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ABSTRACT

Results of an evaluation of the South Dakota Project to Articulate Continuing Education in Nursing (Project SPACE), which was the extent to which the three-year project had been a value to South Dakota nurses, were presented. According to the Executive Committee's assessment, the project increased quantity and quality of continuing education programming, which included refresher courses and teleconferences, and it established a strong network to coordinate continuing education. All registered and licensed practical nurses in the state were sent a questionnaire to evaluate the project, and 1,670 responded (27 percent). Of the respondents, 81 percent were registered nurses, and 19 percent were licensed practical nurses. Fifty-one percent of the registered nurse respondents indicated that their continuing education needs were being met, while only 41 percent of licensed practical nurses felt their needs were being met. Among the reasons for needs not being met are the following: inconvenient location of programs, cost of workshops, and inability to obtain release time from the employer to attend. In addition to nurses, employers of nurses were surveyed to obtain their perceptions of the extent to which the project was meeting the continuing education needs of nurses. The quality of continuing education activities and their impact on health care in the state also were assessed. During the three years, 42 educational offerings were offered to 948 registered and 339 licensed practical nurses. (SW)

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SUMMATIVE EVALUATION
SOUTH DAKOTA PROJECT TO ARTICULATE
CONTINUING EDUCATION IN NURSING
(Project SPACE)
August 1981

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SUMMATIVE EVALUATION OF PROJECT SPACE

The South Dakota Project to Articulate Continuing Education in Nursing (Project SPACE) has as its purpose to plan for and provide an articulated, coordinated statewide system of continuing education for nurses in South Dakota. South Dakota is a rural state divided into prairie and plain by the Missouri River, with mountains on the western border of the state. South Dakota is primarily an agricultural state. Federal Indian reservations comprise 10 percent of the land area. The state ranks 16th among states with respect to land area and 43rd among states with respect to population.

In 1980 there were approximately 7,254 nurses in South Dakota. 4,977 were registered nurses and 2,277 were licensed practical nurses. Continuing education in South Dakota is voluntary. Nurses are not required to attend continuing education activities to renew their license to practice nursing in the state.

Project SPACE is funded by the Department of Health and Human Services, Public Health Service. The project is based in the Department of Continuing Education, College of Nursing, South Dakota State University, Brookings, South Dakota.

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Structure and Personnel

Project SPACE is headed by an Executive Committee comprised of individuals representing nursing. Nursing organizations, such as the South Dakota Board of Nursing, the South Dakota Licensed Practical Nurses' Association and others, make up some of the Executive Committee membership. Other nurses represent schools of nursing in the state, nursing service administration and nursing practice. The Executive Committee functions to provide direction to the project and is the policy making body.

Directly responsible to the Executive Committee are the project staff. Project staff consist of the Project Director who allocates 25 percent of her time to the project in addition to her responsibilities as head of the Department of Continuing Education in the College of Nursing. The Project Coordinator devotes full-time to the activities of Project SPACE.

Additional project staff include a half-time Nurse Resource Librarian and a full-time secretary. Eight Regional Facilitators comprise the remaining project personnel.

The project director has as her responsibility the administration of the project, including fiscal affairs. The coordinator functions to accomplish the project's

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objectives. The Nurse Resource Librarian facilitates the library activities in meeting continuing education needs of South Dakota nurses. The regional facilitators represent eight geographic regions in South Dakota. The regional facilitators are based in agencies/organizations throughout the state; contractual agreements are established with the employing agency to provide release time for the facilitator to devote to Project SPACE activity. The facilitators plan and implement continuing education in nursing activities in their geographic area under the aegis of the project. In some regions the facilitator is assisted by an alternate facilitator, which allows for a broader base of support in the provision of continuing education activities.

An Advisory Committee provides information to the Executive Committee and to the project staff. Advisory Committee members represent nurse anesthetists, licensed practical nurses, the Health Education Development System, the South Dakota Association of Health Care Facilities, office nurses, the Community Health Education System, Veterans' Administration hospitals, nursing homes, the South Dakota Health Systems Agency, the South Dakota Hospital Services, the Department of Health, the South Dakota Nurses' Association, Indian people and others. The Advisory Committee membership allows for representation of nursing

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organizations and providers as well as consumers of health care services throughout the state of South Dakota.

Project Aims and Objectives

Project SPACE is a three year project. Aims and objectives were established for each of the years of the project's duration. The aims and objectives of the project can be viewed at three levels as described by the project's goals:

A) Immediate goal: To provide assistance in 1) determining the present status of continuing education in nursing in South Dakota, and 2) determining the continuing education needs of South Dakota nurses.

B) Intermediate goal: To give assistance in meeting those needs intended to provide participants with knowledge, skills and attitudinal change applied to continuing education activities as developed by an articulated, coordinated statewide plan.

C) Ultimate goal: To ultimately reach the long-range goal of continuing education through the application of knowledge, skills and change of attitude intended to improve patient care.

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A timeline was established to reflect attainment of the objectives. The project timeline indicated the extent to which each of the project objectives were to be achieved in relation to the allotted time for the existence of the project.

Formative Evaluation

The formative evaluation of Project SPACE was conducted after the first full year of project operations. The formative evaluation focused on the extent to which achievement of the aims and objectives identified in the timeline for the project's first year had occurred. The results of the formative evaluation indicated that much of that had been intended had been accomplished in the first year. The tasks outlined for the project were being completed and the objectives realized in a more than satisfactory manner. The summary appraisal of the formative evaluation concluded that, 'The overriding concern of Project SPACE at this time should be the continuation of the project's operations after the funding period. Explorations should begin immediately to assure the continuation of the project's activities. A concomitant activity should be to prioritize the future activities of the project in order of their perceived impact.'

