JONA
Volume 34, Number 6, pp 291–297

Traditional Models of Care Delivery

What Have We Learned?

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Traditional models of patient care delivery include total patient care and functional, team, and primary nursing. These models differ in clinical decision making, work allocation, communication, and management, with differing social and economic forces driving the choice of model. Studies regarding quality of care, cost, and satisfaction for the models provide little evidence for determining which model of care is most effective in any given situation. Despite lack of evidence, newer models continue to be implemented. This article compares the advantages and disadvantages of models, critiques the existing studies, and offers recommendations regarding the evidence needed to make informed decisions regarding care delivery models.

Systems of nursing care delivery are a reflection of social values, management ideology, and economic considerations.[1] From a historical perspective, models of care delivery have evolved based on the economic issues of the 1930s (the Great Depression), the political issues of the 1940s and 1950s (World War II and the postwar era), the social environment (wave of humanism in the late 1960s and early 1970s), and the economic circumstances surrounding healthcare from the 1970s to the present (diagnosis-related groups, rise of health maintenance organizations, and managed care).[2] This article focuses on the outcomes (quality, cost, and satisfaction) achieved with the more traditional models of care, using a historical perspective.

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Total Patient Care Delivery Model

Description of Model

Total patient care was the primary care delivery model until the 1930s[3] and has made a resurgence in the 1980s. In this delivery system, one nurse assumes responsibility for the complete care of a group of patients on a 1:1 basis, providing total patient care during her or his shift.[3,4] Although direct care is provided, the nurse influences whether she or he provides care in a patient-centered or task-centered manner.[5]

It is the responsibility of the charge nurse to assure continuity of care and to make all assignments and receive/give all reports[3–5] (Table 1). However, the down side is that no *one* person is responsible for coordinating the care given during a 24-hour period or throughout the patient's hospital stay.[5]

Driving Forces

Total patient care is the oldest model of patient care delivery.[6] Florence Nightingale believed that the total nursing care of patients, including their spiritual well-being and environment, was in the hands of the nurse. From her writings, it can be assumed that a type of case assignment (assign patients versus tasks) was used.[7]

In the 1920s, graduate nurses worked primarily as private duty nurses, in the home and in the hospital, assuming total care for their patient. In the early 1930s, the Depression led to a decrease in private duty nursing. Graduate nurses returned to the hospital working with senior nursing students to staff the hospital in exchange for room and board. Because both graduate nurses and senior nursing students could technically perform all the required patient care, the case method continued to be used for patient assignment.[8]

Indicators of Success

Quality Measures

Quality of care is high because all activities are carried out by registered nurses (RNs) who can focus

Table 1. Comparison of Traditional Models of Care Delivery

Model	Focus	Clinical Decision Making	Work Allocation	Time Span of Allocation
Total patient care	Total patient care	Nurse at bedside, charge nurse makes some decisions	Assigning *patients*	One shift
Functional	Individual tasks	Charge nurse makes most decisions	Assigning *tasks*	One shift
Team	Group tasks	Team leader makes most decisions	Assigning *tasks*	One shift
Primary	Total patient care	Nurse at bedside	Assigning *patients*	24 hrs/d, 7 d/wk for duration of hospitalization

their complete attention on the patient. However, it is essential that the skills and knowledge of the RN are matched to the complexity of the patient's needs. Continuity of care is guaranteed for a given shift but not throughout the hospital stay.[4] The quality associated with this model is higher than for team and/or functional nursing models,[9-11] but not as high as in a primary care nursing model.[10]

Cost

Total patient care may no longer be cost effective in a managed care environment because of the percentage of RNs used to deliver care. One earlier study found total patient care to be less costly than a primary care nursing model but more costly than a team nursing model.[12]

However, total patient care is an efficient delivery model because it (1) decreases communication time between staff, (2) reduces the need for supervision to ensure completion of work, and (3) allows one person to perform more than one task simultaneously.[9]

Satisfaction Measures

Patient satisfaction with the total patient care model is high and greater than with the functional model if continuity of care and communication are maintained among nurses.[4,5] However, others found no significant differences in patient satisfaction among the total patient care, team, and primary nursing models of care delivery.[12]

