Staff Nurse Views of Their Productivity and Nonproductivity

Donna K. McNeese-Smith

Could better collaboration and cooperation to improve productivity occur between administrators and nurses if we understood nurse views of their productivity? Interviews of 30 staff nurses revealed that these nurses evaluated their productivity by the quantity and quality of their work. Working hard, finishing everything, and providing excellent care made them feel productive, while anything that interfered with this was a source of feeling nonproductive.

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Productivity of nurses is of great concern as health care organizations continue to struggle to reduce costs, but it has been rarely studied because of the complexity of measurement,[1] and the difficulty of determining productivity of individual nurses. Productivity is defined as the contribution toward an organizational end result in relation to resources consumed.[2] Productivity measures both quantitative and qualitative factors such as amount of work accomplished and value of patient and organizational outcomes. However, while most productivity occurs before consumption, services such as nursing care are produced at the interface between server and served and are thus more complex and difficult to evaluate by using economic principles.[1]

Employee productivity may be measured by hours of care/day, or salary dollars/procedure. Sometimes acuity also is factored in. Productivity is also measured by budgetary standards set by organizations, or through community or national norms.[3] Recently, in organizational redesign strategies, productivity measures have been set by measuring the time necessary to do each job, and incorporating acuity standards.[4] In home care, nurses are being reimbursed, based on number and acuity of visits made.[5]

In reality, those responsible for fiscal management of health care organizations, and those who provide care seldom collaborate on the topic of productivity because a common language and value system regarding productivity does not exist between them. Many nurse administrators, who need to be the bridge between finance and service, have difficulty transcending this gap. Thus we struggle between polarities including those caused by administrative demands, edicts, and "redesign" strategies, and clinician retaliation including new legislative mandates that establish rigid staffing ratios.

Key words: *content analysis, nonproductivity, nurse nonproductivity, nurse productivity, productivity*

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Effective communication, negotiation, education, and cooperation in this area depend upon understanding the issues and the viewpoints of both clinicians and administrators. Nursing education curricula include organizational skills, and concerns about costs, but rarely is education given about organizational productivity. Similarly this has not been supported as a professional value among nurses or other clinicians.

Little is known about factors that affect nurse productivity and no studies were found that examine how nurses view their own productivity or nonproductivity, as well as what they believe influences these outcomes. It was felt that this is essential information to develop a common understanding about productivity between care providers and those responsible for fiscal management of health care organizations. Therefore, the purposes of this study were to identify and describe staff nurse views of their productivity and nonproductivity, and factors that increase or decrease their productivity.

BACKGROUND

In business literature and research, productivity has been discussed in relation to variables that are hypothesized to increase it. This includes organizational practices,[6] lighting,[7] an employee-developed pay system based on skills,[8] payment based on employee productivity and company performance,[9] union involvement,[10] profit sharing,[11] employee ownership and participation,[12] preemployment testing,[13] an environment respectful of employees,[14] and employee attitude.[15]

Varca and James-Valutis[16] found that employees with high job satisfaction and job-related ability had significantly higher performance ratings than their coworkers. Another study[17] revealed that practices directly linked to systems, such as performance appraisal, had the greatest effect on productivity, while practices such as training, had weaker but positive effects. New employee training programs[18] and advantageous schedules both increased employee productivity. The latter also improved employee attitudes, and decreased use of sick leave.[19]

In nursing literature, Helmer and Suver[20] presented the importance of setting unit productivity standards, involving staff in the managerial process, using visible outcome measures, such as graphs, to monitor productivity measures, celebrating productivity goals met, and implementing reward systems related to quantifiable outputs. Curtin[1] described the use of tools such as patient classification and nurse–patient ratios, benchmarking, continuous monitoring, and evaluation to improve unit productivity. Nursing productivity measures for home care[5] and postanesthesia units[21] have been studied.

Some factors affecting nurse productivity have also been evaluated. McCloskey and McCain[22] reported that job satisfaction predicted job performance in a sample of 320 newly hired nurses, while McNeese-Smith[23] emphasized the need for organizational leadership that focuses on maximization of the involvement and effectiveness of its workforce. McNeese-Smith[24,25] found that health care employees report more productivity when managers use effective leadership behaviors. However, Sorrentino[26] identified the complexity of leadership-follower relationships as she examined the effects of head nurse support and direction on staff nurse satisfaction and performance, with moderator variables of role clarity, job anxiety, and unit size.