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Efforts during the final two years of Project SPACE should be directed toward those activities which will have the broadest and most noticeable impact. The energies of those involved in Project SPACE should not be dissipated on activities of little lasting value to nurses in the state."

DESCRIPTION OF THE EVALUATION PROCEDURE

In this section of the report, the design of the summative evaluation of Project SPACE is delineated. Summative evaluation is that evaluative process which occurs at the conclusion of a program or project, in contrast with formative evaluation, which occurs during the course of a program or project. Formative evaluation often provides base-line data which may be compared with data generated in the summative evaluation process. The summative evaluation generally establishes the extent to which a program or project has been worthwhile over the course of its existence.

The primary concern of the evaluator was the extent to which Project SPACE had been of value to the nurses in South Dakota. Criteria questions were generated by the evaluator, which when answered, would address the major concern of Project SPACE's worth. The criteria questions were as follows:

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1) To what extent have the aims and objectives for Project SPACE been achieved since the formative evaluation?

2) To what extent do nurses in South Dakota perceive that Project SPACE is meeting their continuing education needs?

3) To what extent has the quality of continuing education courses offered by Project SPACE improved over the duration of the project?

4) To what extent have the continuing education activities sponsored by Project SPACE had an impact on the quality of health care in South Dakota?

The data required to respond to these criteria questions were established and appropriate data collection techniques identified. The final determination of the data sources and data collection techniques was made during a two day on-site visit to Project SPACE headquarters at South Dakota State University in Brookings, South Dakota. The evaluator met with the project staff and outlined the data collection process necessary to complete the summative evaluation. Responsibilities were delineated: the evaluator would design the data collection instruments; the project staff would assist in the data collection process; the evaluator would analyze and summarize the data collected.

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A time frame for the evaluation process was established. The data collection would be conducted in the spring and early summer of the project's final year. The summative evaluation report would be completed by mid-summer that same year.

Data Sources and Data Collection Techniques

The criteria questions generated by the evaluator and the data collection techniques which responded to these criteria questions are as follows:

Criteria Question	Data Source	Technique
1. To what extent have the aims and objectives for Project SPACE been achieved since the formative evaluation?	Project staff	Interview
	Regional	
	Facilitators	Discussion
	Executive	
	Committee	Discussion
2. To what extent do nurses in South Dakota perceive	Advisory	
	Committee	Questionnaire
	Nurses	Questionnaire

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that Project SPACE is meeting their continuing education needs?

3. To what extent has the quality of continuing education courses offered by Project SPACE improved over the duration of the project?

Project files Review of Documentation

4. To what extent have the continuing education activities sponsored by Project SPACE had an impact on the quality of health care in South Dakota?

Regional Facilitators Discussion
Offering
Participants Questionnaire
Participants'
Supervisors Questionnaire
Nurses Questionnaire
Administrators Questionnaire
Other Health
Care Groups Interview
Consumers

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PRESENTATION OF EVALUATIVE DATA

It is the purpose of this section of the report to present the evaluative data collected by the various means described in the previous section. Each of the criteria questions will be listed followed by that data collected which responds to the question.

1. To what extent have the aims and objectives for Project SPACE been achieved since the formative evaluation?

The evaluator interviewed project staff in relation to the extent to which the aims and objectives for Project SPACE had been achieved during the period of time (2 years) since the formative evaluation had been conducted. The staff seemed to think that the majority of the aims and objectives had been achieved to a satisfactory degree.

In addition, the grant application for Phase II of Project SPACE was reviewed. The grant application described in some detail the achievement of the project's aims and objectives. All of the objectives of the project had been realized to some extent.

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This criteria question was addressed by the SPACE Regional Facilitators in group discussion. A schedule of questions was designed by the evaluator to facilitate discussion and response to the criteria questions. The schedule consisted of six questions, three of which were related to this criteria question. These three questions were: 1) What have been the accomplishments of Project SPACE? 2) What else should Project SPACE have accomplished during its existence? and 3) To what extent has Project SPACE achieved its goals and objectives?

The facilitators were presented with the questions and encouraged to arrive at consensus in their response. A recorder was appointed who summarized the group's discussion in writing for transmittal to the evaluator.

The facilitators indicated that "the entire project has achieved its goals quite well. . . .80 percent achievement of project goals and objectives had occurred to date." Several facilitators expressed concern that they could have accomplished more continuing education programming in their regions. When asked what else Project SPACE should have accomplished, the facilitators responded, ". . . .A statewide resource book could have been compiled and distributed earlier. . . . orientation of facilitators who came on staff late in the project could have been provided."

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The same criteria question was addressed by the project's Executive Committee through group discussion. The Executive Committee members discussed the three questions in the same manner as had the facilitators. The Executive Committee indicated that the 'Project had been very successful in meeting its goals and objectives and judged that it had exceeded all expectations and estimated achievement at 125%'. The Executive Committee indicated that the project had accomplished much more than expected, and so did not identify anything else that Project SPACE should have accomplished during its existence.

Both groups identified accomplishments of the project. The regional facilitators agreed that, 'SPACE has tuned into the actual needs. Workshops that have been developed are very sound: the quality is high. SPACE has been a united, cohesive effort as opposed to a competitive effort. The planning process has been well developed. More nurses are attending workshops. Speakers have developed teaching skills in addition to content knowledge. SPACE brought educational opportunities close to home for all nurses. Geographically dispersed conferences on a diversity of topics have required a cooperative effort of the facilitators. They have become a core group of peers highly skilled in provision of continuing education. The training SPACE provided to the facilitators has been a significant contribution to their expertise.'

