Research Article

Recordkeeping Practices of Nurses in Hospitals

PHYLLISIS M. NGIN

Abstract: Staff nurses are both care givers and authors of documents in medical records. The author discusses the process and context in which nursing documents are created and how they are actually used in delivering care. Archivists concerned with hospital recordkeeping systems should note that the medical record does not fully reflect nursing activities. A sociological study of nurses' recordkeeping practices suggests that nurses engage in two types of recordkeeping: administrative and clinical. Most documents produced through administrative recordkeeping become part of a patient's medical record, while most clinical recordkeeping documents do not. Nevertheless, it is the latter type of recordkeeping that nurses find most useful in their practice.

About the author: *Phyllisis Ngin is a lecturer at the Department of Organizational Behavior, National University of Singapore.* *The article is based on her dissertation research, which examined the context of nursing communication and documentation activities. The focus of her dissertation was the effects of organizational and social factors on nurses' use of information systems to carry out these activities.* *The author especially thanks Elizabeth Yakel, who felt strongly that archivists can benefit from sociological research and encouraged the writing of this article. Her comments on earlier drafts of this article are appreciated.*

THE WORK OF NURSES AND OTHER health-care professionals is generally understood by the types of care they deliver. Nurses are usually viewed as working by the bedside and interacting with the patient. Less obvious to outsiders, however, are their information retrieval, documentation, and communication activities that structure and coordinate the overall care given to patients. Nursing practice in hospital settings is steeped in these activities. Staff nurses, in particular, are the frontline nurses directly involved in day-to-day patient care. The purpose of this paper is to describe their recordkeeping practices in inpatient units of tertiary care hospitals. Tertiary care hospitals provide a wide range of health-care services, including specialized and general care. Hospitals affiliated with major state universities are typically included in this classification as well. Staff nurses' contribution to the medical record, the archetypical hospital recordkeeping system, has not been examined by archivists. The paper discusses various documents that are created by staff nurses and included in the medical record, and those that are not included. The context in which these documents are created, and the ways in which nurses actually use documented information in their practice, will also be elaborated.

Why Study Recordkeeping Practices?

In studying nurses' recordkeeping practices, I have been interested in understanding the social context in which nurses create hospital documents and the content of those documents. I also am interested in the place or role documents play in nursing health-care delivery. Documents are artifacts created within specific contexts. They may be created according to recordkeeping systems, which may be designed to support larger organizational processes. For such documents or records to be better managed and understood by archivists, David Bearman has argued, they should be understood in terms of the context and organizational process in which they were created.[1] Any archival analyses or interpretation of records should then consider both the environment and the rationale through which the records were created. Joan Krizack adapted this perspective in her analyses, at the institutional level, of hospital documentation planning.[2] Her work demonstrated the variations in hospitals' documentation requirements according to hospitals' institutional structure, affiliation, and function within the health-care system. External regulatory and legal constraints (i.e., the Joint Commission for Accreditation of Healthcare Organizations (JCAHO), Medicare, and Medicaid) also placed additional documentation requirements on both hospital managers and clinicians.

Many different care providers contribute to the patient medical record. Physicians and nurses are the primary contributors of documents filed in the medical record. The role nurses play in hospital recordkeeping systems is relatively little known. Archivists would regard the medical record as the official record of patients of the hospital and as the official document of medical (that is, physicians) activities. Nevertheless, it also contains nursing documentation intended to reflect the care patients received from nurses. Archivists have no clear understanding of how the documents kept in medical records are generated by nurses or used by nurses in their practice and delivery of health care. Neither do we know if the medical record does indeed document all nursing activities. We are aware, however, that the documents in the medical record are used by hospital administrators to audit their standards of care

[1]David Bearman, "Record-Keeping Systems," *Archivaria* 36 (Autumn 1993): 16–35.

[2]Joan D. Krizack, "Hospital Documentation Planning: The Concept and the Context," *American Archivist* 56 (Winter 1993): 16–34.

to ensure compliance with JCAHO regulations.[3] It is also clear that meticulous documentation is kept in the medical record because nurses are also legally accountable for their patients throughout their hospital stay. The staff nurses that were observed in connection with this research reported that the information they record and the documents they create for inclusion in patients' medical records are recorded and created primarily to fulfill regulatory and legal requirements.

Although archivists would most likely choose to preserve the official records of patients (i.e., the medical record), it is also important that they understand the processes by which nurses compile medical records. The medical record, usually kept in the form of a file, is evidence of clinical transactions that occurred while a patient was in the health system. The information filed in the medical record is intended to document both the significant events during the illness and the treatments prescribed and carried out during the hospitalization. Some types of information that can be found in medical records include patient demographics, health assessments, social and medical histories, trajectories of illness, diagnoses, treatments, test results, and postdischarge care. Documents generated by physicians and nurses during the patient's hospitalization are filed in the medical record as they are created.

