... did I have enough knowledge, should I have known more about the equipment?"

Despite their uncertainty, these nurse participants believed in their abilities and took control, assessing the patient first and dealing with the malfunction after they were assured the patient was safe and unharmed. They used various strategies when faced with these technological crises.

Several cognitive, emotive, and behavioral strategies are used to manage or reduce uncertainty. According to Penrod (2001), cognitive strategies process facts to fill in informational gaps. The study participants reported using critical thinking skills to figure out what had occurred. They questioned biomedical personnel to seek a probable cause for the malfunction, sought assistance from peers and educational opportunities, and questioned managers and supervisors to determine the problem.

Emotive strategies alter feelings. After initial feelings of panic, these critical care nurses used relaxation techniques such as taking deep breaths. They reassured patients while trying to resolve the malfunctioning technology.

Behavioral techniques, or techniques leading to physical action, were demonstrated as they double checked the equipment to assure that it had been set up correctly, actively removed the patient from the technology, removed the equipment, and labeled it as broken.

While the participants initially experienced uncertainty about their competence when technology malfunctioned, they took control, assessed

the patient, assessed the situation and advocated for safe patient care. Thus, they demonstrated the characteristics of hardiness as described by Kobasa (1979).

Theme #3: What about my professional image?

Study participants stated that their "very essence" comes from their role as critical care nurses. They were concerned that malfunctioning technology would negatively affect their professional image.

Connie said, "The majority of my self esteem and self image comes from who I am as a nurse ... and who I am as a professional. And part of being a nurse is being a *critical care nurse*" Connie believed that her professional image depends upon "being perceived as knowledgeable, in control, and able to handle situations well and safely for patients and families; having answers and being able to find answers if I don't have them."

Eric said, "Malfunctioning technology affects your whole professional image, ... not only with the doctor-nurse relationship but the patient-nurse relationship." Participants felt their credibility was closely linked with their professional image.

Participants intimated that they had a fiduciary responsibility, not only for patients, but also for the technology attached to their patients. As one participant said, "We own the bedside." Fiduciary responsibility involves an expectation of trust, the notion that people have moral and social responsibilities to put the concerns of others before their own and a commitment to do no harm (Lee & Moray, 1992).

The participants were concerned about consequences when technology malfunctioned, including "being written up" and being involved in litigation. Connie said, "We are the Marines of nursing. We don't *make* mistakes! We don't do things wrong." When the technology malfunctioned, she asked herself whether she was cut out to be a critical care nurse. She went on to say:

If [I] excel at using the technology, then I am a *good* nurse; but when technology malfunctions, I am a *bad* nurse [emphasis is participant's]. ... It's my responsibility to know how to fix [equipment]. It's my responsibility to know everything that is hooked up to my patient, where it goes and how it works. ... I question my very essence when I make a mistake or when my credibility is questioned. I felt stupid that here I was taking care of a critically ill patient and using a piece of equipment that I didn't understand enough to troubleshoot when it went wrong.

No matter how competent individuals are, they make mistakes. Jellinek, Todres, Catline, Cassem and Salzman (1993), in discussing pediatric intensive care training for physicians, noted that despite sterling performances, mistakes are made and "fellows are highly vulnerable to feeling stupid, inept, incompetent, and ignorant" (p. 776). Leape (1994) wrote that nurses and physicians are socialized to do no harm and "strive for error-free practice" (p. 1851). If nurses are responsible for safe, effective patient care, it follows that they are responsible when the

In some situations when technology malfunctioned, however, participants began to doubt their own competence.

Nurses should be taught to explore the circumstances surrounding the malfunction ... without threat of professional sanctions.

technology malfunctions. Inability to fix the technology may make others doubt their reliability, resulting in loss of credibility (Washington, 1990).

The participants felt frustrated, powerless, inadequate, and ignored when they reported the malfunction, perceiving that they were not being listened to and therefore not valued. Rushton (1992) noted that when "nurses believe that their concerns receive little, if any legitimization by other members of the health care team....their autonomy is threatened" (p. 304).

When an incident occurs that could result in patient harm, it must be reported to a supervisor. These nurses felt cautious about reporting malfunctioning technology and completing an occurrence report. According to Benner (2001), "The individual is held as ultimately responsible and accountable and it is assumed that responsibility and blame go hand in hand" (p. 282).

This approach does nothing to provide a supportive environment or prevent future occurrences. Technology malfunction is not a knowledge-based error but, error associated with either poor design, faulty maintenance, or faulty equipment.

