

Nurses' Perceptions of Involvement in Thunder Project

American Association of Critical-Care Nurses Thunder Project' Task Force

THE AMERICAN ASSOCIATION of Critical-Care Nurse's (AACN) Thunder Project' was conceptualized and developed to provide critical-care nurses with a research protocol ready for institutional review and implementation. Project goals included providing a research package (protocol, educational, and data collection materials) and a topic of clinical significance to critical-care nurses. Site coordinators and research associates were identified at participating institutions to coordinate and implement all study activities. In this article, an evaluation study undertaken to recount perceptions of site coordinators and research associates in relation to project goals and research experience is described. Data demonstrated that study goals were achieved, and research experience was considered professionally enhancing. Written comments described barriers to project implementation at participating sites. Obtaining informed consent and physician approval and/or cooperation were identified as significant barriers to implementation at some sites.

Key Words: critical-care nursing research, research experience, research barriers

Thunder Project' was conceptualized and developed to provide critical-care nurses with a research protocol ready for institutional review and implementation. It was believed that nurses: were eager to participate in nursing research, would facilitate the project in their clinical settings, and would find the experience professionally enhancing. CNSs, in particular, perceive involvement in research as a component of their professional role (Hodgman, 1983; Wabschall, 1987). Inadequate time and resources to develop research projects, lack of collegial networks to assist in project development, and limited research preparation are listed by CNSs and staff nurses as disincentives for participation

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(Girouard, 1983). Overcoming these barriers by providing a research package (protocol, educational, and data collection materials) and a support network was the process goal of the Thunder Project®. Providing a research topic of clinical significance for a multisite study was the project's content goal. The purpose, background, and findings from the study have been reported previously (American Association of Critical-Care Nurses [AACN], 1993).

Critical-care nurses interested in facilitating the project in their institutions were identified as Thunder Project' site coordinators. They were most often Master's-prepared CNSs. Their role included: informing colleagues and administrators about the project; obtaining needed administrative and institutional review approvals; obtaining funding; collaborating with medical and nursing colleagues to recruit patient participants and collect data; educating site research associates who participated in subject recruitment and data collection activities; coordinating data collection activities; managing completed data forms; and acting as project contact person in participating institutions. Site research associates were largely unit-based staff nurses who worked with site coordinators to enroll patients and collect data.

PURPOSE

At the end of the project, an evaluation study was undertaken to determine perceptions of site coordinators and site research associates in relation to the process and content goals of the project. Specifically, the evaluation's purpose was to determine the extent pro-

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TABLE 1
SITE COORDINATOR'S RESPONSES TO EVALUATION QUESTIONS

Questions	Strongly agree/excellent		Agree/good		Disagree/fair		Strongly disagree/poor	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
	The problem addressed in Thunder Project® is important clinically. Participating in Thunder Project® as a site coordinator was professionally enhancing.	126	76.4	39	23.6	0	0	0
I experienced little difficulty in implementing the Thunder Project® protocol in my clinical setting.	111	67.2	51	31.0	2	1.2	1	.6
Overall, I would rate the experience of participating in Thunder Project® as:	29	17.8	69	42.0	46	28.0	20	12.2
The protocol materials received facilitated obtaining approval for the project in my institution.	84	51.0	73	44.2	7	4.3	0	0
The educational materials facilitated site research associate training at my institution.	104	63.0	58	35.2	2	1.2	1	.6
I was able to obtain answers and other needed support from the national office.	115	69.7	50	30.3	0	0	0	0
I would participate in another project of this nature.	140	84.8	24	14.6	1	.6	0	0
The nursing staff would participate in another project of this nature.	117	73.1	42	26.3	1	.6	0	0
My organization would support participation in other projects of this nature.	55	34.4	102	63.8	3	1.9	0	0
	65	40.6	91	56.9	3	1.9	1	.6

cess and content goals were met, as well as provide an opportunity for site coordinators and site research associates to comment on the study process.

METHODS

When all completed data collection forms were received from a project site, the site coordinators were sent evaluation tools. Coordinators and research associates completed the appropriate form and returned completed evaluation tools to the AACN national office for processing.

Separate evaluation tools for coordinators and research associates were developed by the Thunder Project® Task Force. Statements were developed to describe the project's ability to meet stated process and content goals. A 4-point Likert-type scale was used to measure the respondent's level of agreement with each statement. Optically scannable forms were used, and written comments were requested at the end of each evaluation tool.

Responses to each item were scanned using an Op-Scan5 scanner. These data were downloaded into the CRUNCH4 statistical software for analysis. Descriptive

statistics were generated. Comments were read and categorized according to themes.