Not all documents created by nurses in the process of caring, are filed in that medical record and it is also important for archivists to recognize which documents are not included. By observing all recordkeeping activities, we can learn about documents that are included in or excluded from the recordkeeping system, and about how the recorded information is used by those who performed the documentation. It may be the case that the medical record documents only a small part of hospital- and patient-related activities. Such insights will increase archivists' awareness not only of the social context surrounding the creation of documents, but also of documents excluded from recordkeeping systems and their usefulness to those who created them.

As a repository of clinical information, the medical record is assumed to be an important resource for clinicians. How documents stored in the medical record are used by those who produced them in their daily clinical practice, however, is still not well understood. These issues will be addressed in the essay.

Data Collection and Subjects

The findings of nursing recordkeeping practices described in this paper are based on empirical observations of the recordkeeping practices of staff nurses (i.e., registered nurses, licensed practitioner nurses, and nursing assistants) at three U.S. tertiary care hospitals affiliated with research universities. The hospitals varied in size (between 200 and 600 beds) and location. Two of the hospitals are in major cities; the third is in a suburban location. A variety of field research methods were used. The author, a sociologist by training, conducted extensive participant observations of nurses' recordkeeping practices on a variety of in-patient hospital units (e.g., oncology, burn, acute care, intensive care, and adult rehabilitation). A disproportionate amount of time was spent at the largest of the three hospitals. Close attention was paid to the types of documents staff nurses produced and used in their work; this was done by observing all nursing activities during the nursing shift. An important caveat is that recordkeeping practices vary slightly among different hospitals. The types of recordkeeping activities are, however, fairly stable practices in nursing. Observations were supplemented by focus

[3]See Krizack, "Hospital Documentation Planning," 1993.

groups, which were conducted to elicit staff nurses' reactions and attitudes toward the various types of documents they create during their shifts. It was in these focus groups that staff nurses explained the rationale behind their reliance on and use of some documents but not others.

Although hospital information systems are available in all three hospitals, only a few systems or programs allow staff nurses to generate documents on line. Instead staff nurses were more often observed retrieving on-line patient information created by ancillary departments (e.g., admission, laboratories, or radiology) and retrieving medical information stored in large databases (e.g., Micromedex, Medline). The largest hospital in the study has no on-line nursing documentation, and the two other hospitals have on-line charting and order entry only in several inpatient units. Most of the nursing documentation was written down. The transition from written to on-line documentation has implications for medical recordkeeping in hospitals, a topic for another essay.

The contribution of nursing documentation to the medical record may be understood in terms of the role nurses play in delivering care to patients. Before the various nursing recordkeeping activities are discussed here, the role of staff nurses should be contrasted with that of physicians, and both their contributions to the medical record briefly compared.

Nurses tend to regard physicians as an episodic presence in patients' lives, seeing themselves as the health-care workers who control the environment of healing.[4] In the health-care division of labor, the role of physicians is to diagnose and treat diseases, the role of nurses is to diagnose and treat illness and to assist patients in self-care activities.[5] The physician's process of diagnosing diseases involves observing patients' physical symptoms, analyzing and interpreting test results (e.g, blood/urine tests, X-rays, etc.). Physicians' interpretation of the data and decision for treatment is the diagnosis of the disease. In contrast, nurses diagnose illness by identifying areas of physical and psychosocial needs to minimize discomfort and anxiety experienced by patients and to ensure that patients are able to return to their activities of daily living. For example, teaching patients about self-care (e.g., how to give themselves injections), dressing patients' wounds, turning the patient to avoid bed sores, managing the patient's pain, etc.

Professional nursing focuses on the treatments and care activities toward the physical, social, and psychological well-being of patients. Ever since Florence Nightingale, who emphasized the importance of informed decision making as the basis of nurses' role in patient care management, nurses have developed systematic note-taking practices to keep track of their patients' progress and types of care needed.[6] While nurses can be distinguished from physicians in terms of their goals and care practices, nurses also have the added responsibility of carrying out physician's orders.

Types of Nursing Recordkeeping Practices

The process of staff nurses' recordkeeping practices involves (a) retrieving patient and clinical information, (b) interpreting, analyzing them, and based on the information retrieved, making clinical decisions and executing them; and (c) documenting

[4]Olga M. Church, "Nursing's History: What It Was and What It Was Not," in *The Nursing Profession: Turning Points*, edited by Norma L. Chaska (St. Louis, Mo.: C. V. Mosby, 1990), 7.

[5]Brenda Lyon, "Getting Back on Track: Nursing's Autonomous Scope of Practice," in *The Nursing Profession,* 272–73.

[6]Carol Germain, *The Cancer Unit: An Ethnography* (Wakefield, Mass.: Nursing Resources, 1979), 3.

or communicating the decisions made, actions to be taken or actions already done. Observing and recording patient information are two inseparable processes in the nursing practice. The latter is especially important since patient care is a 24-hour a day commitment, and nursing care must be coordinated across shifts.