The stress and frustration of dealing with malfunctioning technology prompted some participants to think about leaving critical care nursing for another nursing specialty. Yet, these participants have continued to work in technologically enriched environments, caring for critically ill patients.

Validation of findings

The final step in Colaizzi's (1973) method of analysis is to validate the findings of the study with participants. Each of the participants was contacted to validate the themes. The participants agreed with the themes and shared additional information on their experiences.

An exhaustive description of the findings was sent to each participant. Each participant was requested to respond by mail, e-mail, or telephone within two weeks. Participants also

were told that if they did not respond within two weeks, the researcher would assume that they agreed with the description.

One participant sent a positive response. No responses were received from the other participants. Validation of the findings by participants indicates that the study accurately reflects the perceptions and experiences of these critical care nurses.

Implications for nursing practice

Nurses are likely to encounter situations in which technology malfunctions while being used in the care of a patient. They must realize that they are not the only ones who have experienced malfunctioning technology and should support others who have had similar experiences. In addition, nurses need to know that they should not automatically assume it is their fault when technology malfunctions. When malfunctions occur, nurses should be taught to explore the circumstances surrounding the malfunction and their responses to it without threat of professional sanctions.

In addition, it should be emphasized that nurses' should trust their assessment skills and use technology as an adjunct, not a substitution, for their skills and knowledge.

Debriefing has been suggested as a method to help healthcare workers adjust to an emergent event. Debriefing could be carried out to promote a clear understanding of the event, decrease tension, normalize the event, and plan for follow up discussions.

Knowledge and understanding of technology are essential for safe, competent nursing practice. Educators should be consistent in their approach to teaching healthcare technology. Assessment of critical care nurse's performance with technology can assist educators to determine the most efficient and cost-effective ways to present information on the use of the technology and develop critical thinking skills for dealing with technology malfunction.

Curricula in nursing schools and staff development classes should emphasize that technology is manmade and fallible, and that

when it malfunctions it is not the fault of the nurse. Standardizing education on technology will help assure coverage of the content necessary to provide nurses with the skills and competence to deal with malfunctions.

As one participant stated, "If a dishwasher breaks down or an oven needs repair, a repair person is called to fix the problem. When patients are dependent on technology to support their lives, nurses don't have time to call a repair person." Nurses must be taught how to intervene effectively, efficiently, and safely to support the patient when technology malfunctions. In addition, assuring nurses' competence in assessment skills may help them respond appropriately in emergency situations.

A shift away from the perception of the punitive nature of occurrence reports is needed to ensure adequate reporting of incidents of malfunctioning technology. Technology that malfunctions should be recognized as a system error or problem and not as an individual's mistake.

Recommendations for further study

The findings of this study were specific to the experiences of the seven critical care nurses who participated in the study. The experiences of nurses working in other areas and with less experience may vary from the nurses in this study. The study should be replicated with a larger sample of critical care nurses and nurses in other geographical locations.

The participants who shared their experiences in this study were confident in their skills and knowledge and the use of the technology when caring for critically ill patients. However, some nurses are not as confident or are intimidated by the critical care environment, including the technology. These nurses might have different experiences.

Participants in this study did not report any adverse patient outcomes as a result of malfunctioning technology. The lived experience of nurses who have experienced malfunctioning technology that resulted in adverse patient outcomes might be different.

A longitudinal study investigating the experiences of critical care nurses after both initial experiences with malfunctioning technology and subsequent experiences would be informative. Subsequent experiences may be perceived differently than the initial experience.

Finally, participants in this study described experiencing doubt and uncertainty about their clinical competence when technology malfunctioned and perceived threats to their professional image and credibility. This was especially true when they had to complete an

occurrence report. Further investigation of the perception of nurses on mistakes and errors in practice could help identify areas for intervention and types of interventions that would be most effective in dealing with such incidents.

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Partnership Model for Practice and Education

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Abstract

The faculty practice partnership model provides a framework for collaboration between a practice setting and a university school of nursing. The model created between the Bergen County Department of Health Services (BCDHS), the Office of Public Health Nursing (PHN) and Pace University's Lienhard School of Nursing (LSN) is one that supports faculty practice and student involvement in population-based activities. The partnership provides BCDHS with the assistance it needs to provide the three core functions of public health: assessment, assurance, and policy development. It provides LSN with a practice site where faculty members are able to maintain their clinical expertise, as well as a site for student clinical experiences and research. This article describes the partnership model and its accomplishments from both practice and educational perspectives.