Some nurses prefer this model of care delivery because they can focus on patients' needs without the worry of supervising others. Other nurses dislike this model because they feel their skills and time are wasted doing patient care activities that could be done by others with less skill and education.[4] RNs tend to be more satisfied with this model than the functional model because they are allowed to act as they are educationally prepared.[5] However, when empiric evidence of satisfaction was sought, there was no difference in total patient care, team, or primary nursing models. There were also no differences in absenteeism, tardiness, or turnover among the 3 models of care delivery.[11] Anecdotally, physicians prefer this model because they have to find and communicate with only one nurse who is familiar with the status of the patient.[4]

Functional Care Delivery Model

Description of Model

The functional model of care delivery emerged in the 1940s. This model divides work into tasks assigned to nursing and ancillary personnel based on the complexity of the task in terms of judgment and technical knowledge. This model is the best use of different skill levels. Less-skilled workers are assigned most of the routine tasks, and the RN addresses the more complex needs. Thus, one nursing staff member performs 1 or 2 tasks for all the patients on the unit during her or his shift.[1,3-5,13]

Functional nursing is task oriented and ritualistic with dependency on rules, regulations, and rituals. Procedures, policies, and protocols must be carefully followed.[3,5,9,13] Priorities are placed on

Communication	Documentation	Outcomes	Quality
Hierarchical: Charge nurse gives and receives all reports	Unknown	May lack continuity of care between caregivers	High—all care delivered by registered nurse
Hierarchical: Charge nurse gives and receives all reports	Tasks	Fragmented care	Omissions and errors can occur
Hierarchical: Report charge to charge nurse or charge nurse to team leaders or team leader to team members	Tasks and care plan	Fragmented care	Omissions and errors can occur
Lateral: Caregiver to caregiver	Individualized plan	Continuity of care	Process-oriented

physicians' orders and the procedures necessary to carry them out with an assembly line approach to care. Reliance on rules, regulation, and policies is counterproductive to nurses' decision making and works against professional development.[4,13] Little time is devoted to the psychosocial and spiritual needs of the patient.[5,13]

The manager functions as an organizer/supervisor to assure that all tasks are completed. Only the manager has an overview of all patients on the unit. Coordination of care rests solely with the nurse manager, and tasks are delegated down through a hierarchical structure. The head nurse (manager) makes all assignments and receives/gives all reports.[5]

Driving Forces

The model was introduced during World War II when nurses were needed overseas. The remainder of nurses stateside were unable to meet the demand for nurses.[1,4] As a result, the functional model was initiated in response to the shortage of RNs, the expanse of hospital systems, and the accompanying economic pressures.[3]

Functional nursing is a direct descendant of industrial mass-production ideas about work allocation, where a task specialization and assembly-line approach had proven successful.[2,4,9] The production-line technique was seen as adaptable to a healthcare delivery system in which patients required more sophisticated care during shorter hospital stays.[7] This model of care delivery remained popular in the 1950s and early 1960s.[13]

Indicators of Success

Quality Measures

Because unique knowledge of the patient is missing with functional nursing, the quality of care associated with the model has been criticized. The task assignment mode contributed to fragmentation of care, with patient problems being overlooked because they did not fit into a defined assignment (ie, the concept of "it's not my job"). The assembly-line approach to care provided little time for psychosocial or spiritual needs. Errors and omissions increased.[4-6,13,14] Quality of care with a functional model was found to be lower than with total patient care and/or primary nursing.[9,15]

Cost

The functional model is viewed as cost efficient because it can be implemented with the smallest number of staff. This model requires fewer RNs, with non-RN tasks assigned to licensed practical nurses (LPNs) and ancillary staff.[13] In the case of a disaster or emergency, it is the most effective care delivery model to implement.[4,13] In addition, there is administrative efficiency because the division of labor is clearly outlined.[4] Although it is theoretically cost effective, several studies found the functional model to cost more than the primary nursing model of care delivery.[15,16]