From the staff nurses' point of view, they perform two fairly distinct, albeit overlapping, types of recordkeeping activities. The first is clinical recordkeeping, which nurses deem as central to their practice and necessary for effective nursing care. The second type, required for regulatory and managerial purposes, is administrative recordkeeping, which staff nurses occasionally dub as "extra paperwork" they are required to perform. Both types of recordkeeping, however, are fairly institutionalized practices (see table 1).

Paperwork is the activity dominating nurses' administrative recordkeeping, and this documentation is usually completed on standardized forms. Much of the nursing documentation is written, and the documents are dated, signed, or authorized if they are to be filed in the patient's medical record. Examples of administrative recordkeeping include health assessment, nurse diagnosis, care plans, charting, discharge plans, and patient classification. With the exception of patient classification, all these documents are filed in the medical record. The content of these and other nurse-created documents is described following this comparison between administrative and clinical recordkeeping.

The ongoing nature of patient care demands continuity and coordination of care activities. When nurses come on shift, they need to know who their patients are, the condition of those patients during the past 12 to 24 hours, what was done for them, and what, further care should be given, and how and when that care should be given. Nurses acknowledge that the information contained in medical records may be used in their care of patients, but only under special circumstances would nurses take the time to review the medical records. Nurses at the three hospitals relied on clinical recordkeeping practices to facilitate retrieval of the patient information they need. Nurses claimed that their clinical recordkeeping practices, rather than administrative recordkeeping practices, are adequate in providing the information they need to deliver care. Examples of documents generated through clinical recordkeeping include physician orders, Kardexes, and worksheets. These documents have a less structured, less rigid format, and standardized forms are used only when the document is to be included in the patient's medical record (i.e., the physician's order).

Staff nurses accord central importance to clinical recordkeeping in facilitating the delivery of patient care. The bulk of documentation created by staff nurses, however, is administrative recordkeeping. This would include all nurse-generated documents kept in the medical record. Hence, not all recordkeeping activities are regarded as equal by staff nurses.

Types of Administrative Recordkeeping

Health Assessments and Care Plans

The initial source of information for nurses is the patient. Upon admission, every patient is assessed separately by a nurse and physician. Nurses assess patients to establish a nursing diagnosis and plan of care. The health assessment is akin to the physician's taking of medical histories, but the purposes of the two assessments differ. Physicians are concerned with taking medical histories to cure the causes of the disease; Nurses prepare assessments to help ease the symptoms and to comfort, not cure, the patient.[7] This difference in goals

[7]Carol A. S. O'Hearn, "Nursing Diagnosis: A Phenomenological Structural Description and Multidimensional Taxonomy or Typology Definition," in *The Nursing Profession,* 282.

Table 1. Nurse's Typical Recordkeeping Activities in an Inpatient Unit

	Administrative	Clinical
Purpose	Legal documentation for bureaucratic purposes; maintains hospital systems	Facilitate, coordinate continuity of patient care
Medium	Standardized forms	Standardized forms; index cards; paper; memory
Uses of Information	Hospital administrators; third-party payors; external regulators; occasionally, other health-care providers	Self; other co-workers (i.e., nurses, physicians, etc.) involved in giving care to patients
Examples	Medical records; nurse assessments; care plans; discharge plans; patient classifications	Physician orders; nurse and medication Kardexes; worksheets

also sets nurses apart from physicians in terms of the types of patient information they find most useful.

Exactly how health assessments are carried out will differ from hospital to hospital and from unit to unit. Most health assessments are held as private, face-to-face interviews. In some cases, the patient's family members may also be involved. During the health assessment, nurses often use a structured questionnaire to record information. The skills required to assess patients include good verbal and nonverbal communication and careful observation of the patient (i.e., how well the patient listens and the condition of skin, mouth, etc.). It is interesting to note, however, that patients (and their families) often give the nurse additional relevant information that they did not give the physician.

From the information gathered through the assessment, nurses interpret and identify those problems that call for intervention. This process of interpreting and identifying solutions to the patient's problems is the analytical part of the nursing diagnosis and is eventually written down in the patient's care plans. A nursing diagnosis is a statement of health concern expressed either by a patient or his or her family or by the nurse about the patient. This may be any illness or health problem the patient experiences which nurses can intervene. A nursing diagnosis statement usually identifies the patient's problems, their causes (if known) how the patient is coping with them, and the nursing interventions that can help solve the problems or prevent them from intensifying. Nursing assessments and diagnoses are usually filed in the patient's medical record.