RESULTS

Demographics

Project evaluation forms were received from 165 (83%) of 198 site coordinators submitting data from their sites by the end of the data collection period. A total of 1118 site research associates submitted completed evaluation forms.

Of the coordinators, 89% were either doctorally or Master's prepared. The remaining 11% were either working on a degree or had a support person with either Master's or doctoral preparation. This project was the first nursing research coordinator experience for 97 (60.6%) of the site coordinators. Another 36 (22.5%) indicated it was their second experience, and 27 (16.9%) had coordinated three or more research projects.

Responses from coordinators to evaluation questions addressing process and content goals of the project are summarized in Table 1. Table 2 summarizes evaluation question responses from research associates.

TABLE 2
SITE RESEARCH ASSOCIATE'S RESPONSES TO EVALUATION QUESTIONS

Questions	Strongly agree/excellent		Agree/good		Disagree/fair		Strongly disagree/poor	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
	The problem addressed in Thunder Project® is important to my clinical practice.	513	45.9	551	49.3	40	3.6	14
Collecting data for Thunder Project® was easy to integrate into my patient care activities.	412	37.0	594	53.4	95	8.5	10	.9
Participating as a site research associate increased my interest in clinical research.	308	27.6	589	52.8	182	16.3	35	3.1
Participating in Thunder Project® as a site research associate was professionally enhancing.	290	25.9	658	58.9	138	12.3	31	2.7

Content Goal

The Thunder Project' explored effects of heparinized and nonheparinized flush solutions on patency of arterial pressure-monitoring lines. Coordinators and research associates were asked to rate the importance of the project's research topic to clinical practice. All coordinators and 95% of research associates believed that the research topic addressed by the project was important to clinical practice, as illustrated by their comments: "Heparin is a drug, and if we can eliminate one drug from the patient's regimen in critical care, we are doing something good."

"Hopefully it will lead to the elimination of the use of heparin to maintain line patency, which would be much safer for patients, less costly, and less time consuming for the nursing staff."

Process Goals

Research protocol materials were rated by coordinators according to how well they facilitated study approval by the institutional review board at each participating hospital, and how they eased training of research associates. Of coordinators responding, 98% agreed or strongly agreed that the materials aided approval. All coordinators agreed that protocol materials supported the educational training process. Written comments by coordinators and research associates further supported the value and comprehensiveness of written materials. In addition, coordinator comments about the materials reflected their importance in facilitation of the research process:

"The well-organized materials impressed the right people and has paved the way for other research projects to occur."

"The materials sent to me were excellent and invaluable. These made doing research a reality."

"The strategies and suggestions offered in the packet were very helpful."

"Our anesthesia department commented on the excellence of materials, including how the study was set up." Research associates also made comments about data collection materials. Of 33 comments, 31 (94%) affirmed their value, and 21 (68%) specifically used the word "easy" to describe the data collection tools:

"The forms made it easy to do."

"Well-organized packet and clear directions."

"Data collection tool was easy to use."

Others mentioned the helpfulness of the orientation film, the value of the ThunderBolts newsletter, which was mailed monthly for the duration of the project, and easy-to-follow instructions.

Of the research associates, 90% agreed or strongly agreed that Thunder Project' data collection was easily integrated into clinical practice. Written statements that the process was "organized, flowed smoothly, easy, and did not interrupt patient care" supported these results. While most comments describing the research process were positive, other opinions were expressed:

"Data collection took away from emergent patient care and/or was difficult to implement in the ER situation."

"It was too time consuming."

"It was annoying to have an extra task."

"It was difficult to gather data when the unit was busy." Coordinators were asked to rate the level of difficulty they experienced in project implementation. While 60% said they had little difficulty, the remaining 40% indicated that they did experience problems with project implementation at their sites.

The consent process was identified as the primary barrier by coordinators and research associates. The project's protocol required that each participating institution internally address the informed consent issue before initiating data collection. Comments provided by both groups revealed specific problem areas:

"Institutionally developed consent forms were too complex, too negative, too long, and scared patients."

"Consent process was too time consuming."

"Difficult to take time away from unit to obtain consent."

"Family unavailable on off shifts."

"Family intimidated and refused participation."

"Patient/ family required detailed instruction, and even with this, did not necessarily consent."

"Patient/family hesitant to participate; afraid of the word 'research.'"

"Same-day admission patients could not be consented prior to surgery; special arrangements had to be made prior to hospitalization or the family had to be tracked down while patient in surgery."

"Was very difficult in an ER situation when patient/ family were in crisis; sometimes increased their stress."