There is a gap between public health practice and academic institutions that creates a number of challenges (Institute of Medicine, 1988). The challenges for public health practice include limited resources for the: a) provision of educational programming and maintenance of competencies for a skilled workforce, b) development of integrated electronic information systems, c) procurement of funding, d) implementation of research-based initiatives leading to best practice standards, and e) provision of linkages that facilitated students access to public health as a career.

The Association of Schools of Public Health (1999) also documented the need to bring together the worlds of practice and academia. Partnerships between public health professionals and academicians will assist in closing the gap (Jenney & Roberts, 2000). Such partnerships will assist public health nursing in the development of the skills required for

population-based practice (Gebbie & Hwang, 2000). The philosophical belief behind this effort is that partnerships between practice settings and academic institutions can serve to improve the health and well-being of the public as well as educate the next generation of public health practitioners.

Partnership envisioned

The evolving role of local health departments necessitates new modes of involvement among healthcare providers, community-based organizations, and the public (Linder, Quill, & Aday, 2001).

The Bergen County Department of Health Services (BCDHS) is a nonprofit governmental agency specifically devoted to the practice of public health in Bergen County, N.J. It is the lead public health agency for environmental issues, tuberculosis control, public employee

occupational safety and hazard training, cancer education, mental health, special child health services, and the Bergen County Partnership for Community Health. The Office of Public Health Nursing is one of the divisions within the department.

As is the case with other similar agencies throughout the nation, BCDHS is challenged with the requirement of developing strong public health nursing competencies in a changing system. It also must ensure the health of the public while adapting to continual staffing and budgetary constraints.

Pace University's five colleges and schools offer a wide range of programs for a diverse population of nearly 15,000 students. The Lienhard School of Nursing (LSN), established in 1966, focuses on education, research, and practice in primary health care.

LSN has a history of clinical affiliations and partnerships. Primary Health Care Associates

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(PHCA); a part of the school's Center for Nursing Research, Clinical Practice, and International Affairs; was established in 1997 in response to requests for services and partnership from the outside community. The PHCA provides an avenue for members of the faculty to maintain clinical expertise, provide the context for student clinical experiences, and conduct research through contractual arrangements and partnering (Newland & Truglio-Londrigan, 2003).

A partnership between the BCDHS Office of Public Health Nursing and LSN seemed the ideal solution to meet the needs of both organizations.

Working toward a partnership

One of the first requirements for building a successful partnership is establishing goals that are mutually beneficial (Redman, 2003). When the need for the expertise of a faculty member working within the BCDHS was recognized and LSN saw the benefits for faculty development and student clinical experiences, the partnership became a shared strategy to achieve respective goals.

BCDHS had traditionally served as a clinical site but had never formally established a partnership with any nursing school. The infrastructure for the development of such a partnership was not in place. There was a commitment to develop such a model, however, and movement towards its actualization was swift.

There were two major challenges. The first concerned contract negotiations regarding the reimbursement rate for the faculty member. The county's reimbursement rate did not meet the faculty member's pay scale at the university. In other words, the salary offered by the health department was insufficient to pay for the faculty member's time and the agency's payment to the university was not sufficient to buy credit hours.

This made it necessary for the faculty member to teach a full 12 credits per semester in addition to the one day of practice per week, rather than nine credits per semester with the one day of practice per week. As a result, the faculty member received the reimbursement for one day of practice directly from the BCDHS.

The second challenge was negotiating a contract between the BCDHS and the LSN. When the model was proposed, the issue of a legal contract between a governmental agency and a private institution appeared to be insurmountable. As the negotiation process unfolded, this issue never materialized. The final contract was between BCDHS and the individual faculty member.

At LSN, faculty members may fill a wide variety of roles as clinicians, educators, researchers, or administrators (Lienhard School of Nursing, 1995). With this approach, faculty members involved are able to develop their personal practices, goals, methods of evaluation, and compensation.

This flexibility allowed both BCDHS and LSN to meet their complex needs. For example, the faculty member engaged in practice at BCDHS one day a week. The same faculty member served as a clinical faculty member at BCDHS for LSN students on alternating days. The students were intimately involved in the workings of the partnering agency. The flexibility of the program also allowed the Director of Public Health Nursing at BCDHS to be the clinical preceptor for the students. There is no financial reimbursement for the director in this role, but she saw this role as being critical for the profession and for the advancement of public health nursing.