A plan of care is subsequently developed according to the nursing diagnosis. Care plans are formalized sets of nursing orders or instructions written on standard forms by the patient's admitting or primary nurse. Care plans are updated as the patient's condition changes or as a diagnosis is resolved. These instructions are stated in precise terms so that they will not be open to interpretation. Most hospitals use a single sheet for the care plan for each patient.[8] If newer health problems related to the initial conditions arise during the patient's hospitalization, new care plans will be doc-

[8]Jennifer M. Hunt and Diane J. Marks-Maran, *Nursing Care Plans: The Nursing Process at Work* (Chichester, England: John Wiley and Sons, 1986), 40.

umented and added on. If space is available, new care plans (related to the earlier diagnosis) are recorded after the last entry on the same sheet. Additional sheets will be used as needed. For example, a diagnosis was made to treat a patient's skin reaction to drugs that were prescribed with a cream. A written care plan instructs nurses caring for the patient to apply the cream regularly to the affected areas. Nurses will note daily the patient's skin condition under that treatment. If extra sheets are needed, they will be used. If the patient's condition does not improve, new nursing instructions (e.g., making sure the affected skin surface is not covered) may be added to the care plans. Now, there are two sets of instructions to follow for the same diagnosis.

When a diagnosis becomes obsolete, a line is drawn through the stated problem to indicate that it has been resolved and, often, the date on which the problem became obsolete is recorded. All information recorded in each patient's care plans must remain intact since care plans are also legal documents. When a particular nursing diagnosis is no longer a problem, the sheets of care plans are added to the patient's medical record. New nursing diagnoses are started on a new sheet of paper, with goals, nursing interventions, and the patient's daily progress recorded.

Nursing care plans are relatively recent requirements for documenting nursing rationale and care instructions. As a result, the amount of detail and notes written in the nursing diagnoses and care plans vary somewhat across different units and hospitals. Care plans are supposed to contain all the information nurses need to give patient care. The documents are, therefore, intended to save time and effort in unit shift reports because they maximize the useful information relayed from one nurse to the next.[9] Some of the more experienced staff nurses in the study disagreed with this assumption, claiming that the care plans are not as useful as touted. According to them, when nurses are presented with a nursing diagnosis, they already know what should be done for patients. These nurses see little added value in written care instructions. Nevertheless, much of their time is spent writing detailed care instructions and explicitly justifying why the care is needed.

Writing the initial care plans takes time, and it is usually done by the admitting nurse, who is also the person who would have conducted the health assessment. An admitting nurse may be the charge nurse or a nurse with other qualifications and experience who is also responsible for daily updating of instructions in each patient's care plan. If there are no changes in instructions, there will be no change in the care plan for that day. Nurses who carry out care plan instructions are expected to note when the care was carried out and how the patient responded to the care.

Progress Notes: Flow Sheets and Narrative Notes For accountability purposes, nurses who give patient care, based on either physician orders or nurse care plan instructions, must indicate that they have completed the tasks and must document their observations. They often initial or sign and date their notes. Nurses have some discretion about what to report, and they record information to be kept in the patient's chart and permanent file. The standard form they use is the patient's progress notes.

Progress notes allow systematic tracking of how well patients are doing under medical and nursing care. Two types of progress notes are typically kept. *Flow sheets* are progress notes that allow nurses to keep track of several variables at a given time (e.g., records of vital signs, medications, inputs and outputs, blood pressure, etc.). Flow sheets are used in preference to narrative progress notes when it is crucial to

[9]Hunt and Marks-Maran, *Nursing Care Plans,* 52.

track several variables at regular intervals to determine how well a patient is doing. They are more widely used in intensive care and acute care units. *Narrative notes* are factual accounts of an event or series of events. The causes and effects are often traced to help evaluate and interpret how a patient's symptoms and diagnoses are responding to treatments. Both types of progress notes are meticulously made daily, hourly, or at less frequent intervals, according to the physician and nurse orders.

Of all the patient's care providers, staff nurses (including licensed practitioner nurses and nursing assistants) spend the most time with the patient. Depending on whether nurses use flow sheets or progress notes, or both, they are expected to record numerous aspects of patient care (such as temperature, pulse, and respiration), to report other physical functions (such as the amount of food and fluids taken, the elimination of feces and urine, or abnormal treatments), and to state the nursing care they and others have given. Staff nurses also write reports on any patient behavior that might, in their opinion, affect diagnosis, medical treatment, nursing care, or rehabilitation. In principle, these documented observations and reports are important sources of information, not only for nursing care but also for all other care providers. In practice, the nurses observed for this study referred to a patient's health assessment, care plans, progress notes, and charts if they had not taken care of the patient before or if they had been absent from the unit for some period of time (e.g., a lunch break or a day off).

Nurses interested in knowing what happened to a patient in their absence typically first seek information from the nurses who had previously taken care of the patient; they then would turn to the progress notes or medical record. Only if the interested nurse has the time, and if the patient's condition changed dramatically, would the nurse review the chart and read the progress notes. According to nurses, seeking out other care givers first is an efficient and sufficient method to proceed with work. "Nurses tend to see locating documentation as a secondary type of thing. They want to have hands on, taking care of the patient's need primarily."[10] Physicians similarly seek out the patient's nurse first for information. An added advantage of these face-to-face encounters is the opportunity they offer for asking questions of clarification. Nurses also relied more on shift reports and Kardexes than on the charts and medical records in their practice. This topic is covered in greater detail later in this essay, under the heading "Types of Clinical Recordkeeping."

