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College of Nursing

Increasing the Quality of Patient Care through Performance Counseling and Written Goal Setting

Elaine D. Dyer, Mary A. Monson, Maxine J. Cope

Patient care scores of staff nurses in seven Veterans Administration hospitals who used a performance counseling protocol that required written goal setting, coupled with head nurse modeling and support to achieve goals (experimental), were compared with scores of nurses who continued with usual practice (control). Staff nurses chose their own goals. One goal was to improve patient care and the other was to improve staff nurse professional competence. After six months, experimental group scores were higher on five patient care scales, one significantly. After 12 months, scores shifted in favor of the control group, one significantly. Experimental group scores were higher on patient interview questions after six months and made additional gains after 12 months. Experimental nurses generally were more satisfied with their nursing careers and described working relationships more positively. Some progress the experimental nurses made after six months was lost after 12 months. Nurses who received high patient care scores from outside observers described the hospital working environment in more positive terms. Relationships of three instruments that measure quality of patient care are presented.

Leaders in business management for a number of years and nursing leaders more recently have tied performance evaluation directly to the management process and accomplishment of objectives (Asso-

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ciation for Supervision and Curriculum Development, 1967; Koontz and O'Donnell, 1964; Murray, 1973; Terry, 1972). Numerous articles and books advise management by objectives as a logical and productive way for large and small organizations to operate (Odiorne, 1965, Olsson, 1968; Palmer, 1973; and Tingey, 1969).

The psychology literature continues to support the premise that behavior of respected people and those higher on the administrative ladder can produce behavior changes in staff members who observe the behavior. Conditions that initiate change as specified in the literature are realistic for implementation in the world of work. Ronan *et al.* (1973) studied goal setting and supervision in an industrial situation and concluded that goal setting was correlated with high productivity and a low number of injuries only when it was accompanied by supportive supervision. Goal setting without support of the immediate supervisor was related to employee turnover. Supervision alone did not correlate with any criterion. Krumboltz and Thoresen (1969) suggested written goal setting as a means of increasing individual motivation toward accomplishing objectives.

Human behavior research has demonstrated the value of immediate and continuing reward in eliciting or producing behavior on a repeated basis (Greenspoon, 1955, 1962; Lindsley, 1959, 1963; Matarazzo and Weins, 1967; Matarazzo *et al.*, 1960, 1964; White and Maguire, 1973). Dell (1973) studied behavior change through counseling and found that volunteer college students could be induced to make important behavior changes that had been discussed and deemed important in a counseling session. The counselor had no administrative standing or control over the student.

Bandura (1962, 1963), Bandura and Huston (1961), Bandura and McDonald (1963), and Bandura *et al.*, (1961, 1963 a and b) indicated a positive relationship between a significant person's behavior and behavior of others. Dyer *et al.* (1972) continued to demonstrate significant, positive relationships between staff nurse descriptions of head nurse behavior and head nurse descriptions of staff nurse performance. Combining the information from these studies into an approach for improving patient care and staff nurse satisfaction provided the basic framework for study. It was expected that setting mutually agreed upon written goals by the staff and head nurse, coupled with head nurse recognition of staff nurse progress toward achieving goals between counseling sessions, would result in greater staff nurse progress toward achieving goals and

greater staff nurse satisfaction. It was also expected that head nurse modeling of desired behaviors would influence staff nurse performance positively.

HYPOTHESES. Three hypothesis were tested in this study.

- I. Use of a specified counseling protocol will increase level of patient care.
- II. Use of a specified counseling protocol will increase personal satisfaction of the nurse as she progresses toward her career goals.
- III. High quality patient care is related to a positive ward psychological atmosphere.

METHOD. The study was designed to test the effect of a specified counseling and performance management protocol on the quality level of patient care. Conditions were structured in seven Veterans Administration hospitals to compare nurses who used participative management by written objectives, modeling, and timely recognition of desired behaviors with nurses who continued to follow their usual practices. Hospital practices consisted of reviewing performance annually, using the Proficiency Rating scale. Items such as dependability, teaching effectiveness, observation ability, and patient care ability were rated on an eight-point scale. The staff nurse signed the report indicating the rating had been reviewed. Unusually good or poor performance was pointed out on an ongoing basis.