Satisfaction Measures

On the whole, patients and caregivers (nursing staff and physicians) are critical of the functional model of care delivery. There is concern about fragmentation of care and the inability to find anyone who ac-

cepts accountability for the total patient. Patients complain about the continual stream of persons coming into their room with a single purpose and that none of the staff have time to stop and talk about patient concerns.[4] Workers may develop expertise and become proficient at their assigned tasks, which improves productivity initially. However, the repetitive nature of the work can lead to boredom and frustration.[13] For nurses who desire closer involvement with the patients, satisfaction with this model of care delivery generally is low.[4] Although nurses and patients have lower satisfaction with the functional model,[17] nurses also experience more work pressure and less involvement and innovation than they do with the primary nursing model.[3,7]

Team Nursing Care Delivery Model

Description of Model

The team model of care delivery emerged in the 1950s. It is based on the premise that a small group of nurses working together, guided by a team leader, can give better care than the same individuals working alone.[5,18] The model uses a group of healthcare workers with diversity in education, skills/abilities, and licensure, ie, professionals (RNs), technical personnel (LPNs), and ancillary staff (nurses' aides). The focus is to work collaboratively and cooperatively with shared responsibility, and to some extent accountability, for assessment, planning, delivery, and evaluation of patient care.[1,5,13,18-21]

The team model is traditional and hierarchical. Team members provide total care to a defined group of patients under the supervision of the RN team leader. The provision of care is assigned to personnel of various skill levels according to the complexity of the patients' needs and care requirements.[22] The team leader then supervises/observes and evaluates team members and the care given. If needed, the team leader provides complex, direct patient care but rarely provides other "hands-on" care. For this model to be effective, the team leader must have the necessary training and experience to be able to provide strong leadership and clear communication.[1,3-5,13,18,20]

Communication is also hierarchical, with reports given/received from charge nurse to charge nurse, charge nurse to team leader, and team leader to team members.[3] Responsibility for patient care is only for the shift assigned.[19] Some view the model as decentralized because decision making, authority, and responsibility for patient care rests with the team leader.[1,4,5,13] The model can also be viewed as centralized because the team leader retains some dependency on the charge nurse for clinical decision making.[3]

The team model is open to interpretation. The time span of patient-team assignment varies from a shift to permanent allocation for the duration of the patient's hospital stay. The implementation varies from task allocation to almost primary nursing,[3,18] with the team leader determining if care is task-centered or patient-centered.[3]

Driving Forces

During World War II, the healthcare system absorbed a significant number of healthcare workers trained in a variety of skills (support personnel) as a way of easing the acute shortage of nurses. After the war, support personnel were needed because of the continued shortage of RNs and the increasing technological developments and complexity of medical care. In addition, support personnel were an inexpensive source of labor.[6,13,18,20,21,23]

The functional model remained popular in the 1950s and early 1960s, but there was increasing awareness of the problems associated with this model of care delivery. Team nursing was introduced in the 1950s as a way to address these problems.[4] The philosophy of team nursing was to meet the comprehensive needs of the patients while efficiently using nursing resources.[20] The model evolved to meet the increased demands for nursing services while recognizing the changing role of the RN in relation to the increasing numbers of nonprofessional (ancillary) nursing personnel.[24] The team model allowed the use of ancillary personnel, such as LPNs and nursing assistants, through delegation and supervision by a RN[7,13] while holding the team leader accountable.[23] Benefits of the team approach included continuity of care and greater interaction between nurses and patients.[21,25]

In the 1960s, there was the emergence and progressive influence of humanistic values. The humanistic philosophy takes into account the whole person and recognizes the uniqueness of human beings and their capacity for self-direction. Total patient care systems and humanistic values were factors that influenced the change from task allocation (functional) to team nursing. The team approach allowed patients to interact with fewer caregivers.[3]

Indicators of Success

Quality Measures

Quality of care is higher with the team model because the nurse has responsibility and accountability for fewer patients. The nurse knows the patients better and can make assignments that best match patient needs with staff abilities and skills, and

provide more direction, coordination, and supervision.[4] Patient needs are coordinated, and continuity of care improves depending on the length of time each member stays on the team. However, care can be fragmented, and the model is ineffective when short staffed.[6,13,19] Time to communicate among team members may decrease productive work time.[4] In addition, the most educated staff are required to supervise less skilled workers, rather than providing direct care themselves,[2] and "good" staff are limited to a defined group of patients with complex needs.[4]