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The Executive Committee stated that the project's accomplishments included "increased quantity and quality of continuing education programming. A strong network has been developed and is functioning to provide continuing education in a coordinated fashion. SPACE has become very visible and credible in the state and is seen as the 'center' of continuing education activities. Continuing education programming has been offered outside the traditional workshop format; i.e., refresher courses and teleconference programming backed on needs assessment and planning on a regional basis has helped meet the needs of more nurses."

The Advisory Committee addressed this criteria question by means of a questionnaire. Fifteen members of the Advisory Committee were sent the questionnaire with a request that it be completed and returned as soon as possible. A self-addressed, stamped return envelope was provided. Anonymity of response was assured. Of the 15, 5, or 33%, of the Advisory Committee members responded. In response to the question, 'To what extent has Project SPACE achieved its goals and objectives?', one individual responded that, "No doubt they have helped in areas where continuing education would have been lacking if they had not provided programs." Another indicated that "A lot of time and cost has been put into the project." But another stated that, "SPACE, I'm certain, has enhanced what

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is available in South Dakota. That has to be of great value to rural South Dakota." One member replied, "It has been very successful in meeting its goals and objectives. Nurses in the state are well aware of SPACE and take advantage of it." One respondent indicated that he/she did not have a copy of the goals and objectives of the project, and so did not respond to the question.

2. To what extent do nurses in South Dakota perceive that Project SPACE is meeting their continuing education needs?

A questionnaire was designed by the evaluator to address this criteria question. The questionnaire consisted of 12 items, 3 of which elicited demographic data about the respondent, 3 of which dealt with continuing education attendance, 1 which dealt with reasons for attending continuing education activities, 4 which asked whether the respondent's continuing education needs were being met, and 1 which asked whether the respondent experienced a difference in his/her nursing practice as a result of participation in continuing education activities. The final item asked for any additional comments the respondent wished to make.

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The questionnaire was sent to all of the registered and licensed practical nurses in the state. The questionnaire was mailed as part of the Project SPACE Calendar of Events, which lists the continuing education activities sponsored by the project. The questionnaire was designed so that it could be completed and returned to the project office without affecting any of the information contained in the calendar of events. The survey form could be folded and mailed without insertion into an envelope. Postage for return of the survey forms was paid by the project.

Of the 8,024 surveys mailed, 1,740, or 22 percent, were returned as undeliverable. A total of 1,670 completed survey forms were returned, a return rate of 27 percent.

Of the respondents, a majority (81%) were registered nurses. Nineteen percent were licensed practical nurses. Those respondents who reported residing and being employed in urban and rural areas of the state were almost equally divided.

When asked about continuing education attendance in the previous two or three years, registered nurses reported attending a median of 4 workshops, and licensed practical nurses reported attending a median of 3 workshops in that time period. Next asked whether those workshops were SPACE sponsored, registered nurses indicated that a median number

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of 2 workshops were sponsored by the project, while the median number of SPACE sponsored workshops reported by licensed practical nurses was one.

Next asked whether their continuing education needs were being met, a majority (51%) of registered nurses answered yes, while 38 percent responded with a no. Ten percent of the respondents gave an answer other than yes or no. In contrast, only 41 percent of licensed practical nurses indicated their continuing education needs were being met; a majority (59%) responded with a no. Fewer than one percent of both groups failed to respond to this item on the survey.

The respondents were asked to explain their answer. Most of the registered nurses who answered yes to the question did not offer additional comments, but several offered compliments such as, "I think South Dakota is doing a better job" than neighboring states, "I have access to many excellent programs," and "I enjoy attending these workshops. . .you learn so much from them."

The responses from the registered nurses who indicated their continuing education needs were not being met were categorized as follows:

1. inconvenient location of programs
2. cost of workshops
3. inability of nurse to obtain release time from employer to attend

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4. family responsibilities prohibited attendance
5. inconvenient scheduling of workshops, such as
no workshops in evenings or on weekends
6. workshops not offered in area of practice needed
by nurse

Those nurses who responded with an answer other than yes or no generally indicated their continuing education needs were being met "partially" or "almost." Reasons for these responses included identification of other content needed for specific areas of practice, or requests that academic degree program offer courses in certain parts of the state.

Most licensed practical nurses who responded yes to the question about their continuing education needs being met did not offer additional comments. Those who did said that their employers were offering excellent courses which they attended while at work.

The explanations given by licensed practical nurses for their no response were similar to those given by registered nurses. The two primary reasons given were the location and the cost of workshops.

In response to an item which stated, "A primary goal of Project SPACE is to make certain that continuing education needs of South Dakota nurses are met. How well would you say Project SPACE is doing that now?", the nurse was asked to

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indicate his/her response by circling the appropriate number on a scale of 1 to 10, where 1 was low and 10 was high. The median response for registered nurses was 7 and the median response for licensed practical nurses was 5.

In addition to the survey forms mailed to registered and licensed practical nurses in South Dakota, participants at a SPACE-sponsored workshop on Legal Aspects in Nursing Practice also were given the questionnaire. The questionnaire was included in the packet of handout materials which each participant received upon registration at the workshop.

At the beginning of the workshop the Project SPACE Coordinator called the attention of the participants to the survey form which was included in their information packet. The participants were told that the survey was part of an effort to evaluate the effectiveness of the project in meeting the continuing education needs of South Dakota's nurses. The participants were assured that their responses would be anonymous, and were further told that a similar survey would be mailed with the calendar of events which they would receive. The participants were encouraged to also complete the survey form included with the calendar.