Discharge Plans Discharge plans formalize the care and information the patient will need on discharge from the hospital or from one unit to another within the hospital. The document represents a systematic plan to help patients move from one level of care to another. An intensive care nurse, for example, may be involved in discharge planning to send a patient to a step-down unit, or an oncology nurse may work on discharge plans for a patient who will return to the hospital on a regular basis for outpatient care.[11]

The first step in the discharge planning process is to evaluate the patient's past level of functioning in the activities of daily living. The health assessment is sometimes used in this evaluation. The patient's admitting nurse or primary nurse is best suited to do discharge planning because he or she knows the patient better than do all other care givers. Standardized discharge plans, in the form of checklists,

[10]Focus Group, 13 April 1993.

[11]The process of discharge planning sometimes involves a team consisting of physicians, social workers, therapists, nutritionists, pharmacists, other specialist consultants, and the patient or family members. Although discharge plans are sometimes developed as a team effort, their documentation is usually done by nurses.

help the nurse identify the patient's postdischarge care and instruction (or education) needs. Additional and further detailed notes may be made, such as the patient's mobility, nutrition, activity of daily living, and social support. Subsequently, a list of care and teaching instructions is compiled for nurses to carry out before the patient is discharged. Evidence that discharge instructions have been carried out must be documented, dated, and signed before the discharge form is placed in the patient's medical record.[12]

When postdischarge care is required (e.g., in a nursing home or an outpatient clinic, etc.), the nurse often writes a referral to the caregiver in the community. In this referral, the nurse is expected to give an accurate and datailed portayal of the patient, care needs (e.g., needs help washing lower extremities, dressing, etc.), and information on how these needs may be fulfilled. Since all referrals should reflect the patient's unique circumstances, the nurse may give additional verbal and appropriate instructions or educational and medical materials. Typically, such instructions are delivered by phone to the health-care institution or the health-care professional responsible for the patient's postdischarge care. If the patient is to be cared for by family members, they will receive the additional verbal instructions in a face-to-face discussion with the nurse. Copies of referrals may or may not be filed in the medical record.

Patient Classification Patient conditions vary in the amounts of nursing time and nursing skills they demand. If patients are to be fairly billed, and if the unit is to be optimally staffed, some way of measuring nursing workload is needed. Patient classification is an attempt to satisfy this need. It is an accounting system in which, nurses classify their patients according to illness and nursing-care requirements, recording patient characteristics (e.g., "needs help ambulating") and the number of care elements or tasks nurses will perform or have performed during their shift.

Many staff nurses believe patient classification has no direct or obvious benefit for their patient care. Some staff nurses resent being required to do this additional managerial work. Other nurses fundamentally disagree with the methods, since the accounting system neglects to record a host of nonclinical work that nurses also spend time on (e.g., documentation, housekeeping, patient care conferences, and interdepartmental communication). Information captured in patient classification facilitates managerial activities, and completed documents do not become part of the medical record. In fact, nurse managers themselves admitted that data from patient classification are used primarily for managerial decision making (e.g., personnel, recruitment, scheduling, payroll, budgetary planning, and quality assurance).

Types of Clinical Recordkeeping

Even though the various types of documents discussed thus far contain patient-related information and are created and maintained by nurses, nurses view these documents as having merely administrative and legal purposes. In contrast, nurses regard clinical recordkeeping as an essential part of delivering patient care. Clinical recordkeeping assists nurses in prioritizing and coordinating their necessary care activities. Physician's orders, Kardexes, and worksheets are documents nurses create and rely on when planning and executing their work.

Physician's Orders In addition to carrying out nursing instructions, nurses are responsible for carrying out physician's orders. Physicians give orders for nurses to carry out treatment procedures and collect

[12]Evelyn G. Hartigan, "Discharge Planning and Continuity of Care," in *The Nursing Profession*, 389.

patient information, and the nurse-physician relationship is based largely on these orders. Physicians may write up their own orders or give them verbally to the nurse, who then transcribes them to the order form. Thus, nurses may perform some recordkeeping on behalf of the physician, in addition to the records nurses prepare for administrative purposes. But whether the physician or the nurse actually writes it, the physician's orders will eventually be included the medical record.

Qualified nurses can acknowledge orders written and signed by physicians or verbal orders a physician gives in person over the telephone. When taking verbal orders, the nurse writes down the orders, signs the written document, and asks the physician who gave the orders to cosign. Legally, physicians should sign their orders before nurses carry them out. For nurses, accepting verbal orders and acting on them can be time consuming and problematic, especially if the orders are not cosigned before they are carried out. It is common practice for physicians to cosign verbal orders only after a patient is discharged. This delay can create problems for the nurse if the orders carried out produce some unintended outcome. Some nurses in this study said they know of physicians who would deny giving verbal orders to a nurse if the outcome of their orders was undesirable. The status difference between physicians and nurses and the urgency of a verbal order can make it difficult for nurses to refuse taking the order, even though they have a legal right to do so. To protect themselves, nurses in some units make it a practice to accept only written orders. Nurses sometimes accept a verbal order if a patient is in critical condition or if the physician is known to honor his or her verbal orders.