In conclusion, while productivity is of great concern to business and health care organizations, research has focused on specific variables and does not provide conclusive evidence of how to increase productivity of health care organizations. No studies were found that compared clinician and administrator views about productivity. Productivity of individual nurses has rarely been studied, and research is needed to understand productivity in relation to patient care, as well as factors that contribute to greater or less productivity. Important aspects that have not been studied include nurse views of productivity, their perceptions of their productivity and lack of productivity, and factors that promote or undermine this productivity. An understanding of nurses' views would allow administrators to be more effective in understanding and building productivity. It would also help educators and managers to teach and support productivity and to minimize nonproductivity.

METHODOLOGY

This qualitative study used semistructured interviews to gather data covering nurse perceptions of their own productivity or lack thereof, and factors influencing these variables. Content analysis was then applied to identify categories and subcategories in nurse descriptions. This research was part of a larger study that also analyzed nurse manager influence on staff nurses' feelings about their jobs,[27] influences upon job satisfaction,[28] and organizational commitment.

Setting and Sample

The setting was a large Los Angeles county hospital associated with a major university. The hospital primarily serves a low-income population, particularly Latinos. Employees are from the surrounding multiethnic community and nurses are also multiethnic. A purposive sample (Table 1) of 30 staff nurses was recruited by letter from six units including Obstetrics/Gynecology, Pediatrics, Operating Room/Recovery, Medical, Surgical, and Intensive Care, in an attempt to reflect a representation of staff nurses in this acute care hospital.

TABLE 1

DEMOGRAPHIC CHARACTERISTICS OF NURSES

Data	Nurses (N = 30)	
Gender	N	Percent
Female	28	93
Male	2	7
Age		
20–29	0	0
30–39	12	40
40–49	13	43
50–59	5	17
Highest Degree Earned		
Diploma	7	23
Associate Degree	7	23
Bachelor's	13	43
Graduate	3	10
Location of Education Site		
U.S.	10	33
Other	20	67
Years of Experience as a Registered Nurse		
Fewer than 3	0	0
3–5	4	13
6–10	5	17
11–20	12	40
21–30	8	27
31+	1	3
Years Worked in this Hospital		
Fewer than 3	0	0
3–5	4	13
6–10	13	43
11–20	10	33
21–30	3	10
Years Worked Under this Manager		
Fewer than 3	4	13
3–5	7	23
6–10	16	53
11–15	2	7
Income for Household		
Primary income	27	90
Secondary income	3	10
Dependents Requiring Care and Support		
Adults 0	27	90
Adults 1	3	10
Children 0	11	37
Children 1–2	12	40
Children 3–5	7	23
Elders 0	24	80
Elders 1–2	6	20
Ethnicity		
Filipino	18	60
Other Asian	3	10
Caucasian	2	7
Afro-American	2	7
Korean	2	7
Chicano	1	3
Latino	1	3
Japanese	1	3

Twenty-eight of the participants were female, 31 to 59 years of age, average age 43. Fifty-three percent had bachelor's or master's degrees, and 20 (67 percent) received their education in another country. Years of experience as a nurse averaged 16 years, 11 in this hospital. A majority had dependent children and/or elders and 27 (90 percent) identified themselves as the primary source of income for their family.

Instruments

The researcher created a semistructured interview guide for identification of factors that create or interfere with productivity or lack of productivity. Productivity was defined as the nurses' contribution to the organization in relation to the cost of salary and benefits. A thorough review of the literature was done, and a panel of seven experts, consisting of nurse executives from hospitals in Los Angeles, with expertise in nursing productivity was used to ascertain content validity. A total of 22 questions were asked, 7 about productivity and lack of productivity (Appendix 1). Other questions were about variables not addressed in this article. A demographic questionnaire to determine gender, age, education, ethnicity, experience, number of dependents, and financial dependence on

nurses' salary was also submitted to the panel of judges to evaluate content, structure, and wording. Eighty to 100 percent agreement from the judge panel was achieved on each question, and feedback was used to revise the instrument. A pilot study of two "practice" interviews was done in the research setting to determine that the procedure and instruments were usable and the interview could be completed in 30 to 60 minutes.

Procedures

Approval was obtained from the Office for the Protection of Research Subjects in both the hospital and university. Nurses signed informed consent forms and audiotaped, semistructured interviews were conducted in private rooms, by the researcher only. Interviewing continued on all shifts, over a 6-week period, until the information from interviews was becoming repetitious; thus saturation of the data seemed to have been achieved.

Data Analysis

Data analysis was performed using Statistical Analytical Software (SAS Institute, Cary, North Carolina, 27513) to determine frequencies and means of variables from the demographic questionnaire. Interviews were transcribed and coded, using Microsoft Word and Ethnograph v4.0 (Qualis Research Associates, Amherst, Massachusetts).