A number of studies found no difference in quality of care between the team model and primary nursing,[22,26-29] whereas others found quality of care to be lower when the team model was compared with primary nursing[9,11,15,30,31] or total patient care.[10] Omissions in care were higher with team nursing.[24] However, quality of care did improve when patients were assigned to fixed teams.[32,33]

There is conflicting evidence about time spent with patients in this model. The findings range from nurses spending more time in direct patient care,[34] to no difference between team and primary nursing,[35] to actually spending less time in direct patient care with the team model.[10]

Cost

The team model is viewed as one of the most expensive models of patient care delivery because more personnel are needed.[13] It is a less efficient model because time spent in coordinating, delegating, and supervising leads to a loss of productive work time (ie, coordinating the work is time consuming).[4]

Studies examining the cost of the team model of patient care delivery have reported contradictory findings. Some studies found that team nursing was less costly than primary nursing and/or total patient care,[12,21,34] whereas others reported no difference in cost between team and primary nursing[22,26,36] or have found team nursing to actually be more costly than primary nursing.[15,16,30,35] Either primary or team nursing could be the most cost-effective model, depending on the specific diagnosis-related groups measured.[35]

Satisfaction Measures

Patient satisfaction is greater with team nursing than with the functional model.[4] Again, the findings on patient satisfaction were inconsistent. The findings ranged from no difference[11,36,37] to greater satisfaction with team nursing than with primary nursing.[34]

If assigned to the same patients, team members theoretically feel a greater sense of accomplishment and satisfaction because they develop closer nurse–patient relationships.[4] However, studies reported either no difference in nurse satisfaction or morale between the team model of care delivery and the primary nursing model[11,26] or lower job satisfaction for nurses using the team model.[10,31,36]

There were no differences in absenteeism, tardiness, or turnover when comparing team and primary nursing,[26] but lower retention rates were seen with team nursing.[35] Nurses perceived greater work pressure and less involvement and commitment using a team model of care delivery.[14]

Primary Nursing Care Delivery Model

Description of Model

Emerging in the 1960s, the primary care model's focus is on a one-to-one, patient-centered nurse–patient relationship that promotes continuity of care.[3,5] Each patient is assigned a specific primary nurse based on patient needs and the nurse's abilities. The primary nurse assumes 24-hour responsibility and accountability for assigned patients for the duration of their hospital stay and has the responsibility and authority to assess, plan, organize, implement, coordinate, and evaluate care in collaboration with the patients and their families. The primary nurse decides how care should be administered and personally administers it whenever possible. When the primary nurse is not available to provide care, responsibility is delegated to an associate nurse who cares for the patients following the care plans developed by the primary nurse.[2,3,5,7,8,13,21,27,38]

In primary nursing, decision making is decentralized and takes place at the bedside. Primary nurses exercise their individual judgment and may be called on to account for their decisions and actions.[2,3,39] Communication in the primary nursing model is lateral from caregiver to caregiver, including communication with other disciplines, as well as with other nurses.[3]

The primary nursing model is flexible and can tolerate a variety of staffing levels and mixes.[2,39] Although the model does not call for an all-RN staff as care providers, it has mistakenly become associated with the idea that the model requires this pure skill mix.[1,4] There is disagreement in the literature regarding the appropriateness of using LPNs as primary or associate nurses.[2,4,39]

Driving Forces

By the 1960s, patients, physicians, and nurses were dissatisfied with fragmented, depersonalized, discontinuous care and the lack of direct patient contact in the hospital setting,[8,24,30] and nurses wanted to

regain the relationship with patients they once had.[23] The move toward primary nursing was prompted by the emergence and progressive influence of humanistic values popular in the 1960s and 1970s.[3]