Physician's orders are records as well as communication tools between nurses and physicians. Although a verbal order is the most direct form of nurse-physician communication, for several reasons, nurses do not view it as the most desirable form. Pulling a nurse aside to give a verbal order may interrupt a nursing activity. A verbal order also requires a nurse to assume additional recordkeeping work in writing out the order. And, unless the nurse writes down the order immediately, he or she will have to rely on memory, thereby creating an opportunity for transcription errors. The practice of requiring physicians to authorize their orders in ink before they are processed protects nurses legally and preserves the degree of professional autonomy they can exercise.

Practices for receiving written physician's orders also vary. In one hospital, physicians write orders on forms in triplicate. The written order is then placed in the patient's medical record, which is located at the unit clerk's station. A color-coded dial on the cover of the medical record is subsequently turned to point to the color green. This is a shared symbol between the physician and unit clerk to indicate that there are new orders to be filled.[13] The unit clerk is responsible for pulling out the orders and filing the original order sheet in the medical record. The unit clerk is also responsible for carrying out some physician orders, and he or she uses the second copy to request—either by telephone or computer—test appointments or changes in the patient's diet, as ordered by the physician.

The third copy is meant for the nurses, and the unit clerk places it in a tray on the counter or attaches it to the flow sheet clipboard outside the patient's room. Nurses know these procedure, and when they walk by the unit clerk's station or patient's room they will check to see if new physician's orders are there to be picked up. If an order

[13]If a medical student placed the orders, the dial would be turned to yellow to indicate to residents or attending physicians that there are orders that must be cosigned. The dial will be turned to black when there are no new orders, and to red when the orders are STAT (requiring immediate or urgent attention).

is urgent, the physician may simply give a verbal order or may approach the nurse directly, hand over the written orders, and discuss them verbally. With the new physician orders, the nurse updates the patient and medication Kardexes, carries out the orders (when necessary), and then throws the copy away. The procedure for getting physician's orders to nurses seems convoluted, as it is mediated by the unit clerk and through shared symbols and markers. Just as flashing call lights outside the patient's room serve as an attention-getter, the use of color-coded dials and colored sheets of paper serve also as markers or reminders of updated activities or new standing orders.

Nurse Kardex and Medication Kardex The nurse Kardex and medication Kardex are traditional recordkeeping practices that nurses use to note key patient information and standing nursing and medical orders. The Kardex is, typically, a folder containing 8.5-inch by 5.5-inch index cards, and it is located at the nursing station, in the nurse conference room, or at the patient's bedside. Each patient on the unit has an individual index card in the nurse Kardex and the medication Kardex. The nurse Kardex contains an abbreviated version of the care plans, standing nursing and medical orders, treatments, and diet for each patient. For instance, the patient's name, room number, age, nursing diagnosis, the kind of surgeries the person had, drug allergies, diet restrictions, plan of care, and care instructions will be included. Anything that is on the care plan will be on the nurse Kardex, and more. In fact, nurses are more likely to document relevant patient information in the Kardex than in the care plan. The Kardex is a "living document," which nurses have dubbed "the bible" of nursing care; in contrast, they tend to regard care plans as "just a requirement."[14]

The medication Kardex is similar to the nurse Kardex, but it contains standing medication orders instead of care and treatment orders. It is located close to the medication cart or the point at which medication is dispensed. The nurse Kardex may also be kept together with the patient's flow sheet or progress notes. All entries in the nurse Kardex, especially standing orders, are usually written in pencil. An order that is no longer a standing order will be erased from the nurse Kardex. Nurses assigned to their patients for a particular shift are responsible for updating their patients' Kardexes,[15] although that is not always done in a timely manner. When nurse Kardexes are not properly maintained, they can be a source of errors. The medication Kardex is more rigorously updated and maintained because of the implications of administering wrong medications.

Depending on institutional and unit practices, these two types of Kardexes are rarely filed as part of a patient's medical record. As "a living document," the Kardex serves as a temporary record for storing and sharing information. The nurse Kardex, in particular, may contain information that is repeated or information that is not centered on the patient's problems. Nevertheless, the Kardex has been a mainstay in nursing practice, and many units combine the care plan with the Kardex system. Hospitals that are moving toward using care plans alone have found it difficult to wean nurses from Kardexes, which they see as effective and efficient documentation-cum-communication tools for dependable patient information. This resistance suggests that once a documentation practice has dealt well with meeting information and communication needs, its users will be hesitant to dismantle it.