The performance evaluation period on experimental wards was used to set written objectives important to the staff nurse. Two goals were set, one to improve patient care on the ward and a second to help the staff nurse improve her professional competence. New goals were set whenever previously set goals were achieved. The head nurse was responsible for facilitating accomplishment of goals by providing the staff nurse with opportunities to complete her goals and providing positive feedback for efforts toward obtaining them. In other words, after the staff nurse and head nurse agreed that goals were important and realistic, the head nurse was responsible for providing opportunities and encouragement for the staff nurse to achieve her goals.

Measures of quality care, personal satisfaction, and hospital climate were obtained on both experimental and control staff nurses before the experimental protocol was introduced and six and 12 months after the protocol was in effect. Relationships were studied using correlations and item analyses. Differences were studied using *t*-tests.

Measuring Instruments. Three instruments were used to assess quality level of patient care: the Veterans Administration (VA) Nursing Care Quality evaluation (NCQE), the Wayne State University Quality Patient Care scale (QualPaCS), and a patient interview. Two other measuring instruments were used: the Personal Satisfaction inventory (PSI) and the Hospital Climate inventory (HCI).

The NCQE was developed in 1969 by a VA Central Office task force consisting of nurse clinicians, nurse administrators, management systems personnel, and consultants (U.S. VA, 1969). Items in final form had been scrutinized by several hundred nurses and were considered to be important indicators of patient care. Items were built to be observable on a yes, no, or not applicable basis. Scores for subscales are determined by dividing the total number of yes responses by total number of applicable responses. Seventy-one items of the instrument define 14 areas considered to be important in patient care. Six areas are applicable only with patients who receive various types of special care. Major areas of the instrument are named: symptoms, identification, personal hygiene, welfare and comfort, immediate environment, restraints and protective-safety measures, dressings-compresses-bandages-binders, intubation-infusion therapy, preventative-supportive-assistive therapy, special precautions, other bedside therapy, physician's orders, nursing notes, and nursing care plan.

The first four areas (13 questions) were combined in this study and called comfort and safety; the next seven questions defined the environment scale; the next seven areas or 24 questions defined special therapy. The physician's orders area was not used. The nursing notes area consisted of seven questions, and the nursing care plan scale had 14 questions. A total score was obtained by totaling five subscale scores.

The QualPaCS, adapted by Wandelt and Ager (1970) from scales developed by Slater (1967), consists of six scales which can be summed to a total score. Five subscales were used: psychosocial, physical, general, communication, and professional implications. Each scale consists of seven to 15 items.

The patient interview consists of eight questions which define nurse-patient relationships from the patient's point of view. The first six questions pertain directly to the nurse. The last two questions ask specifically for nursing activities the patient liked or disliked during the previous 24 hours.

The PSI, developed for use in this study, aims at determining satisfaction with: 1) choice of nursing as a career, 2) professional role and use of professional abilities, 3) progress toward career goals, and 4) quality of patient care given in the hospital. A total of 301 nurses and three measurement psychologists reviewed the potential questions for clarity, specificity, completeness, and indicators of satisfaction. Retest reliabilities after four to six weeks in seven hospitals ranged from .68 to .94. Subjects ranged from six to 35 nurses.

The HCI, also developed for use in this study, aims at determining adequacy of communication and working relationships of the health care team. Staff nurses rated themselves, peers, two levels of supervision, subordinates, and physicians on the same questions. Adequacy of hospital policies, staffing, equipment, and physical plant were assessed. A total of 299 nurses and three measurement psychologists reviewed the potential question for clarity, specificity, completeness, and indicators of hospital climate. Retest reliabilities in seven hospitals after four to six weeks ranged from .75 to .96. Subjects ranged from six to 35 nurses.

Observers for Patient Care. Four registered nurse observers who completed the NCQE, QualPaCS, and patient interview were trained to an 85 percent agreement level when they made observations simultaneously of a patient care situation. Observers were trained in a local VA hospital before being sent to participating hospitals to measure care. They were unaware of experimental or control status of wards they observed. Three observers had obtained the masters degree in medical-surgical nursing and one a doctorate in educational psychology. An observer spent two to three hours per ward on each of three occasions. Quality of patient care was observed before the study began and six to 12 months later.