There were 113 participants in attendance at the legal aspects workshop. Of those present, 95, or 84 percent, returned a completed questionnaire.

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In response to the question about whether their continuing education needs were being met, 72 percent of the respondents answered yes. Those individuals who responded no offered as explanation comments similar to those made by the respondents to the calendar of events survey.

In addition to nurses, employers of nurses were surveyed to obtain their perceptions of the extent to which Project SPACE was meeting the continuing education needs of nurses. A survey form was mailed to 58 hospital administrators; the directions asked the administrator to assist in the evaluation of the project by completing and returning the survey. A return envelope was provided; the envelope was addressed to the project evaluator. Of the 58 surveys mailed out, 30 were returned, a return rate of 52 percent.

The hospital administrators were asked the extent to which they perceived that continuing education programs were available and accessible to nurses. Most indicated that continuing education was available, although several stated that much of the continuing education offered was in the more urban areas of the state. One indicated that there was too much continuing education available, and called for some coordination and evaluation of what was being offered. Much of the concern about accessibility was centered on the distance involved for the nurses to attend available programs.

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The administrators were asked about bed size for their facility. The responses ranged from 16 to over 500 beds. The number of registered nurses employed ranged from 4 to 481 (full-time) and from 4 to 164 (part-time). The number of licensed practical nurses employed ranged from 1 to 177 on a full-time basis and from 1 to 75 employed part-time.

When asked about the amount of support for continuing education attendance for the nurses employed in the responding agencies, the amount of paid time provided ranged from a low of 25 percent to a high of 100 percent. Twenty-one of the 30 respondents indicated that all of the nurses' time spent in continuing education attendance was paid by the agency. One respondent indicated that the amount of paid time provided depended on whether the nurse was employed on a full-time or part-time basis.

Estimates of the money provided by the agency for registration fees, travel and other continuing education costs also ranged from a low of 25 percent to a high of 100 percent. Fewer respondents, 18 of the 30, indicated that the facility paid all of these costs of continuing education attendance for the nurses.

When asked about the amount of continuing education attended by nurses employed in their agency, most administrators reported that about half was provided by the agency and half was provided by sponsors outside of the employing

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agency. In one instance, a respondent indicated that all of the continuing education attended by nurses in that facility was sponsored by the employing agency, and in one instance the reverse was true. In that instance, all of the continuing education attended by nurses employed in that particular agency was provided by sponsors outside of the employment setting.

In a final assessment of the extent to which Project SPACE had met the continuing education needs of nurses in South Dakota, a list of SPACE sponsored continuing education programs was compiled. In the three years of its existence, SPACE reported having sponsored 42 educational offerings. There were 948 registered nurses and 339 licensed practical nurses in attendance at those continuing education programs, for a total of 1287 participants.

The attendance figures revealed a marked trend toward decreasing numbers of attenders per offering over the three year period. In 1979, for example, there were, on the average, 38 attenders per offerings. That figure decreased to 32 attenders per offerings in 1980, and to 22 in 1981.

The percentage of registered nurses in comparison with licensed practical nurses who attended SPACE sponsored programs remained relatively stable over the three year period. For example, registered nurse attendance in 1979 was 73 percent and licensed practical nurse attendance was 27 percent. In

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1980 the percentages were 75 for registered nurses and 25 for licensed practical nurses. In 1981 there was 71 percent attendance of registered nurses and 21 percent attendance of licensed practical nurses.

3. To what extent has the quality of continuing education activities sponsored by Project SPACE improved over the duration of the project?

In order to address this criteria question, a review of the quality of the educational offerings sponsored by Project SPACE was conducted. The quality of the educational offerings sponsored by SPACE in the beginning of its operations was compared with the quality of the educational offerings sponsored by SPACE in the later years of its existence.

Educational offerings were selected from the Project SPACE files from five of the eight regions. One of the educational offerings had been held either in 1978 or 1979 (the early years of the project) and another had been offered either in 1980 or 1981 (the later years of the project). All of the offerings selected had been reviewed by the South Dakota State Nurses' Association's Continuing Education Approval and Recognition Program (CEARP). All of the offerings had been approved by the CEARP committee. This approval indicated that the educational offerings were quality educational activities for nurses.

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Each of these educational offerings was rated on a weighted rating scale designed for use in assessing the quality of continuing education activities for nurses. The scale rates the extent to which:

1. the objectives for the offering are relevant to current nursing practice and are based on assessment of the learners' needs
2. the objectives are measurable (written in behavioral terms) and are attainable in the time allotted
3. the content is related to the objectives and planned in logical order
4. the method involves active participation of the learners and is appropriate for the level of the learner
5. the evaluation is related to the objectives
6. the evaluation is a planned part of the offering, and there is a plan for using the evaluation results
7. the faculty for the offering have an adequate educational/experiential background related to the topic
8. the planners are knowledgeable about nursing and adult education and represent the intended audience, or
9. the facilities are appropriate to achieve the objectives of the offering

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The rating scale had been tested twice for reliability, using different statistical testing methods. In each instance the reliability of the instrument was established at $+ .80$ or above for each of the categories, e.g. objectives, content, method, and so on.

An independent rater was obtained to rate the ten educational offerings sponsored by Project SPACE which had been selected for this study. The rater was selected on the basis of demonstrated expertise in credentialing through her past experience of at least seven years duration with the review and approval process for continuing education in nursing activities. The rater was sent the ten educational offering applications and rating forms, with instructions to base the educational offering ratings on the criteria established for quality continuing education in nursing activities. The applications were coded with a number for identification purposes; the match between the offerings in later years with those of earlier years was not described for the rater.