[14]Focus group, 13 April 1993.

[15]In one hospital, the unit clerk sometimes assists in updating the nurse Kardex.

In fact, nurses rely on the Kardexes (and worksheets) more than on charts or care plans because the Kardexes contain pertinent, individualized patient information important to nursing-care delivery (e.g., Mr. X "is hard of hearing," or "has difficulty swallowing," or "tends to pull at IV site; use hand restraints as needed," or "is allergic to sulphur"). If this type of individualized information is to be noted anywhere, it will be done on the Kardex. A nurse caring for patients for the first time can learn about them, in addition to what needs to be done for them, through the Kardex, without having to bother with going through patients' chart or medical records, both of which are "full of extra information".[16] The Kardex is strictly a nursing document. It both informs and coordinates patient care, and nurses have no qualms about keeping this type of record. They have discretion and control over what is entered or deleted. Updating the information is routine but is not usually an institutional requirement. Even though nurses record similar patient information in documents they create for administrative and clinical recordkeeping, the differences in the purposes of the two types of documents define how the records are perceived and used by their authors.

Worksheets While Kardexes are used to coordinate care (i.e., the kind of care that should be given and when), worksheets are the basis of shift reports, which ensure continuity of nursing care. Almost all hospital nurses work in shifts, either in variable or fixed hours. A staff nurse's shift typically starts by taking a report from the nurse who worked the previous shift. For instance, before he or she leaves, the night-shift nurse meets with the day-shift nurses to let them know what happened to patients during the night. In the report, the night-shift nurse gives an oral review of notes he or she made on a worksheet or highlights certain notations on patients' charts, or both. One of the most useful features of the shift report—in addition to the statements about patients' conditions—is the opportunity the meeting provides for the incoming nurse to ask questions about patients he or she will be responsible for during the next eight to twelve hours. The patient's charts (which are part of the medical record) and the nurse's worksheet are the common sources of data used in reporting observations.[17]

Although worksheet size and format may vary, all nurses carry them throughout their shift. Usually, nurses pick up their worksheets from the clerk as they come on shift. Part of the worksheet serves as a personalized Kardex for the nurse. After being assigned patients, the nurse goes through the patient Kardexes and jots down information about his or her patients and the nursing care ordered for them for that shift. On average, a day-shift staff nurse on a general care unit is responsible for four patients. The less nurses know about their patients, the more information they transcribe onto their worksheets. That information may include the patient's name, room number, age, diagnosis, surgeries, treatments, drug allergies, presence of an IV, and specific medications. More often than not, the nurse adds to the worksheet a checklist of the care he or she is required to give to each patient for the next eight to twelve hours.

During the shift report, the nurse from the previous shift routinely gives each patient's name, reason for admission, condition during the shift, description of vital

[16]It is common practice in the largest of the three hospitals for patients to take their charts with them when they leave the unit for a scheduled treatment. The chart is, therefore, not always accessible to nurses and physicians.

[17]The use of charts in shift reporting is supported by Virginia Henderson and Gladys Nite (eds.), *Principles and Practice of Nursing,* 6th Ed. (New York: MacMillan Publishing, 1978), 328.

signs, and statements of any problems with activity, pain, medication, or sleep. The incoming shift nurse may jot down none to all of this information, depending on how well he or she knows the patient. In addition to exchanges of patient information, shift reports also create a sense of connectedness between staff nurses working different shifts, allowing the nurses to be acquainted with other team members taking care of the same patient. Nurses benefit greatly from attending shift reports and reviewing the patient Kardexes. They provide an incoming nurse a quick overview of how patients are doing, the workload for the day, and ways of prioritizing care activities accordingly.

Every nurse has an individual way of maintaining the worksheet. Some write only one or two notes on the worksheet; others write down a lot of information. The worksheet is a portable, personal recordkeeping document nurses rely on to remind them of their patients' characteristics and to store new information. As nurses go about their work, they also use the worksheet as a checklist of all the things they need to accomplish that day. Since worksheets are so easily accessible, nurses also record on them vital signs, observations, and new orders or reminders; later, they transcribe this information onto the flow sheet or progress notes.

The worksheet sometimes also serves as a reference document for others. When nurses leave for breaks or meetings, they often give a brief verbal report and hand over their worksheets to the nurse who is covering for them. The information on the worksheet may be useful for the nurse taking care of the patient in the interim.

What happens to the worksheet at the end of the shift? Once the shift report is over, and relevant information has been transferred from the worksheet to the progress notes or flow sheets, the worksheet is thrown away. Nursing worksheets are not part of the medical record. Their value to nurses is the immediate access it gives them to pertinent information, which in turn allows them to spend their time "acting" rather than searching for information. They are easy-to-use but temporary documents that help nurses keep track of who their patients are, how they are doing, and what their particular needs are. But once the shift is over, the worksheet has served its purpose and it is discarded.