Selection of Hospitals and Assignment of Experimental Condition. Hospitals were matched and selected on the basis of bed capacity (400-600), medical and nursing school affiliations, similar bed occupancy, patient turnover rates, and geographic location. The northeast section of the country was avoided because of work recently completed in that area using the same measuring instruments. Two hospitals were located in the South, two in the Midwest, and three on the West Coast. Only medical and surgical wards were studied. Three hospitals used the research protocol on all wards; three on half of the wards, with half used as control; and one hospital was entirely control. It was believed that conditions on medi-

cal-surgical wards in the VA system would be similar enough to be comparable across hospitals. Nursing administration in the study hospitals assisted in dividing the wards to approximate equality before the experimental conditions were randomly selected.

Subjects. All staff nurses from experimental and control wards were eligible to participate. They were asked to complete the PSI and HCI on three occasions at six-month intervals.

Three hundred and eighty-seven registered staff nurses from 60 medical-surgical wards in seven VA hospitals were studied. On occasion one, 387 staff nurses completed the packet of inventories; on occasion two, 341; and on occasion three, 286. There were 325 nurses who participated on both first and second occasions and 280 who participated on all three occasions. Less than one percent elected not to participate. Twelve nurses dropped out of the study.

On occasion one, 149 nurses were observed using NCQE, Qual-PaCS, and patient interview; on occasion two, 168; and on occasion three, 186. The number of staff nurses who were observed and who also completed packets was 149 on the first occasion, 92 on the first and second occasions, and 57 on all three occasions.

Approximately 30 percent of the nurses who started the study left VA before the end of the year. Another 12 percent changed wards or assignment. Twenty-five head nurses changed assignment. As a result of these changes, only about 40 percent of the staff nurses who began the study were working on the same ward with the same head nurse at the conclusion of the project.

Average age of the nurse was 42 with a standard deviation of 12 years. Educational preparation of the nurses was: diploma, 48 percent; associate degree, 14 percent; baccalaureate degree, 30 percent; and pursuing an advanced degree, eight percent.

Training of Head Nurses. Head nurses on experimental wards participated in a two-day workshop to learn more about management by objectives and use of performance counseling and written goal setting to achieve objectives. The modeling literature and impact of their own behavior were discussed. Selected articles were sent to head nurses on experimental units so they were ready to present results during the workshop. Head nurses were given opportunities to role play counseling situations that required the setting of objectives. Discussion and practice were provided concerning appropriate reinforcements. Head nurses from experimental wards were asked specifically to discuss problems or questions only with people associated with experimental conditions.

Head nurses on control wards participated in meetings which oriented them to the study. The stated purpose of the study to control head nurses was to evaluate factors affecting patient care. Experimental conditions were not discussed.

Procedure. Questionnaires were administered on a 24-hour basis to small groups. Staff nurses were scheduled to meet in the nursing education classroom and given duty time to complete the questionnaires. Most completed the packet in the allotted time. Those who did not were permitted to take the questionnaires home and return them the next day or return them by mail in a stamped, project-addressed envelope. Staff nurses removed the tearoff label from their packet when they returned the completed forms. A numbering system preserved the investigators' ability to tie together individual materials from the three occasions. Data were key punched and transferred to magnetic tape for computer analysis.

RESULTS. *Hypothesis I.* A comparison of patient care scores from experimental and control wards using independent *t*-tests indicated that use of a specified counseling protocol could change quality level of care but not over a sustained period of time. At the end of six months, means of all QualPaC scales shifted in favor of the experimental group and one scale, communication, changed significantly. Positive change in QualPaCS total scores just missed statistical significance at the .05 level. After 12 months, means of QualPaCS scores shifted in favor of the control group. One scale, psychosocial, changed a significant amount (Table 1).

Patient care as measured by the NCQE indicated changes in the same direction as QualPaCS scores, that is, more positive scores for the experimental group after six months and change toward the control group after 12 months. Changes were not statistically significant (Table 1).

Comparison of experimental and control patient interview questions showed a shift toward more favorable answers for the experimental group after six months on four of six patient interview questions; one change was statistically significant, "Are the nurses kind to your visitors?" ($p = .05$). Comparisons of change between six- and 12-month periods indicated the experimental group made additional gains on "the patient knowing the name of the nurse responsible for his care," "the light being answered more promptly," "the nurse listening to patients," and "the nurse explaining treatments and procedures before proceeding with them," but they missed significance.