Content analysis was used for describing the content of communications in an objective and systematic manner.[29] Originally used for text analysis, content analysis has been applied to transcriptions and interviews for the purpose of understanding human behavior within various contexts. It involves defining the content to be studied, the concepts to be measured, the unit of analysis, the sampling plan, and the scheme for categorizing the content.[30,31] This method was guided by the purpose of the study and the research questions.

An inductive process of coding was used, deriving the categories and subcategories exclusively from the data.[30,31] Categories and themes were identified from the first interviews and then tested and revised through analyses of succeeding interviews. Coding moved from general concepts to categories and finally to specific concepts found in the various subcategories. Intercoder reliability was tested and confirmed and the coding scheme was then applied to a reanalysis of all interviews.

The unit of analysis for this study was the complete thought, ranging from one word to several sentences. As all subjects were discussing the same topics and were asked the same basic questions, responses to the questions were examined for similarities and differences. Patterns were identified and segments of the interview were grouped into similar categories and labeled by category or subcategory.[31–33] The analysis also focused on relationships between categories. Generalities were summarized and exceptions were identified, and a search for clear understanding of the findings was accomplished.

Finally, after expert review of the findings, and upon the advice of reviewers, the researcher reanalyzed all the data and coding. The researcher endeavored to discover how these nurses, as a group, viewed their productivity and nonproductivity and the factors affecting these concepts. Higher-order concepts were derived that describe greater amounts of data. The resultant categories encapsulate the views of many more nurses, and subcategories are used to express divergence within the categories among the sample.

FINDINGS

Categories and subcategories of nurse productivity that emerged are reported, together with the words of the nurses used to communicate their experiences. Table 2 identifies categories and subcategories that contributed to productivity and those that contributed to lack of productivity. Nurses usually discussed material in multiple categories and subcategories, so totals do not balance.

Productivity

Nurses primarily discussed their productivity in relation to two major categories: the quantity and quality of their work. A third category, representing the views of 47 percent of the nurses, was the personal factors that influence their quantity and quality of work.

Quantity

When asked what made them feel productive, 22 (73 percent) nurses discussed factors related to quantity of work. Twenty (67 percent) described a subcategory: *working hard, finishing everything, and doing extra*

TABLE 2

CATEGORIES AND SUBCATEGORIES OF PRODUCTIVITY/NONPRODUCTIVITY FOR NURSES

Productivity	Nonproductivity
1. Quantity (22, 73%)	1. Organizational factors (27, 90%)
Working hard, finishing everything, doing extra work (20, 67%)	Being overloaded (11, 37%)
Teamwork (3, 10%)	Difficult patient (6, 20%)
Systems (4, 13%)	Not enough to do (7, 23%)
2. Quality (25, 83%)	Coworkers did not do their job/lack of teamwork (8, 27%)
Processes (22, 73%)	Systems problems (2, 7%)
Outcomes (8, 27%)	Work-related stressors (7, 23%)
Systems (2, 7%)	
Teaching others, making suggestions (8, 27%)	
3. Personal factors (14, 47%)	2. Personal factors (14, 47%)*
Experience (4, 13%)	Personal problems (7, 23%)
Knowledge (3, 10%)	Not physically/mentally ready (6, 20%)
Attitude (6, 20%)	Forgetting to do something (4, 13%)
Organizational skills (5, 17%)	Cultural/ethnic background (1, 3%)
Physically/mentally ready (5, 17%)	
Cultural/ethnic background (4, 13%)	

* Nineteen nurses discussed personal factors, 14 in relation to productivity, 14 in relation to nonproductivity.
Note: Totals do not balance as most nurses discussed more than one category or subcategory.

work, including stocking and cleaning, accomplishing a heavy load, or staying late. One nurse said, "I try my best to always work very hard"; another said, "Some of our patients are very heavy, and we have been going home at midnight. One hour extra, and we're not paid for that, but I try to always finish my work." Accomplishing all of the tasks that had to be done that day was emphasized: "I feel productive when I go home if I know I got all my tasks done"; and "I push myself to the max to get everything done." Another said: "If you have a heavy day and you're short-staffed and you are able to take care of all your patients . . . you feel that your worth is really good."

When asked what made them feel productive, nurses discussed factors related to quantity of work. Twenty (67 percent) described a subcategory: working hard, finishing everything, and doing extra work.