Physicians have a similar recordkeeping practice, which produces a temporary, disposable document that helps them keep track of their patients. Physicians were observed to record essential patient information (e.g., physical, medical, social history, chief complaint, and test and lab results) on cards. The sizes of these cards and the amount of information they contain vary according to the physician's rank. A social hierarchy exists among physicians in hospitals, and one's position in the hierarchy depends on one's title and rank. Medical students are lowest in the hierarchy, followed by interns, residents, attending physicians, and consultants (or specialists). In addition to rank and medical experience, these titles define the areas of patient care and documentation responsibilities. For example, medical students can write a physician order, but they must have it approved by a resident or attending physician.

From my observations, medical students keep the greatest amount of information on their patients on their worksheets, which explains their need for a larger worksheet. They spend a lot of time gathering clinical information about their patients and are expected to be able, when queried, to update other physicians who are higher in the hierarchy.

Residents and attending physicians carry 4-inch by 6-inch, or smaller, index cards with a relatively small amount of recorded information. Medical students and interns carry larger cards, such as a folded 8-inch by 11-inch card, because they must record

more information. Medical students are required to know specific medical and clinical details about their patients and to present their patient when called upon by an attending physician or a consult. How the information is recorded and updated varies greatly; each physician has his or her own system. Physicians carry these cards with them at all times and throw them away when the patient is no longer under their care.

Discussion and Conclusion

Like physicians, nurses generate documents that are contained in medical records. The content of nurses' documents, however, does not truly capture all nursing activities. Nurses may record the patient's input and output and observe their condition, but there is usually some discrepancy between what was documented about the patient and what nurses actually did for them. Consider, for example, an instance in which a nurse glances into Mrs. Jones' room and sees her sitting in a chair. Mrs. Jones, who is frail, tells the nurse she would prefer to be in bed, but she would like to get into bed by herself. The nurse stands behind Mrs. Jones and patiently waits for her to stand up, get oriented, and very slowly get into bed. The nurse notices that Mrs. Jones has soiled herself. She informs Mrs. Jones of what happened and leaves the room to fetch a clean gown and towel from the linen room down the hall. The nurse cleans and changes Mrs. Jones, who then complains that she is thirsty and that her room is too cold. The nurse turns the heat up a notch and gets Mrs. Jones a glass of water from the kitchen.

Helping Mrs. Jones into bed resulted in a series of events that took 25 minutes to complete. Except for the fact that Mrs. Jones got into bed by herself (an indicator of her activity level), the other events will not be mentioned in the shift report or documented anywhere. Instances like these are common daily occurrences and are rarely noted in full detail. What happened with Mrs. Jones will probably be documented as "Patient ambulated without assistance" in her progress notes.[18] Archivists (and others) who attempt to interpret nursing activities from the medical record should take note of these very real discrepancies.

It should also be noted that staff nurses prioritize recordkeeping activities. In particular, patient care activities are given priority over administrative recordkeeping. When nurses are busy, recordkeeping is completed at the end of the shift. This was a widely shared norm among the nurses observed at the three hospitals in this study. This norm has implications for archives.

First, information may be less timely. When changes in a patient's condition result in new orders for medication or treatments, a nurse will reprioritize his or her work schedule to accommodate the "new" situation, entering changes in the worksheet, focusing on immediate patient needs, and delaying administrative recordkeeping. If delays persist throughout the shift, nurses will take care of the administrative tasks after their shift is over, which makes the information less timely. Second, since administrative recordkeeping is left until there is free time, nurses may make mental notes or jot information down on the worksheet or Kardex before recording it in the patient's charts. The reliance on memory and the repeated transcriptions could result in the recording of errors or distorted information in the medical record. By being aware of nursing practice and the way patient care activities are documented, archivists will be better able to interpret and understand the contents of medical records.

The distinction between administrative and clinical recordkeeping practices is that staff nurses view the documents they gen-

[18]Participant observations.

erated through the latter as central to their role. Nurses depend heavily on physicians' orders, the Kardexes, and their worksheets, but these documents (with the exception of physicians' orders) are not included in a patient's medical record. Administrative recordkeeping, on the other hand, is regarded as documentation to align what nurses say they do with the prescribed standards of nursing care. In addition to information recorded by physicians and nurses, the medical record contains records produced from other health-care practitioners, such as occupational therapists, dietitians, social workers, etc. Nurses find it easier and more efficient to access the information recorded in the medical record by speaking with the recording author. This reinforces the fact that the medical record is useful primarily for legal and financial purposes.

Examining the context and process by which records are generated through observations of recordkeeping practices can inform archivists on interpreting the content of records. This study suggests that documents generated by nurses and filed in the medical record do not capture all the nursing care delivered to and received by patients. The typical nursing practices of transcribing information from memory or from one document to another, and of delaying documentation to the end of a shift can lead to errors in the information recorded. These observations should alert archivists and other users of medical record documents to consider carefully the reliability of their content.