TABLE 1. T-Values Showing Qual PaCS and NCQE Differences between Experimental and Control Ward at Six- and 12-Month Intervals (N=50 Wards)

SCALES	t-VALUES ¹	
	AFTER 6 MONTHS	AFTER 12 MONTHS
Qual PaCS		
Psychosocial	1.50	—2.01*
Physical	0.97	0.97
General	1.18	—1.17
Communication	3.00*	—0.51
Professional implication	1.20	0.00
Total	1.98	—0.91
NCQE		
Comfort and safety	0.90	—0.15
Environment	0.40	—0.15
Special therapy	0.20	—0.50
Nursing notes	0.97	1.05
Nursing care plan	1.92	—1.27
Total	1.81	—0.97

* $p = .05$ ¹Negative sign of t -value indicates means of control group was higher

Intercorrelations of the three patient care measuring instruments are instructive for clinicians or researchers looking for measures of various aspects of patient care. Patient interview questions had a number of significant relationships with NCQE and QualPaCS (Table 2). Relationships were progressively stronger on second and third occasions. Table 3 shows relationships of NCQE and QualPaCS. There were a number of significant correlations on the first occasion that became stronger and more numerous across time. The NCQE environmental scale had weaker relationships with QualPaC scales and also had lowest correlations with other scales on NCQE. Correlations on nursing care plan scale of NCQE with QualPaC scales were comparatively lower on the third occasion.

Hypothesis I was rejected because the change in favor of the experimental group was not sustained.

Hypothesis II. Questions from the personal satisfaction inventory were analyzed, using independent t -tests to determine significant differences between experimental and control groups. Differences were determined in three six-month periods. There were 189 experimental nurses and 112 control nurses for a total of 301 in most comparisons. Missing data sometimes altered the sample size slightly. A t -value of 1.96 was significant at the .05 level for this size sample.

Significant differences ($p < .05$) were found between answers given by experimental and control groups between the first and second occasions when experimental nurses believed performance

TABLE 2. Correlations of NCQE and Qual PaCS with Patient Care Interview over Three Occasions (N=60 Wards)¹

PATIENT INTERVIEW QUESTIONS	Qual PaCS						NCQE					
	COMFORT AND SAFETY	ENVIRONMENT	SPECIAL THERAPY	RN NOTES	RN PLAN	TOTAL	PSYCHOSOCIAL	PHYSICAL	GENERAL	COMMUNICATIONS	PROFESSIONAL IMPLICATIONS	TOTAL
First Occasion												
Know RN's name	-.24	.01	.09	.08	.11	.03	.17	.12	.14	.22	.27	.23
Kind to you	.02	.14	.12	.05	.12	.16	-.12	.00	-.21	.00	-.04	-.09
Kind to visitors	.13	.23	-.08	.02	-.05	.01	.05	.04	-.16	-.09	-.21	-.10
Light answ promptly	.08	.28	.05	-.07	.20	.22	-.10	-.04	-.16	-.09	-.22	-.16
RN listens	.00	.21	.00	.07	.18	.18	-.18	-.14	-.27	-.23	-.17	-.24
RN explains	-.31	.23	-.02	-.25	-.26	-.24	-.01	.06	-.02	-.13	.06	-.01
Second Occasion												
Know RN's name	-.29	.28	-.23	-.21	-.06	-.22	.05	.12	.12	-.09	-.03	.03
Kind to you	-.23	-.03	.17	-.07	-.22	.17	-.11	-.09	.03	-.18	-.07	-.11
Kind to visitors	-.07	-.29	.14	.11	-.34	-.23	-.18	-.15	-.09	-.21	-.14	-.19
Light answ promptly	-.19	.32	-.16	-.06	.01	-.08	-.26	-.30	-.18	-.06	-.35	-.28
RN listens	-.38	.14	-.31	-.18	-.29	-.39	-.25	-.34	-.16	-.35	-.25	-.34
RN explains	-.12	.31	-.07	-.34	-.13	-.14	-.18	-.14	-.02	-.24	-.11	-.18
Third Occasion												
Know RN's name	-.25	-.03	.01	-.29	.01	-.17	.09	.10	-.03	.10	.01	.06
Kind to you	-.20	-.10	-.19	-.51	-.02	-.25	-.30	-.18	-.31	-.29	-.25	-.31
Kind to visitors	-.34	-.15	-.31	-.30	-.01	-.27	-.35	-.24	-.29	-.21	-.25	-.37
Light answ promptly	-.21	.27	-.43	-.49	-.07	-.30	-.51	-.40	-.40	-.42	-.60	-.59
RN listens	-.17	.11	-.22	-.48	-.03	-.19	-.17	-.12	-.17	-.21	-.36	-.29
RN explains	.01	.25	.06	-.23	-.09	-.04	.09	.21	-.13	.16	-.07	-.08