Another said, "I try to be as efficient as possible. Often I can do something extra, like one day I fixed the computer system. That made me feel really productive." A medical-surgical nurse said "sometimes you are very busy . . . you do a lot of things, you get very tired, but you know you have given your money's worth." A pediatric nurse said: "I have to say, every day is productive for me . . . getting patients admitted, getting the patients home, getting something here that I ordered 2 weeks ago; it's being on top of things and never putting something aside." Many nurses described extra tasks including auditing medical records, or working overtime without pay. An operating room (OR) nurse described: "I have to take care of all the instruments, so there's a lot of things to do." Another OR nurse described cleaning and stocking the rooms while covering a case. A nurse in a diabetic clinic described staying over to be sure all patients were seen and that all patient problems were

addressed. Another nurse said he/she looks around to see what he/she can do for the unit.

A subcategory discussed by only three (10 percent) nurses, was *teamwork*. These nurses described their unit as more productive when everybody gets along together and there is no conflict. "Even if work is hard you don't mind if you are helping your friend. . . . There is more productivity because there is cooperation." Another nurse said: "We need to pull together to give better patient care, faster, and be more productive."

Four nurses (13 percent) talked about the influence of organizational *systems* in relation to their feelings of productivity. "We are productive when things go smoothly, there are beds available, patients can be discharged from the recovery room, and physicians and anesthesia are available when you need them." One nurse described an organizational structure of patient care leaders, created to examine hospital systems for ways to make patient care better and more productive. A third said she/he feels productive when the work load is manageable, the salary is fair, and the organization cares about her/him.

Quality

Twenty-five nurses (83 percent) described productivity in relation to quality of work: 22 (73 percent) in relation to processes of care, and 8 (27 percent) in relation to work and patient care outcomes. Other subcategories discussed by 2 (7 percent) were systems and by 8 (27 percent), teaching others and making suggestions for improving the unit. Nurse descriptions of *processes* include: "giving good care, seeing patients holistically and meeting their needs, and calling a referral for those needs I cannot meet"; "getting to know my patients better and providing head-to-toe care." A recovery room nurse described a sense of productivity from "providing very good care, like I would want to receive myself." The process of providing technically complex care contributed to some nurses' sense of quality and productivity. Nurses described the productivity they experience from handling multiple intravenous lines, drips, and other equipment, and from caring for a complex trauma patient. Several described a sense of productivity from learning new processes: "I know I can be more productive with these new phlebotomy skills." Two nurses looked forward to going back to school for more education.

Work *outcomes* were discussed by only eight nurses, often together with processes, as a subcategory of quality. An OB nurse described: "We have a lot of young mothers coming in who don't know how to care for themselves or their babies, including teenagers, or even drug addicts, and within that short time we try to send them home different. . . . Well, I had this young mother, 15 years old. I was able to give her all this health teaching and she seemed to be accepting it and picking up on what I told her. I was really happy and felt very productive."

Another nurse described a sense of productivity from the processes and outcomes of caring for a critically ill child. When the child improved "I realized how well I had done." Patient and/or family compliments and thanks also contributed to their sense of providing quality: "when my patients feel satisfied at the end of the day"; "when parents thank me and tell me how much I did for their child"; "when patients say you have given me so much."

One nurse described his/her role in an encounter with a gang member: "I was frightened but I had to stand for the organization so I kept talking with him. Afterward I felt like I did something for everybody!" Another staff member described fixing the computerized acuity system that was not working, and the sense of productivity he/she felt from that. Two nurses also mentioned a *systems* issue in relation to quality: feeling more productive when staffing was adequate to meet all patient needs.

A subcategory of quality of work, discussed by eight nurses, was *teaching others and making suggestions* to improve the unit. Five of these nurses discussed quality only in relation to this area. "I like to teach the new people, and I feel productive when I hear comments like 'I really learned a lot from you'." Other nurses described sharing something new with nursing colleagues such as how to start a new line, do IVs, or read an electrocardiogram. Another nurse felt productive when she/he taught classes in the evening for pregnant families. One nurse described rewriting protocols, and another said: "When I visit other hospitals I look for ways we can improve, and I make these suggestions at our monthly counsel meeting, or to our night manager. It makes me feel productive because it helps things go more smoothly."

One nurse felt more productive when she/he was the charge nurse and "people consult me." Another, as a "resource nurse," felt more productive as he or she was available to teach and help colleagues and be available to physicians to solve special problems.

The third category within productivity was *personal factors* that contribute to quantity and quality of work. Fourteen nurses (47 percent) discussed personal fac-

tors that contribute to their productivity. Experience, knowledge, attitude, organizational skills, being physically and mentally ready for work, and their cultural/ethnic background were all discussed. Four (13 percent) of the nurses described their breadth of *experience,* and one said:

> I have confidence because of my previous work experiences. It makes me more diverse and gives me a broader outlook. I have been an ICU nurse and a Public Health Nurse. When I look at a diabetic I don't think of him just as he is now, but how he will be when he goes home. . . . Recently we had a patient with scabies, and some of the staff were pretty frantic. I knew exactly what to do, got the clothes all bagged up, and the medicine ordered. It's like a record, your experience comes back and you think, OK, that worked in Public Health, let's try it here.