The results of the rating process, when earlier educational offerings were compared with later ones, revealed that substantial differences in quality had occurred. Scores on the rating forms differed by as many as ten points.

4. To what extent have the continuing education activities sponsored by Project SPACE had an impact on the quality

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of health care in South Dakota?

For data to respond to this important criteria question, the evaluator surveyed a broad sample of individuals involved in health care, in nursing and in continuing education in nursing. The data collection methods were varied; among those used were discussion, interview, and questionnaires.

Those individuals involved in Project SPACE were asked to give their perceptions of whether health care in the state had changed over the past few years. Members of the Executive and Advisory Committees indicated, through group discussion or in written response on a survey form, that changes had occurred and attributed these changes primarily to increased specialization of physicians and nurses, increased sophistication of the consumers of health care services, technology, and the focus of the media on the health care of the citizens of the state.

In group discussion, the regional facilitators indicated that the changes in health care were due to the development of the medical school in the state, the changing role of nurses, the increased acuity of patients and the current economic situation in the state. All three groups also identified the increasing focus on "wellness", as opposed to illness, as responsible, in large part, for the change in health care in the state.

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These three groups were then asked to indicate whether any of the changes in nursing practice within the health care delivery system could be attributed to continuing education. The Executive Committee members identified an increased awareness by nurses of the importance of continuing education as a means for keeping current and competent in their practice. The direct relationship between continuing education and change in nursing practice was described as "difficult to identify."

Advisory Committee members offered similar comments. One individual indicated that nursing was more sophisticated, but could not attribute that to continuing education alone, since nursing was moving toward increased sophistication along with the overall health care delivery system which "is much advanced."

The regional facilitators agreed with the difficulty in obtaining data to support the relationship between continuing education and improved nursing practice. They stated they thought nurses were more aware of issues and trends in nursing, and that changes in practice might be due to the educational activity's acting as a catalyst in assisting the nurse with initiating a change or in providing support for a change. A change in practice which the regional facilitators attributed to continuing education attendance was when middle management nurses attended workshops in which they learned ways to deal more effectively with people.

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Participants in an educational offering were another group from whom data was collected about changes in nursing practice due to continuing education attendance. These nurses were given a questionnaire at a workshop on coronary care. The questionnaire included a listing of the educational offering objectives. Participants were asked at the conclusion of the offering how well they were now able to perform the activities described by the objectives, on a scale of 1 to 5, where 1 was "not at all" and 5 was "very well." Participants were asked to indicate whether they would actually be able to perform those behaviors in their work setting and when, and additionally were asked to list those factors which would help or hinder them in performing the behaviors.

The participant was also given a copy of the questionnaire to take to his/her supervisor for completion. The participant was told that both questionnaires would be matched to determine whether the individual actually was able to make the change in practice which he/she thought could be made following continuing education attendance. The responses of the individuals were anonymous, although the two forms were coded so that the participants' and the supervisors' forms could be paired.

Envelopes were provided for the participant's supervisor to return the completed form to the project office. The participants' forms were collected at the conclusion of the

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workshop on coronary care. A total of 42 questionnaires were distributed to the participants at the workshop; of those, 37, or 88 percent, were returned at the end of the workshop. Only 3 completed supervisor's questionnaires were returned, a return rate of less than 1 percent.

In one of the three instances where both participant's and supervisor's forms were available for review the two individuals indicated that the new knowledge could not be put into practice. The participant was employed in a nursing home, and patients with coronary problems were immediately transferred to the nearest hospital. The supervisor confirmed the participant's statements, indicating the participant's "on the job performance would not allow me to evaluate the following."

In the second case, the supervisor's rating of the participant's ability to perform the newly acquired skills was limited to hearing the employee's report about what he/she had learned at the workshop. The supervisor subsequently stated that "the employee should be more confident in caring for cardiac patients and more knowledgeable due to being updated."

In the final instance, the supervisor rated the participant's ability to translate into practice what had been learned at the coronary care workshop by reviewing the participant's charting. The supervisor rated the nurse's ability to perform all of the behaviors described by the offering objectives as

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"very well" was the highest possible rating. The rating by the supervisor took place approximately two weeks after the date of the workshop.

Another attempt was made to collect similar data from the participants of a workshop, also on coronary care, at a later date. The data collection did not occur because the workshop was cancelled due to illness of the faculty.

The general population of nurses also was asked to address the question of change in practice attributable to continuing education participation. A question related to the difference, if any, which participation in continuing education had made in the nurse's practice was included in the questionnaire sent to recipients of the project's calendar of events. Those nurses who responded to the survey offered examples which were categorized in several areas, such as:

1. increased awareness of the need to keep current in practice
2. increased sense of professionalism
3. increased feelings of security and competence in practice
4. increased awareness of the need to continue education both academically and through non-academic means
5. improved skills, both human relations and procedural

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Other nurses indicated that participation in continuing education helped refresh and reinforce already existing skills. Some indicated that participation in a continuing education activity was an essential first step in returning to nursing practice after being out of the field for some time.

Some of the nurses indicated that continuing education had made little, if any, difference in their practice. Many indicated that attendance at such programs would only make a difference if "they were not so expensive and not so far away."

Participants in the legal aspects workshop who completed the same survey as the calendar recipients gave similar responses when asked what difference, if any, they thought their participation in continuing education activities had made in their subsequent nursing practice. Several indicated they taught what they had learned in continuing education activities to other nurses, through formal in-service classroom presentations or informal dialogue with their colleagues. Several replied, most adamantly, that their participation in continuing education was largely responsible for keeping them from getting "burned out" with nursing as had some of their peers.