The second major barrier to implementation was lack of support from physicians, particularly anesthesiologists:

"The challenge was to gain the support of anesthesia to identify candidates; they needed frequent reminders."

"Several MDs did not agree to the study."

"The study was extremely dependent upon MD desire: if we could include their patients, when it was convenient for them, etc."

"The hardest part of this whole experience was not that of correct data collection by the nursing staff, but getting through the stumbling blocks known as anesthesiologists and CRNAs."

While negative comments about physician support dominated participants' remarks, there were a few comments describing positive aspects of a collaborative effort:

"Our anesthesia department facilitated the effort."

"Collaboration with the surgical staff and anesthesia providers facilitated implementation of the project."

"Compliance from the OR contributed much to our success."

Overall Process

Coordinators and research associates were asked to rate the extent to which they believed project participation was professionally enhancing. Overall, 85% of research associates and 98% of coordinators agreed or highly agreed that the experience was professionally enhancing. Eighty percent of research associates indicated that their interest in research had increased as a result of participation.

Coordinators were also asked to rate the overall experience of participation. Overall experience was rated as

good or excellent by 95%; only 1% rated the experience as poor. All but one coordinator (99%) indicated they would participate again in another project of this nature. Coordinators reported that nursing staff would be willing to participate in a similar project in the future in 98% of the institutions, and 97% indicated that their institution would support participation again.

DISCUSSION

According to responses provided by coordinators and research associates on the evaluation tool, process and content goals of Thunder Project® were met. The project enabled critical-care nurses to participate collaboratively in the research process. Site coordinators, who were primarily CNSs, gained expertise in coordination of a clinical study. Survey results reflect their positive feelings about the process. In addition, the study provided knowledge for use in clinical practice in an area of importance to critical-care nurses.

Clearly, coordinators were able to take this packaged research program and successfully implement it within their clinical setting. Although most coordinators had little difficulty, barriers to process implementation were identified. These barriers were significant for some coordinators and included components of the consent process and difficulties encountered in gaining physician support.

Obtaining informed consent remains a major obstacle for critical-care nursing research. The nature of critical illness and fears and anxiety associated with an uncertain future leave patients and family members in a heightened state of cautiousness. They do not want to introduce any new procedures to an already delicate situation. Lack of knowledge about research may also contribute to their hesitancy. Written comments showed that patients were frightened of the word research. Consumers need to be educated objectively about the value of research and the ethical and legal guidelines for research which protect them from abuse.

In addition, the informed consent process needs to be critically evaluated by researchers, administrators, and attorneys. There is little consensus among institutions regarding when consent is required for participation in research, and, when it is required, who should provide it. One coordinator said that it was necessary to obtain Vol. 9, No. 2, 1995

consent from three different people for each patient: the patient, nurse, and physician. In other participating institutions, consent was not necessary for protocol implementation because the research was viewed as an evaluation of a standard of care.

Lack of physician support was identified as another barrier to the research process. Physicians were frequently involved in identifying and/or approving potential candidates for study inclusion. For the study to proceed smoothly, coordinators had to negotiate with physicians, and provide frequent reminders so that their patients could be included. Coordinators were also able to educate physicians about the scope and value of nursing research. Intact lines of communication between these nurses and physicians were essential to aid understanding, support, and, ultimately, collaboration.

Results of the evaluation study demonstrated that process and content goals of the project were met, and provided valuable data describing the experience from the perspective of coordinators and research associates. Participation in this clinical study was described as personally rewarding and professionally enhancing, and stimulated these nurses to consider future participation in similar research studies. Barriers to research process were encountered, but through communication, collaboration, and creativity, coordinators were able to successfully implement the study in their institutions.

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REFERENCES

- American Association of Critical-Care Nurses. (1993). Evaluation of the effects of heparinized and nonheparinized flush solutions on the patency of arterial pressure monitoring lines: The AACN Thunder Project®. *American Journal of Critical Care*, 2(1), 3-15.
- Girouard, S. (1983). Implementing the research role. In A.B. Hamric & J. Spross (Eds.), *The clinical nurse specialist in theory and practice* (pp. 83-89). Orlando, FL: Grune & Stratton.
- Hodgman, E.C. (1983). The CNS as researcher. In A.B. Hamric & J. Spross (Eds.), *The clinical nurse specialist in theory and practice* (pp. 73-82). Orlando, FL: Grune & Stratton.
- Wabschall, J.M. (1987). The CNS as researcher. In S.W. Menard (Ed.), *The clinical nurse specialists* (pp. 145-180). New York: John Wiley & Sons.