A second nurse declared, "My experience in hospitals in another state exposed me to everything so that's why I'm used to this workload." Another stated, "I have over 16 years of experience that contribute to my productivity. Nursing is a learning experience every day, because what we learned in school is not the same as what we know now." Another nurse said "I have been an instructor so that helps me to be more productive."

Other nurses (3, 10 percent) discussed their *knowledge.* "I make it a point to buy books and subscribe to professional journals so that I stay updated." Another nurse described the impact of returning to school: "Hey, I finished it, one course at a time over a 6-year period, and it makes me feel like I am really productive." Two other nurses discussed returning to school in the future.

Six nurses (20 percent) discussed the influence of *attitude:* "I come with a mindset that I'm here to do my job. I know my responsibilities and I get them done." Another said: "I try to be really good with my performance; I don't want anything written up on me." Other nurses said: "That's number one for me, my attitude toward the patients and the visitors"; and "I'm going by my own self-esteem. I don't want to just sit around and do nothing so I always try to do my best." Others said: "When I am here I think of how much service I can give"; "As a nurse I really want to give my best; I came here to work."

Organizational Skills

Organizational skills, including time management, were introduced by five (17 percent): "I have a good ability to prioritize"; "I try to work as effectively and efficiently as possible. . . . and finish everything"; "You have to budget your time so you can be real productive"; "Our entire floor is very efficient. It's being on top of things because if you put things aside you might forget them"; and "I am very efficient and also accurate." Five (17 percent) talked about coming to work *physically and mentally ready* to work: "I come to work ready, not sleepy or groggy"; another said "I always take a nap on days I work evenings so I am alert." "If I have a problem at home I have to leave it there and when I come to work I don't even think about it." "Everyone has personal problems and you have to learn to deal with it." "My work is 8 hours and there shouldn't be anything to distract me away from my work."

Lastly, four (13 percent) nurses discussed the influence of their *cultural/ethnic background* on their productivity. "American nurses grew up more well off. Filipino nurses are more careful with supplies, and we are good at getting along with less." Another Filipino nurse said: "In our family we were exposed to hard work. We had our own tasks everyday, and our parents expected us to do them, no argument. I am one of nine kids." Another said: "It gives you a sense of being in charge of yourself, and that makes you more productive when you know there's no one else there but you." The fourth described: "We all had jobs and responsibility, and that was our obligation to our family. So here, too, you're a part of this big institution and we each have a small part of the responsibility for making it work."

Nonproductivity

Nurses primarily discussed nonproductivity in relation to two major categories: organizational factors and personal factors that contribute to lack of productivity. This seemed to mean factors that prevented them from accomplishing a large quantity of high-quality work.

Organizational Factors

Most nurses (27 or 90 percent) discussed nonproductivity in relation to organizational or work-related factors that interfered with their productivity. Eleven (37 percent) of the nurses discussed *being overloaded* and disorganized when the unit is short staffed: "Everything is running wild"; "Eight to nine patients needing help makes you crazy; being understaffed, there's not much productivity"; "Everything is run-

ning behind and I'm not ready when somebody else is ready"; "I'm an hour late and if I don't stay it's a burden to the next shift"; and "When I am overloaded and I can't help my coworkers." Another nurse described: "When it is too busy and I can't help all my patients"; "If things are left undone, there is little productivity." The second area was related and was discussed by six (20 percent) nurses: having a *difficult patient* who takes most of my time, resulting in the nurse neglecting her/his other patients. A nurse in the clinic described: "Nonproductivity is when nothing goes right, you have the wrong (telephone) number, and she's a high-risk diabetic and pregnant." A nurse in the hospital said: "Take today for an example. I have a chronic schizophrenic patient who has been screaming most of the shift. It's impossible to be productive with that." Another said, "When we have a high risk pregnancy it takes more time and I feel unproductive." Another obstetrics nurse said: " . . . having a patient with an infection, or an open wound, or a medical condition, like thrombophlebitis with a heparin drip."

Seven (23 percent) nurses described feeling unproductive when the patient load was down and there was *not enough to do:* "When the patients are light, you don't feel like you are working very hard, and County is paying you for nothing"; "If the night's too easy, you are bored to death, that's not rewarding"; "If census is light you don't feel as productive, but you can do reorders of supplies, or spend more time with your patient. You are still productive, but slow."