The function of the partnership model

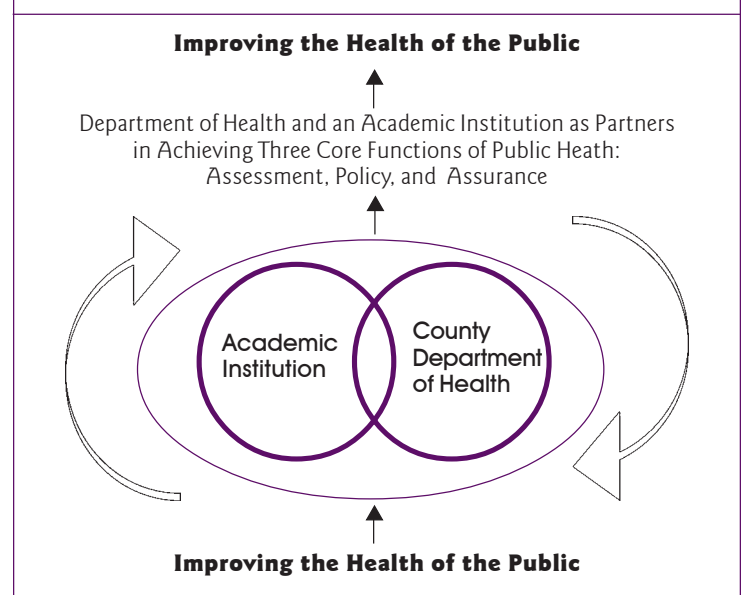
Both members of the partnership are "functioning members" of each agency. The partnership has resulted in a practice model that supports actions necessary to facilitate the three core functions of public health: a) assessment, or the ability to appropriately use data to direct actions; b) policy development, which is the appropriate use of scientific knowledge in developing public health policies and programs; and c) assurance, or the development of policies that are backed up by services necessary to assure their success (Institute of Medicine, 1997).

The faculty member's primary role is to serve as an expert nursing consultant to the Director of Public Health Nursing to facilitate competencies and the core functions for public health.

In partnership with the Director of Public Health Nursing (DPHN), the faculty practice consultant: a) assesses data to determine emerging health trends, as well as existing structures and processes of service delivery available to respond to these trends; b) develops a framework that will ensure the smooth delivery of services by strengthening the public health nursing infrastructure; c) develops interventions that refine, refocus, and reorganize the process of public health nursing services; d) engages in population-based research activities leading to the development of best practice; e) evaluates BCDHS program development and service delivery; f) provides educational opportunities for professionals; and g) serves as a clinical faculty member to LSN students.

The DPHN primarily acts as a facilitator, mentor, and educator. In partnership with the faculty practice consultant, the DPHN a) assesses population-based public health nursing problems that may benefit from faculty consultant input; b) provides the faculty practice consultant with resources to engage in problem solving; c) assists the faculty consultant in gaining access to other community-based agencies; d) actively keeps the faculty consultant engaged in all matters essential to the functioning of the BCDHS and; e) serves as an adjunct instructor and preceptor for LSN students (see Figure 1).

Figure 1: County Department of Health and an Academic Institution: A Model for a Partnership in Public Health Practice



Accomplishments

This partnership has resulted in several working projects including the development of policies and procedures for epinephrine administration by unlicensed personnel in nonpublic schools, an initiative in special child health services, education, and public access defibrillation. They are summarized in Table 1.

School epinephrine policy

A state law was enacted in 1997 (New Jersey Statutes Annotated, 1997) because school nurses were not always available to assess students who were experiencing severe allergic reactions. Since allergies in the school population are common and can lead to life-threatening anaphylaxis (Smith, 1999), the law required educational boards or chief school administrators/principals of public and nonpublic schools to develop policies governing epinephrine administration.

This law permits the school nurse to designate another employee of the school to administer epinephrine via an auto-injector, in consultation with other key individuals in the school community. BCDHS public health nurses, the director of public health nursing, the faculty consultant, and students worked together to produce strategies for the safe implementation of this law (Truglio-Londrigan, Macali, Bernstein, Kaider, Petersen, & Tumino, 2002). Total quality improvement and a best practice approach were used to develop policies and procedures.