¹NCQE and Qual PaCS scales were positive; patient interview scales were negative

*p ≤ .05.

reviews were directed toward helping them achieve their professional goals ($t=2.57$) and experimental nurses believed their immediate supervisor expected them to make significant contributions to nursing ($t=2.33$). Significant differences ($p<.05$) between the two groups were found between the second and third occasions when experimental nurses believed their jobs were more important ($t=2.59$); experimental nurses thought their research capabilities were better utilized ($t=1.98$); experimental nurses believed their teaching capabilities were better utilized ($t=2.19$); experimental nurses said they were more disappointed or discouraged following counseling ($t=1.97$); and experimental nurses said their second-

TABLE 3. Correlations of NCQE With Qual PaCS over Three Occasions (N= 60 Wards)

QUAL PACS ITEMS	NCQE					
	COMFORT AND SAFETY	ENVIRONMENT	SPECIAL THERAPY	RN NOTES	RN PLAN	TOTAL
First Occasion						
Psychosocial	.05	.23	.16	.07	— .13	.01
Physical	.03	.04	.05	.05	.10	.11
General	.04	.04	.14	.17	.25*	.23
Communications	.07	.02	.16	.31*	.35*	.38*
Professional implications	.04	.06	.18	.02	.20	.22
Total	.06	.09	.18	.16	.21	.25*
Second Occasion						
Psychosocial	.08	— .02	.30*	— .05	.15	.20
Physical	.10	— .07	.15	.33*	.21	.29*
General	.10	— .05	.37*	.19	.15	.31*
Communications	.28*	.03	.34*	.27*	.52*	.58*
Professional implications	.03	— .13	.19	.19	.21	.24
Total	.16	— .05	.35*	.24	.33*	.42*
Third Occasion						
Psychosocial	.35*	— .15	.41*	.44*	.10	.38*
Physical	.28*	.09	.33*	.29*	.30*	.46*
General	.44*	— .03	.27*	.57*	.23	.54*
Communications	.31*	— .07	.40*	.55*	.21	.46*
Professional implications	.19	— .08	.39*	.56*	.21	.44*
Total	.39*	— .03	.44*	.61*	.21	.54*

* $p \leq .05$

level supervisor was less willing to help them reach their goals ($t=1.99$).

Experimental nurses made more positive statements after six and 12 months except they felt discouraged after their counseling sessions. They were less certain the second-level supervisor would help them with their goals. Hypothesis II was, therefore, accepted, since statements of experimental nurses were positive at significant levels.

Hypothesis III. Comparisons of hospital climate scores divided according to nurses who scored high or low on the QualPaCS total were made using an item analysis which computes an eta and standard error for each question and for each question alternative a biserial, standard error, N, and percentage. The following relationships were significant ($p<.05$). (After each statement the correlation and standard error are listed.)

Nurses who received high QualPaCS total scores described the climate in the following terms:

The head nurse helps others achieve their goals (.22, .10); the head nurse has ability to evaluate performance (.43, .12); the head nurse accepts responsibility for her actions (.27, .11); the head nurse identifies and rewards outstanding performance (.24, .08); the head nurse or supervisor facilitates staff efficiency (.18, .08); work assignments inhibit staff nurse efficiency (.30, .14); staff nurse peers sometimes point out ways for subordinates to improve (.17, .08); the staff nurse herself feels challenged by her work (.26, .10); the hospital always provides the staff nurse personally with opportunities to continue her education (.27, .10); training is provided for using new equipment (.19, .09); the head nurse uses her position to improve care (.19, .09).