A fourth subcategory, discussed by 8 (27 percent), that interfered with both quantity and quality of work was when *coworkers did not do their job* and there was a *lack of teamwork:* "Don't send me therapists who don't do their job, or document. Give me the hours, and I'll do the job"; "I get angry when I put out twice as much, and we both get paid the same"; "Sometimes when I hear report I know I better start checking, because I know things weren't done." "There are some nurses who are not reliable. When you get report from them you better start checking the chart and studying everything." One OR nurse complained: "Some nurses here just do the case and don't stock the room, or they take supplies from the next room. That makes us all less productive." Another complained: "On this unit there are cliques who don't want to work, and they sit on their butts in the nursing station. That demoralizes the rest of the staff. If we work together like family, there will be more productivity." Anything that interfered with a sense of teamwork, such as conflict with coworkers, decreased their feelings of productivity: "If coworkers gossip about you, it shouldn't affect you, but it does."

While staff understood the need to orient and teach new staff and students, the learner's lack of ability interfered with staff nurses' quantity of work: "If I have a new person to cover, then I am less productive"; "We have to train a lot of new people, and when that happens I can't get anything done."

Two (7 percent) nurses also described *systems problems* contributing to decreased productivity such as when beds or equipment were not available. Seven (23 percent) nurses described feeling *work-related stressors* that decreased their productivity. One cause was when patients and/or families had criticized their care. Criticism interfered with their sense of providing quality: "There are instances when you do things for patients but they get upset as if you didn't do anything good at all." Another said she would feel nonproductive if a patient wasn't satisfied. Another talked about distress over a patient's death: "When a patient dies, and we've known him/her for years, and I feel so sorry for the parents, I am not able to be productive." Similarly, the nurse feels powerless, when caught in a moral or ethical dilemma, such as when the nurse cannot protect the life and health of an unborn child when she/he suspects the mother is taking drugs. "I can send out the sheriff once the infant is born, but unfortunately the child has no rights until birth." Lastly, distress was caused by being given assignments they did not like. One said it was unfair; another said: "I feel sad and disappointed about my assignment. I have to do something else to make me feel productive."

Personal Factors

Personal factors contributing to nonproductivity was the other major category in relation to lack of productivity, and was discussed by 14 (47 percent) nurses, 5 of whom were different nurses than the 14 who discussed personal factors in relation to productivity. Having personal problems, not being physically or mentally fit for work, forgetting something, and being from a cultural/ethnic background were identified as subcategories. The first subcategory, discussed by 7 (23 percent) was *personal problems:* "Personal problems make you less productive"; "When my husband died I took some time off because I was in a fog, and I couldn't be productive"; "If I am not happy in my personal life, I feel like I don't have much to give." Subcategory two, *not physically/mentally ready to work*, was discussed by 6 (20 percent): "If I'm tired I

can't think well, I go back and forward, back and forward, not well organized"; "If I am tired I am unable to do everything I need to do"; "Sometimes you don't feel like doing anything, and you have to drag yourself into it." Other statements were: "If I don't feel well or have a physical problem, like my period, I could be less productive"; "If I had a physical disability, that might slow me down."

Forgetting to do something was discussed by four (13 percent) nurses as a cause of decreased productivity. "If I didn't get around to signing out the patient orders, or I left something for another shift"; "If there were things that needed to get done, that didn't get done." Interestingly, no nurses mentioned nurse error.

In relation to lack of productivity, one Asian nurse described her *cultural/ethnic background*. "I had a hard time letting my patients do anything for themselves, until I understood the philosophy. In my country we are there for them and we do everything for them. Now I explain to parents why it is important for children to get up and move so they won't think we are unkind."

DISCUSSION

A theoretical framework emerged that describes nurses' views of their productivity and nonproductivity (Table 2). While organizations measure productivity by hours of care per patient day, or cost versus revenue, these nurses evaluated their productivity by quantity and quality of their work. The measure of their productivity was the effort involved in hard work and completion of their care and responsibilities. In discussing quantity, nurses talked about the processes of care: working very hard, finishing all of the tasks, and doing something extra for the unit. Formulas for maximizing productivity were given: "I try my best to always work very hard"; "I push myself to the max to always get everything done"; "It's being on top of things and never putting something aside." Sometimes this involved staying late without overtime, but it was essential to finish the work. Quality focused on holistic care; meeting all the patient needs; treating a patient as the nurse would like to be treated; teaching patients and families; and providing technically complex care. Some said they felt more productive when they were complimented by patients and families.