Another group of nurses from whom this same data was elicited was supervisors in health care facilities in the state. Survey forms were sent to directors of nursing in the 58 hospitals and 145 nursing homes in the state. Each director

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was given a number of survey forms to distribute to the nursing supervisory personnel in that facility with instructions that the forms were to be completed and returned to the Project SPACE office in the envelope provided. Responses were anonymous. Responses were received from 38 of the facilities, a return rate of 19 percent.

Responses were received from 21 individuals who indicated their position was a director of nursing or comparable position. These directors supervised between 0 and 12 registered nurses and between 0 and 9 licensed practical nurses. Estimates of the amount of continuing education attendance in the previous few years by the registered nurses supervised by the director of nursing ranged from none to 100 percent. Estimates of the amount of continuing education attendance by the licensed practical nurses also ranged from none to 100 percent. The average rate of attendance for registered nurses, however, was 50 percent and the average attendance rate for licensed practical nurses was nearer 25 percent.

When asked for specific changes in nursing practice as a result of continuing education attendance, 6 directors were unable to identify any. Most cited as reasons that not enough of the nurses in the facility could attend, or that cost and/or distance prevented their attendance. One director reaffirmed her commitment to continuing education and suggested that requiring continuing education attendance for relicensure of

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nurses would make it easier for him/her to have staff members attend continuing education.

Of those directors who described differences in practice as a result of continuing education attendance, several indicated that new ideas learned in continuing education activities were put into practice, although several qualified that response by saying "only those new ideas which are applicable to our facility." One director identified that nurses were specifically implementing techniques learned in a physical assessment course. One director indicated that new care plans and nursing assessments were the result of nurses' attending continuing education activities on those topics. Others described such changes as increased awareness of medications (actions and reactions) and legal aspects of nursing, improved supervisory skills, and more insight into the psycho-social needs of patients as resulting from continuing education attendance by nurses.

Nurses who classified their position as supervisor or comparable also illustrated changes in practice as a result of continuing education. There were five individuals who indicated they were supervisors; they supervised from one to 11 other individuals, not all of them nurses. The changes described by the supervisors were primarily in the areas of legal aspects and charting. Several lamented the "increased paperwork" since nurses were documenting their care in more detail.

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Of the six respondents at the head nurse or comparable level, several indicated they were aware of changes in nursing practice as a result of nurses' participation in continuing education. Most attributed those changes to the "new ideas" brought back to the facility and implemented. One indicated that nurses were better informed as a result of participating in continuing education activities and thus were able to give better care.

One staff nurse who responded to the survey indicated that the aides in that facility seemed more concerned with the "well-being" of the patients after attending a workshop on geriatrics. Another staff nurse stated that continuing education attendance "keeps things more interesting."

Hospital administrators were asked to identify changes in nursing practice on the part of nurses employed in their facilities as the result of continuing education attendance. This question was an item in the survey which inquired about continuing education attendance and reimbursement of nurses employed in those facilities. The questionnaire was mailed to 58 hospital administrators; 30 responded.

Of the five respondents who said they had not observed a change, one said that was due to being in the position only a short while, and another said the "no" response was due to the inservice programs in the agency covering many of the same

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areas "on a more practical basis for our hospital." Two of the respondents indicated that there had been "very little" or "some" change in nursing practice attributable to attendance at continuing education activities. No explanation for their response was offered by those respondents who indicated they had not observed changes in practice.

Those who did observe changes in practice gave examples which were classified in the following categories:

1. increased skills
2. better attitude toward the profession, the job or continuing education
3. sharing of information learned, both formally and informally
4. better documentation of patient care; improved charting
5. changes in policies and procedures; "new ways of doing old things"
6. more interest in self-improvement, advancement in the nursing hierarchy
7. improved communications between various hospital departments
8. increased self-assurance and self-confidence; prevention of "burn-out"

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Another population asked to address the question of change in nursing practice as a result of attendance at continuing education in nursing activities was other health care professions. The SPACE Regional Facilitators were responsible for collecting data from health care professionals with whom they worked. The facilitators conducted personal interviews with these individuals. A structured interview format was used; in each instance the interviewee was told that the interview information would be used in the evaluation of the effectiveness of Project SPACE. A total of 21 such personal interviews were conducted by the regional facilitators.

Health care professionals interviewed included: physicians, respiratory therapists, physical therapists, pharmacists, dietitians, medical technologists, social workers and occupational therapists. Other health care workers interviewed by regional facilitators included nurses aides, a medical records technician, a pharmacy technician, a ward clerk, a radiologic technologist and a diagnostic ultrasonographer.

Each of these individuals was asked the extent to which health care in the state had changed over the past few years. They were then asked to what they attributed the change in health care. Most of the responses of these health care professionals can be categorized as follows:

1. increased regulation of the health care industry
2. increased demand for better prepared workers

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3. increased sophistication of the health care field, including more technology
4. increasing complexity of the health care professions' body of knowledge
5. high cost of health care services
6. proliferation of types of health care workers

Other responses addressed the existence of the medical school which provided 'more and younger' physicians. Still others identified increased consumer awareness and/or the trend toward health promotion and illness prevention as responsible for the changing health care in South Dakota.

These same individuals were then asked if they had observed a change in nursing practice, and to what they would attribute that change. The majority of those who responded indicated that the change in nursing practice had been a positive one.

Some of the interviewees responded only within the framework of their own profession, for example, a dietitian described nurses' changed behavior related to nutritional needs of patients but was not able to identify other areas of change in nursing practice. Others made more global assessments of change in nursing practice.