Special child health services

Special Child Health Services (SCHS) of Bergen County provides case management for children with special needs. SCHS professional staff screen and assess children with special needs; conduct home visits; and refer children to appropriate health, developmental, educational, and social service agencies. The program was having difficulties providing needed services because of the increasing numbers of families and children in need and insufficient staff. Additional challenges were presented by fiscal restraints and a lack of service providers. The faculty consultant and students, in partnership with the DPHN, conducted an assessment and noted an underutilization of technology to assist families and staff.

The assessment revealed that SCHS professional staff had access to technology but were reluctant to integrate it into their practice. For example, staff would not use their computers for purposes other than word processing. Use of the Internet to identify community resources was minimal.

As a result of the assessment, educational and support measures were developed to assist staff in the use of technology. Educational programs were instituted on a one-to-one basis. The faculty consultant and students, in conjunction with other individuals at BCDHS, also developed a Web site (www.bergenhealth.org) for families in need of information and support.

Program	Assessment	Policy	Assurance
Epinephrine In Nonpublic Schools	Data collection, including structure and processes in place for epinephrine administration, best practices established in other agencies	Development and implementation of best practice policies, procedures, and protocols for the emergency use of epinephrine in nonpublic schools	<ul style="list-style-type: none"> • Staff education to ensure understanding of policies, procedures, and protocols • Evaluation strategies such as focus groups for public health nurses to obtain input
Special Child Health Services	Data collection, including families, staff, and advocacy groups' satisfaction with program, families in need of services, and grant funding	Implementation of strategies to support professional staff and families, such as incorporation of technology as a support service for families (Web site) and to improve efficiency of practice	<ul style="list-style-type: none"> • Education technology • Tracking of qualitative and quantitative information to determine family needs • Monitoring of Web site to determine if families are accessing and using it
Public Access Defibrillation Law	Assessment, including public access defibrillation law, resources at BCDHS for implementation, strategies, and best practices in place at other agencies	Development of policy and procedures for external automated defibrillator program	<ul style="list-style-type: none"> • Implementation of educational programs • Evaluation throughout the program at intervals
Educational Programs	Assessment, including public health directives in relation to staff needs and LSN student needs regarding population-based care	Development of nursing education programs using Standards of Public Health Nursing Practice both for staff and for curriculum development at LSN	Participation and evaluation of educational programs to enhance the public health nurses' core competencies and strengthen public health content in nursing curriculum

Public health education opportunities

The faculty practice partnership model provides a framework for educational programs for both public health professionals and students. According to the Department of Health and Human Services (2001), there are too few opportunities for public health professionals to engage in continuing education. Specific knowledge and skills are needed for effective public health practice, including public health values, epidemiology, quality assurance, economics, informatics, communication, cultural competency, team building/organizational effectiveness, strategic thinking and planning, advocacy, politics, policy development, and coalition building (Gebbie & Hwang, 1998).

Through the faculty practice partnership program, several formal education sessions for public health nurses were offered in their practice setting. These included community assessment, situational analysis, total quality improvement, leadership, policy implementation, communication, and media advocacy. Informal education took place daily in the practice setting through knowledge sharing between the faculty member and the nurses. Informal learning also occurred as staff and students worked together and learned from each other.

Population-based care is a complex phenomenon that many academic and practice institutions struggle with. It is a challenge to educate students in the skills and competencies necessary for the smooth transition into the public health workforce. The DPHN met this challenge by becoming a clinical preceptor for nursing students and an adjunct instructor at LSN.

Public access to defibrillation

The New Jersey Public Access Defibrillation Law (1999) was enacted to facilitate the acquisition, deployment, and use of automated external defibrillators. To reach this goal, the faculty consultant and DPHN developed a Public Access Defibrillation (PAD) program for community buildings. The program is under the direct supervision of BCDHS in collaboration with the Office of Emergency Management (OEM).

The PAD program was developed after review of the law and research into other programs already in existence and includes an important evaluation component. The evaluation includes specific documentation practices and focused reviews at 3-, 6-, 9-, and 12-month intervals to determine whether the structure and process of the PAD program is efficient and effective.

Conclusions

The partnership has led to both benefits and challenges. The benefits have been many (see Table 1). These successes have been attributed to the fact that both partners accepted the inherent responsibility to ensure quality collaboration between public health nursing practice and nursing education. In addition, both partners were willing to be flexible.

Linder, Quill, and Aday (2001) described the essential feature of a partnership as “jointness,” where each partner bears some of the risk, pays some of the cost, and can claim a portion of the gain. This “jointness” takes time to develop. It is a relationship that embodies the concept adopted by the third strategic planning meeting held in Chicago,

2001. This planning meeting was a representation of 10 nursing organizations who together drafted *Vision 2020 for Nursing*, which states, “nursing care will only be as good as the quality of the partnership between nursing education and nursing practice” (Floyd, 2001, p. 49).