Nurses who received high QualPaCS total scores described the climate in the following terms:

The head nurse helps make nursing care plans to a considerable extent (.20, .08); the head nurse does not identify and reward outstanding performance (.26, .08); salary is somewhat inadequate (.34, .12); the head nurse has limited ability to evaluate performance (.27, .11); the head nurse has limited breadth of knowledge (.35, .14); the head nurse talks down to personnel (.30, .10); staff nurse peers point out ways for subordinates to improve most of the time (.18, .08); staff nurse peers know how their work fits into other hospital work only about half the time (.25, .10); the hospital provides the individual staff nurse with opportunities to continue her education most of the time (.19, .08); the head nurse uses her

position as a status symbol rather than to improve patient care (.33, .11).

Nurses who received highest patient care scores from observers who were not connected with the hospital described the hospital and ward climate in more positive terms. Nurses who received highest performance ratings also described hospital climate in more positive terms. Patient care scores and nurse satisfaction scores have direct relationships.

Hypothesis III was accepted. Nurses who received high patient care scores described the hospital climate in more positive terms.

A review of specificity, number, and type of objectives mutually set between staff and head nurse was also instructive. When objectives were divided according to head nurse education, it was evident that better head nurse education was positively related to setting objectives that were more patient-care-oriented, more specific, and more attainable during the study period, as, for example, teaching patients colostomy care, instructing family in posthospital diet and activities for ulcer patients. Head nurses with less than a baccalaureate degree allowed their staff nurses to set goals that were rather nebulous and more often associated with improving the patient's environment or records, as, for example, reading the literature and sharing information in staff meetings.

Better head nurse education was also associated with positive changes in quality of patient care. In one hospital when head nurses with less than bachelors preparation were excluded from the data analysis, significant changes occurred in patient care. When all nine wards were included, the *t*-value was 1.37; when the two nurses with less than bachelors preparation were excluded, the *t*-value was 2.75.

Evaluation of nursing actions described by 485 patients as most satisfying or annoying indicated it was the small personal things a nurse either did or omitted that were mentioned most often. Patients seemed less concerned with professional competence of nurses than they were with courteous, prompt, and respectful interactions. DISCUSSION. Introduction of management by objectives on a ward level, coupled with written goal setting between the staff and the head nurses, resulted in a positive shift in QualPaCS at the end of six months. Explanation for the scores shifting after 12 months, on both NCQE and QualPaCS in favor of the control group was not clear. Possibly, changes in care were small and insufficient numbers of patient observations were made to obtain stable measures. Changes were probably uneven and measures may have been ob-

tained at times when fluctuations were smallest. One event occurred that helped to reduce differences between experimental and control wards. One all control hospital had prepared for a hospital accreditation visit that occurred two days prior to the final arrival of the observers. It seems clear that observations made on a weekly basis for a period of six months would determine more accurately direction and extent of changes that may be occurring.

The Personal Satisfaction inventory indicated favorable changes for the experimental group after six and 12 months, but a slightly discouraged feeling was present at the end of 12 months; why the experimental group nurses were discouraged was not clear. Possibly, head nurses pressed to have all staff nurse objectives completed by the end of the study—which aroused staff nurse resentment. Head nurses could have used more help in implementing the research protocol than was given to them in two visits spaced six months apart. Having someone immediately available to answer questions, check on progress, and give support would have helped the head nurses.

From descriptions of hospital climate by staff nurses who were scored high by outside observers on patient care measures, it was clear that nurses who gave best patient care had more positive feelings about the work situation. High-scoring staff nurses felt particularly positive about their head nurses. On the other hand, nurses who were given low scores by outside observers had more negative feelings about hospital climate, particularly their head nurses. This is especially instructive since high scores on quality care measures were not highly correlated with performance scores completed by various supervisory levels.

Both staff nurse and head nurse education were associated positively with quality of patient care scores, often at significant levels. These relationships should be studied in more detail.

Constant changing of nurse assignments made it difficult to study that area. Obtaining more observations per nurse and thus per ward over a shorter but continuing period of time would help to stabilize findings and give a better understanding of what is taking place as a consequence of introducing the counseling protocol.

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