The primary nursing care model was linked temporally to the growing importance of the nursing process that allowed a more individualized and problem-solving approach, the application of scientific methods to nursing, and the increasing volume of nursing research.[3,40] In addition, the 1970s and early 1980s saw the advent of an increasingly complex patient population.[1,13] Primary nursing was designed to return the RN to the role of direct caregiver and was compatible with the individualized, problem-solving approach to care for patients with complex needs.[5]

Indicators of Success

Quality Measures

Quality of care greatly improved because the primary nurse could define and resolve the patient's problems, resulting in better patient outcomes.[4] Continuity of care is ensured as nurses take more responsibility for completing the required care for their patients. Simplified communication networks contribute to the continuity of care.[13,19]

In some studies, primary nursing had increased quality of care when compared with functional, team, or total patient care.[9-11, 15,30,31] Other studies found no difference in quality of care or patient well-being between primary and team nursing.[21,22,26,27,29]

As with other models, results of the studies of the time nurses spent with patients were inconsistent. Some reported nurses spent more time in direct patient care using the primary model of patient care delivery compared with team nursing and functional nursing,[10,14] whereas others found either no difference in the amount of time spent in direct patient care[35] or less time in direct patient care when using primary nursing.[34]

Cost

The primary care model increases the hours of care per day and often requires a higher number of RN staff.[13] The model is not efficient when using an all-RN staff but can be cost effective if not implemented with an all-RN staff.[4] Research findings regarding the cost of primary care are inconclusive. Several studies reported primary nursing to be less costly,[15,16,30,35] but it depended on the specific diagnosis-related group evaluated.[35] Other studies varied from no difference in cost[22,26,36] between primary and team nursing to primary nursing being more costly than both team and total patient care.[12,,21,34]

Satisfaction Measures

Although Ringl[4] states that patients prefer primary nursing, the results of studies examining patient satisfaction are inconclusive. Patients reported they were more satisfied with primary nursing than team nursing[24] and functional nursing.[17] Other studies found lower patient satisfaction[34] or no difference in patient preference for primary, team, or total patient care.[11,36,37] Patients perceived care to be more personalized with primary nursing than with "traditional" models[41] and were more satisfied when a particular nurse was assigned to their care.[34]

If nurses were prepared for the role of primary nurse, they experienced a high level of satisfaction because they functioned in a highly professional autonomous capacity. However, some nurses felt isolated in their role.[4] Although benefits of this model are touted to be RN job satisfaction, staff enthusiasm, and retention/decreased turnover rate of RNs and LPNs,[13,38] several studies found no differences in absenteeism, tardiness, intention to stay, or nurse turnover[22,41] but higher retention rates.[35] Nurses reported less work pressure and greater involvement and innovation with primary care.[14]

Conclusions

Although there is a large body of literature on models of care delivery, much of it is conceptual or descriptive, rather than analytical or empirical.[21] The literature reveals differences in model descriptions and a lack of agreement on the strengths and weaknesses of the models.

There is a lack of systematic, evaluative research on the models of care delivery, and most existing studies are flawed.[21,34,42] Independent and dependent variables have not been clearly identified or identifiable, and there has been a lack of operational definitions of modes of care delivery. In addition, instruments used in the research have lacked reliability and validity.[21,42-44] Other limitations in the research include anecdotal reports, small sample size and limited scope, undisclosed significance tests and correlation techniques, unclear data collection methods and procedures, and failure to control other relevant variables. In addition, studies have been carried out in isolation with insufficient reference to previous research.[42-44]

One major flaw in the studies has been a lack of similarity in staffing and patient populations on comparison units or an absence of data on characteristics of the nurses, patients, and physicians on the units.[35,43] Quality of care and nurse and patient satisfaction may be related more to factors such as educational preparation, dedication, and compe-

tency of the nurse; nature of the support systems; and the motivation, attitude, and leadership qualities of the charge nurse.[21,26,29,34]

Because most studies lacked the necessary methodologic rigor, it is impossible to draw conclusions about the impact of the model of care delivery on quality of care, cost, and satisfaction. Sound research needs to be conducted to determine which models of care delivery are most appropriate for given situations and which models will allow professional nursing to survive in a managed care environment. In the meantime, newer models of care delivery have been implemented, although there is little evidence on which to base these changes.

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