Many indicated they could not attribute the change to continuing education. Factors other than continuing education

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which were thought to contribute to the change in nursing practice included:

1. the changing role of the nu.
2. the feminist movement
3. increased technology
4. the emphasis on legal aspects which made the nurse more conscious of the legal implications of his/her actions
5. better basic educational preparation for nursing

Those individuals who thought continuing education was responsible for the change in nursing practice, at least in part, offered specific examples of change they had observed. One individual stated that nurses in home health care were doing more physical assessment of clients than previously. Several described examples of nurses' assuming more responsibility, e.g., giving drugs in a "Code Blue" situation before the physician arrived on the scene, making and recording nursing diagnoses and so on. Others indicated that nurses were taking a more assertive role in patient care, in their functioning as members of the health care team, by questioning physicians' orders and so on.

Many of these health care professionals recognized the increasingly active involvement of nurses in the patient's care plan. Several indicated that continuing education partici-

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pation had made nurses more sure of themselves and their ability to contribute to the total health care of the patient. A physician attributed the change in nursing practice to continuing education because nurses "learn to use new equipment and . . . they review things", and concluded that "continuing education probably keeps them better up to date."

Personal interviews conducted by the facilitators with other health care workers produced similar responses. Most thought there had been a change in the health care in the state. Reasons given to account for the change included increasing costs, knowledge about health care on the part of the consumer, the acuity of the patients being admitted to health care facilities, new and expanding health care facilities and the economic situation, in both the state and the nation. Several attributed the changes to 'progress.'

When asked about changes in nursing practice, most of these individuals indicated that nursing practice had changed as health care had changed. Again some of the reasons for the change in health care were not seen as the result of participation in continuing education activities but were identified as due to the expanded roles of nurses, the nursing shortage, delegation of many nursing duties to non-professional persons, increasing paperwork nurses were required to do and the increased demand for more knowledge and better skills for all health care professionals, not just nurses.

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Some of the change in nursing practice, however, was attributed to nurses' continuing education attendance. Several nurses aides identified specific responsibilities they had to assume because the nurses were taking on "leadership duties" which they learned about in "inservice classes." One nurses aide thought there was "better cooperation" between professionals and aides due to continuing education. Yet another individual identified that nurses knew more about pharmacology in recent years because of having attended continuing education programs on the topic.

In addition to the personal interviews which they conducted, several facilitators distributed the interview forms for completion by other members of the health care team in those institutions in which they had conducted their personal interviews. These interview forms were then completed and mailed to the Project SPACE office. A total of 46 of these interview forms were received.

Among those who completed an interview form were: physical therapists, a minister, nurses aides, a materials manager, housekeepers, a physician's assistant, individuals from Personnel Departments, social workers, an Emergency Medical Technician, and others. One registered nurse also completed the interview form.

The responses from this group were fairly similar to those of the individuals personally interviewed by the regional faci-

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litators. Most indicated there had been a change in health care in the state. Again the reasons for the change in health care were typical of other health care individuals' responses: increasing regulation of the industry, higher costs, more consumer education and awareness, advances in technology and so on.

These individuals, for the most part, indicated that there also had been a change in the practice of nursing. Many of them attributed that change, either wholly or in part, to continuing education. Those who did not describe the change as due to continuing education offered other reasons for the change, such as federal regulation, research, new discoveries and the nursing shortage.

Those individuals who attributed change in nursing practice to continuing education offered examples such as improvement in the nurses' dealing with dying patients and observation of "more compassionate responses" to patients' concerns. One individual identified more attention to documentation of nursing care on the patient's medical record as a positive change in nursing care attributable to continuing education attendance, but expressed concern that the increased paper work left the nurse with less time to provide "TLC" (tender, loving care) for the patient, and also possibly increased the change for "burn-out" of the nurse.

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One individual noted the "growing sense of professionalism" among nurses, and attributed that to nurses' attendance at workshops on nursing issues and trends. Another individual thought that nurses' attitudes toward the elderly had changed because of the continuing education programs on gerontology. Still others related examples of positive changes in nurses' attitudes toward other members of the health care team. A housekeeper stated that nurses were now "more friendly."

Others reported that continuing education had assisted nurses to specialize in certain areas of practice as well as in assuming expanded roles, such as that of a family or pediatric nurse practitioner. One respondent, a physician, indicated that continuing education had had a detrimental impact on the role of the nurse: "we no longer have the dedicated nurse." Several nurses aides commented that nurses now were "better supervisors."

In general, most of those who responded, either to the personal interview or to the written interview survey form, indicated there had been some positive change in nursing practice. Most also attributed some, if not all, of that change to nurses' attendance at continuing education activities.

Another group asked about continuing education of nurses in South Dakota was consumers of nursing services. Two regional facilitators interviewed consumers in shopping centers in the state. The consumers were asked several questions related to

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health care in the state. Then they were asked to rate nurses and physicians on several characteristics. The six characteristics rated included three which were related to continuing education: competence, keeping up with what's new and continuing their education. The individual interviewed was asked to rate these characteristics on a scale of 1 to 10, where 1 was low and 10 was high.

Fifteen interviews were conducted. Of the 15 consumers interviewed two were housewives, one was a businessman in a small town (population: 400), one was a farmer and one was a teacher, among others.

When rating the characteristic of competence, 9 of the consumers rated both nurses and physicians the same. Five of the 15 rated physicians higher in competence than nurses, and 1 of the 15 rated nurses higher than physicians. None of the ratings by consumers of competence of physicians and nurses was lower than 7.