The difficulties with the partnership have stemmed from the county department of health’s inability to pay for the faculty member’s service in a way that was comparable to the university salary structure. As mentioned earlier, this required the faculty member to carry the traditional 12 credits per semester.

The flexible nature of the partnership has allowed the partners to deal with this difficult situation. For example, faculty members may conduct practice hours from a different location when their presence at the department of health is not needed. For example, it is not necessary for the faculty member to be present on site while developing an educational program for the professional staff.

Ultimately, this model links the practice and academic settings, thus closing the gap between the two arenas (Jenney & Roberts, 2000). The partnership assists the public health arena in the development and maintenance of core competency skills for the public health work force, introduces nursing students to the field of public health, and provides students with the experiences necessary to obtain skills for public health practice as well as to understand the standards, practice, and core function of public health. The faculty practice partnership model has proven to be a win-win-situation.

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BOOK REVIEW: Nursing Against the Odds

Warren Hawkes, MLS

Gordon, S. (2004). *Nursing against the odds: How health care cost cutting, media stereotypes, and medical hubris undermine nurses and patient care*. Ithaca, NY: ILR Press, Cornell University Press.

In a phrase: "What a mess!" We all can relate to stories about dysfunctional friends and families and sometimes even find them amusing. Suzanne Gordon's presentation on the dysfunctional state of our nation's healthcare "family," however, is never amusing. From a patient's perspective it might be downright frightening.

Gordon, also the author of *Life support: Three nurses on the frontline* and *From silence to voice*, is a well-known writer and frequent speaker on issues related to nursing and health care. Her new book, published during one of the most critical nursing shortages in history, is intended to detail the contemporary saga of nurses. But with nurses as the single largest group of caregivers, it also provides amazing insights into the orchestrated chaos of today's healthcare delivery system.

Gordon uses a style that is easy to read and is based on personal interviews as well as thoroughly researched and documented materials. The book is presented in three parts: Part One – Nurses and Doctors at Work; Part Two – The Media and Nursing; and Part Three – Hospitals and Nursing.

Part One, consisting of five chapters, delves into the nurse-physician relationship. Gordon describes how this relationship evolved through two separate systems of professional socialization and how it is maintained today - to the point where it may even endanger patient care. Gordon supplies an array of

stories about horrendous lapses in communications, as well as professional interactions, both verbal and physical, that clearly border on the criminal.

Part Two, conveyed in three chapters, focuses on the negative image of nurses in the entertainment media, and the frequently invisible nature of nurses in the general news and healthcare media fields. The final part of this section discusses an interesting phenomenon that even when nurses are presented with an opportunity to "go public" for the media, they often shy away. Gordon successfully conveys through interviews and historical research the public's and the media's perception of who nurses are and what they do. Those perceptions sadly miss what constitutes real nursing in today's world. Also sadly, nurses may fail to be their own best advocates in advancing their cause through the media.

Part Three, with six chapters, addresses the current hospital-based work environment for nurses. Gordon is very candid in her use of the phrase "mangled care" as a substitute for "managed care." Although conceptualized as a model to improve care delivery, managed care has created havoc for the bedside nurse. These chapters detail a harsh work environment where nurses are devalued and overworked. In an environment of increased acuity and overwhelming patient-to-nurse ratios, a significant portion of nurses are

leaving the profession and efforts to recruit people into the profession are not meeting the projected demand. Gordon is open and honest, albeit sometimes harsh, in her condemnation of nursing leaders and their lack of ability or desire to better the condition surrounding their own profession.

In her conclusion titled "Changing the Odds," Gordon provides a synoptic discussion of the issues of staffing ratios and scheduling, pay, education, collective bargaining, image, and doctor-nurse relationships. They are all clearly detailed through anecdotal stories and research.

These issues are not new, however, and the literature is replete with major studies and reports ranging from the Goldmark Report (Committee for the Study of Nursing Education, 1923) to the report of the National Commission on Nursing (1981). The nursing profession was studied by the federal government (Secretary's Commission on Nursing, 1988) and the American Organization of Nurse Executives (AONE, 1990). After we read Gordon's book, the ongoing problems and issues are clearly identified. What we need to ask ourselves is, "What will it take to bring about action to make the changes necessary to save the profession of nursing?"

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