While eight described outcomes of care, including patient satisfaction, most nurses evaluated their productivity in relation to their own level of effort. Health outcomes need to be a bigger focus of patient-care goals in the future, and continuing education and performance improvement must increase clinician's awareness of the need to focus on outcomes.

While organizations measure productivity by hours of care per patient day, or cost versus revenue, these nurses evaluated their productivity by quantity and quality of their work.

A majority of the nurses discussed their productivity and nonproductivity in relation to their own background and many emphasized it. These nurses were clear about their contribution to their productivity. They discussed knowledge, ethnicity, experience, attitude, organizational skills, being rested, and the need to focus on the job, even if they had problems at home. They also discussed the influence of being tired, not feeling well, having personal problems, and forgetting something. The level of self-awareness of these nurses was impressive. However, three nurses consistently blamed organizational factors and coworkers for productivity problems. When these personal factors were discussed, nurses still did so in relation to how these attributes contributed to their ability to carry a large workload and provide a high quality of care to many patients.

Other areas, addressed by a small number of nurses, were system changes to increase productivity, and the need for teamwork. While three nurses discussed the relationship of teamwork, cohesiveness, cooperation, and lack of conflict to productivity, nurses did not expect coworkers to help them be productive. These nurses were accustomed to providing total patient care and meeting most needs themselves. However, more saw coworkers as a threat to productivity if they gave poor care or left tasks undone. As organizations like this county hospital redesign for lower costs, instituting patient care teams that include unlicensed, assistive personnel, nurses must adjust to thinking in terms of the productivity of the team, and of themselves as the team leader. It is anticipated that initially this will be a threat to their sense of productivity and will create a period of adjustment and role strain, as has been seen in other facilities. The success of this change may be related to the degree of involvement of the nurses in the

process, and the education and support given for these role changes.

Twenty-seven nurses described feelings of nonproductivity caused by factors that prevented them from accomplishing a large quantity of high-quality work, particularly patient care. These nurses were very oriented to work and keeping busy and they felt nonproductive when factors interfered with this, including a patient care load that was too light, a load that was too heavy, when one or more patients required most of their time, if coworkers did not do their share, or system issues interfered with care.

While no single subcategory was identified by a majority of these nurses, it seems important to discuss the feelings of the 11 (37 percent) who described times of overload. No other topic was discussed with such clarity and such passion. "Eight to nine patients needing help makes you crazy; being understaffed, there's not much productivity." The researcher was convinced these nurses would leave if this occurred too often. This county hospital had not down-sized staff at the time these interviews were conducted, and nurses did not suggest that they were usually short of staff. However, if redesign results in working conditions where nurses are continuously overloaded, nurses will certainly move to other positions, or become "burned out" and disengaged. As described by Linden and English,[4] care redesign must include realistic strategies, including acuity standards, and appropriate use of unlicensed staff to maximize the productivity of nurses.

Some nurses expressed frustration at those times when they felt overloaded, but some readily identified the personal factors, including their own attitude and physical and mental readiness for work, that affected their productivity. These nurses showed that the results of their productivity, and nonproductivity were not just output over input, but were strongly related to feeling states that had a decidedly personal component. Recall these examples: "You get very tired, but you know you have given your money's worth"; "You feel that your worth is really good"; "When the child improved "I realized how well I had done"; " . . . She seemed to be accepting it and picking up on what I told her. I was really happy and felt very productive"; "Afterward I felt like I did something for everybody!"; "It makes me feel productive because it helps things go more smoothly"; "If the night's too easy, you are bored to death, that's not rewarding"; "Everything is running wild"; "I get angry when I put out twice as much, and we both get paid the same"; ". . . They sit on their butts in the nursing station. That demoralizes the rest of the staff." These statements reveal that productivity and non-productivity affect the feelings and self-esteem of these nurses. This will undoubtedly translate into feelings about the job and self over time. These descriptions help us to understand the positive correlations that quantitative research has shown between productivity and job satisfaction.[24,25]

In contrast to nurses, those responsible for fiscal outcomes focus on revenue generated versus costs. Under managed care, neither methodology will result in the best patient and organizational outcomes. Structures and processes of care must be evaluated in relation to outcomes including long-term quality of health. A common language and view must be developed so clinicians and administrators can collaborate in increasing productivity as measured by patient and organizational outcomes.

Another major issue that will affect organizational productivity relates to an impending nursing shortage. The nursing workforce of the new century is forecast to be driven by increasing demand and a decreasing supply of registered nurses, secondary to aging of the RN workforce. This shortage is expected to be unprecedented in its impact on health care organizations.[34] More job opportunities will be available outside of hospitals, and acute care organizations must be careful to redesign in such a manner that they do not drive off the very nurses needed for quality care.