The rating of the characteristic, "keeping up with what's new," was not lower than 5. Of the 15 consumers, only 3 rated nurses and physicians the same. Five rated nurses higher than physicians, and 7 rated nurses lower.

When the characteristic "continuing their education" was rated by consumers, 5 of the 15 rated both nurses and physicians the same. Two rated nurses higher and 8 rated nurses lower than physicians on this characteristic. None of the consumers

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interviewed rated this characteristic less than 5 for either physicians or nurses.

DISCUSSION AND CONCLUSIONS

This section of the report presents the assessments and conclusions drawn by the summative evaluator. The conclusions reflect the analysis of the evaluative data collected during the summative evaluation process.

At the time Project SPACE was established, goals, aims, and objectives were identified. The formative evaluation of the project attempted to measure the extent to which those objectives had been achieved early in the project's existence. Those aims and objectives had not been set in order of priority: as priorities emerged during the life of the project, the objectives were attained. Clearly some objectives were more important to the project than were others. It is also clear from the data collected during the summative evaluation process that those objectives which were significant for the project to achieve in order to accomplish its mission have been satisfactorily achieved.

Credit for the achievement of the aims and objectives of the project is largely due those who were the most integrally

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involved in the project's day-to-day activities: the project staff and the regional facilitators. The exemplary leadership of the project staff is the pivotal element in the project's success. The varying level of commitment to Project SPACE on the part of the regional facilitators is a natural phenomenon which is not seen by the evaluator as having detracted in the slightest from the project's accomplishments.

Credit for the project's having successfully achieved its objectives is also due those who were involved, although to a lesser extent, in project activities: the Executive Committee and the Advisory Committee. Without the support of these groups the project would certainly have experienced difficulty in achieving its goals.

One of the major goals for the project was to meet the continuing education needs of South Dakota's nurses. This goal was an ambitious undertaking, but one which the project attained to a credible degree.

The plethora of data collected to respond to this concern indicates that the project has done a remarkable job in attempting to ascertain nurses' continuing education needs and program to meet those identified needs. Project SPACE is not the primary provider of continuing education offerings in the state, nor is providing continuing education activities one of its most significant goals. Rather the project focused its attention on coordinating continuing education activities throughout

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the state to minimize duplication and fragmentation and to effectively utilize scarce educational resources.

It is interesting to note that those nurses who were in attendance at a continuing education offering were more positive about the extent to which Project SPACE was meeting their continuing education needs than were their counterparts who responded to a by-mail survey. The more positive response by registered nurses than by licensed practical nurses can perhaps be attributed to the higher continuing education attendance rates of registered nurses than licensed practical nurses.

Reasons given by both registered and licensed practical nurses in explaining why their continuing education needs were not being met described primarily those factors which can be labeled "personal inconvenience." Continuing education attendance studies in the nursing and other literature reveal that such reasons are more a result of lack of motivation on the part of the individual than of real personal hardship which prohibits attendance.

The number of continuing education offerings sponsored by Project SPACE over its lifetime reflects a trend toward planning and implementing the same number of courses, but enrolling fewer participants per course, in other words, having smaller classes. It seems unlikely that the number of participants could be expected to increase; offerings seem to

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be close to the demand in the voluntary market. No great increases would be anticipated until participation in continuing education becomes required for relicensure of nurses in South Dakota.

It is more difficult to document the quality of offerings than the quantity, but the evidence suggests that in general the quality of the continuing education offerings sponsored by Project SPACE is high. It is reasonable to assume that the consistent submission of SPACE sponsored continuing education programs for approval through the State Nurses' Association quality assurance mechanism has maintained the high quality of the courses.

It is equally as impossible, or maybe more so, to measure the quality of health care in the state. To attempt to quantify the impact of continuing education on the quality of that health care, and in particular, nursing care is an inconceivable task in the context of an evaluation process such as this. There is, however, a considerable amount of anecdotal evidence of improved health care in the state of South Dakota that can be directly traced to nurses' attendance at continuing education offerings.

The most significant aspect of this conclusion is that the evidence which points to a positive impact on nursing care as the result of continuing education attendance is that the

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data which was collected was not only from nurses in practice, and nurses who supervise them, but also from other health care workers. It is fairly common in the impact evaluation literature to report self-assessments by those being studied where changes in practice are attributed to an educational intervention.

Beyond that, though, the data collected in South Dakota indicates that others, physicians, social workers, pharmacists and so on, also perceive that nurses' practice has changed as a result of their participation in continuing education activities. It is gratifying that most of the changes are deemed to be positive ones. Even the physician's comment that nurses are no longer "dedicated" sounds a note of triumph for those who have so diligently strived to free themselves from the "physician's handmaiden role" to which nurses have been relegated for so long.

That participation in continuing education activities is assistive in nurses' maintaining currency in practice is echoed and re-echoed throughout the data collected in this summative evaluation. In addition, continuing education is credited with increasing the nurse's confidence as a professional and with preventing burn-out. A review of the content of SPACE sponsored continuing education offerings provides some indication that those programs may have been instrumental in achieving

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the purposes of continuing education beyond updating knowledge and skills of nurses.

In conclusion, it is apparent through this summative evaluation process that the three goals of Project SPACE have been achieved. The ultimate goal of the project, the "... application of knowledge, skills and change of attitude intended to improve patient care" has been reached. Not only do nurses themselves testify to this, but also their colleagues, supervisors, other members of the health care team, and consumers of their services all lend credence to their assertions. That Project SPACE can rightly assume it had an essential role in effecting such an improvement in nursing care in the state of South Dakota is an achievement of boundless magnitude.