Cultural factors contributing to productivity were described by five nurses similarly to Leininger's[35] descriptions of cultural influences. While this was an unusual group in ethnic background, nurses from all ethnic groups interviewed described productivity in relation to the quantity and quality of their work, primarily patient care. Little is found in research regarding the influence of culture on productivity, and more research is needed in this area, particularly as the nursing profession is impacted by the multiethnic population from which nurses are drawn.

Criteria for judging content analysis include evaluating validity of the coding scheme and of the data. Information gained from these interviews revealed a pattern that seems congruent with the reality of nursing practice in an acute care setting with primary or total nursing care. Categories and subcategories are understandable and may be applicable to other settings. Generalizability of these results is limited by the nonexperimental methodology, by the setting, and by the sample which was ethnically unique and unusual

in longevity. However, no other studies have gathered nurse views about their productivity through interviews, and a sample of 30 is relatively large for qualitative research. Therefore, this study provided a perspective missing from the research and nursing economics literature and allows us to compare these views with those of administrators.

Implications

The findings from this research have implications for clinical practice, administration, research, and education. Nurses understand the importance of productivity, including both the quantitative and qualitative aspects, and factors that contribute to it. However, they are focused on processes of care more than outcomes. Given budgetary information by effective leaders, including goals of managed care, sources of revenue and costs, and research outcomes, clinical nurses could become major contributors to health care strategic planning and cost reduction. Likewise, administrators who take the time to experience the perspective of the clinician may alter their own view of what maximizes productivity, and ways to work together.

The survey of the business literature discussed many experiments that influenced productivity including environmental factors, organizational leadership, profit sharing, and payment systems based on productivity and company performance. Unfortunately, health care organizations have seldom examined such methods for increasing productivity at the staff level, and have often relied on administratively imposed productivity measures without determining the effect on outcomes. Hence many of these restructuring efforts have failed to produce lasting change and/or have resulted in an angry demoralized staff and rapid turnover. This may have resulted in increased medication errors, morbidity, mortality, and patient dissatisfaction, though these factors have not yet been measured and identified.

As Helmer and Suver[20] recommended, nurses should be involved in setting standards, measuring variation, and celebrating good outcomes. Staff nurses should be instrumental in planning for care delivery changes such as incorporation of unlicensed assistive personnel, and their own educational needs to effectively supervise, coordinate, and lead other caregivers. These nurses could also provide leadership in strategizing ways to provide care more economically, as well as creating long-term plans to manage chronic diseases, promote health, and prevent illness. Nurse administrators must provide continuing education to assist nurses in assuming a team leader role, and to delegate effectively. Educators need to recognize that understanding financial aspects of health care is essential if nurses are to assume a leadership role at the planning table for the future of health care.

Research is needed to determine effective ways to measure and to increase nurse productivity and to compare measures of productivity to patient outcomes and long-term productivity of the organization.

Further Research

Research is needed to determine effective ways to measure and to increase nurse productivity and to compare measures of productivity to patient outcomes and long-term productivity of the organization. Also, there is a need to study the impact of practice interventions on productivity, particularly since the practice of nursing is presently in a state of rapid change. Third, there is a need to study the relationship of productivity to culture and background of employees. Most importantly, an intervention study should test the ability to increase collaboration between clinicians and administrators and improve long-term productivity outcomes.

SUMMARY

Findings from this study serve as a base for practice, further research, and theory development about nurse productivity and lack of productivity. These descriptions by practicing nurses create a clear and compelling picture of how staff nurses view their productivity and factors that influence their productivity and lack of productivity. This understanding should be used to develop a new focus on productivity among administrators and clinicians, and to create quality improvement activities, as well as further research, particularly interventions, to influence organizational productivity.

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APPENDIX

QUESTIONS ABOUT PRODUCTIVITY AND NON-PRODUCTIVITY FROM INTERVIEW GUIDE

1. Now I would like to discuss your productivity at work. I am defining productivity as your contribution to this organization in relation to the cost of your salary and benefits. Could you describe how productive or non-productive you feel you are in your job?
2. When you are feeling very productive at work, what conditions or situations make you feel that way?
3. In relation to job productivity, what does your manager do that increases your productivity at work?
4. In relation to job productivity, what is it about you personally, including your personality, motivation, home, your background, or culture that increases your productivity at work?
5. When you are feeling very nonproductive at work, what conditions or situations make you feel that way?
6. In relation to job nonproductivity, what does your manager do that decreases your productivity at work?
7. In relation to job nonproductivity, what is it about you personally, including your personality, motivation, home, your background, or culture that decreases your productivity at work?