

**MEDICAL INFORMATION SYSTEM WITH  
AUTOMATIC UPDATING OF TASK LIST IN  
RESPONSE TO CHARTING INTERVENTIONS ON  
TASK LIST WINDOW INTO AN ASSOCIATED  
FORM**

This application is a continuation of prior application Ser. No. 07/268,822, filed 11/7/88, now abandoned.

**RELATED INVENTIONS**

1. System Control Structure of a Hospital Information System and Method of Using Same, invented by John Brimm et al., U. S. Ser. No. 116,614, filed on Nov. 3, 1987 and assigned to the assignee of the present invention.
2. Method for Generating Patient-Specific Flowsheets by Adding/Deleting Parameters, invented by Ronald Norden-Paul et al., U.S. Ser. No. 116,611, filed on Nov. 3, 1987 and assigned to the assignee of the present invention, U.S. Pat. No. 4,878,175.
3. Clinical Task List with Charting onto Underlying Form and Automatic Updating of Task List, invented by John Brimm et al., U.S. Ser. No. 07/268,323, filed on even date herewith, and assigned to the assignee of the present invention, now abandoned, and U.S. Ser. No. 07/572,315 filed Aug. 24, 1990 (continuation).

**Technical Field**

This invention relates generally to automated hospital information systems, and, in particular, to a hospital information system in which a time-oriented task list is automatically generated from data which has been entered from physicians' and nursing orders, and in which tasks may be charted by a system user directly from the task list with automatic updating of the associated form(s).

**BACKGROUND OF THE INVENTION**

The present invention concerns an automated clinical records management system. Such system has utility, for example, in a hospital-based patient record-keeping system. Patient record-keeping systems are used for maintaining a wide variety of types of medical records concerning clinic or hospital patients.

Hand-written patient record-keeping systems have evolved through many years of careful refinement and enhancement into systems which maintain a detailed manual record of medical information concerning each patient. To meet the needs of different hospital entities (such as doctors, nurses, pharmacy, accounting, laboratory, etc.) requiring access to such medical information, in a manual record-keeping system various medical information is logged into multiple types of records.

In a typical manual patient record-keeping system a patient chart, usually in the form of a notebook, is maintained at the nursing station for each patient. The notebook is divided into a plurality of individual tabbed sections, such as Physicians Orders, Kardex, Nursing Care Plan, Nursing Assessment, and Laboratory.

Each of the above sections is further subdivided into a number of forms. The forms are those which are appropriate to the individual patient and/or such patient's physician. For example, within the "Laboratory" section there may appear forms for Chemistry, Hematology, Blood Gas, and Microbiology.

In addition, a "Flowsheet" chart is usually kept at the patient's bedside. On the "Flowsheet" chart there typi-

cally appear individual areas for Medications Records, Vital Signs, Intake/Output, Laboratory Results, and other categories which are dependent upon the patient's affliction, such as Ventilator, which would be used if a patient were placed on a ventilator.

One problem with a manual patient record-keeping system is the necessity to enter the patient name and associated personal identifying information such as i.d. number, bed location, etc. separately on each patient record form associated with a given patient. This is typically done using an embossed card, similar to a credit card, containing the patient's personal information. However, this process consumes a certain amount of time, and errors may be result if two patients' cards are inadvertently switched.

Another problem with manual patient record-keeping systems is that, to meet the diverse requirements of the different hospital entities for whose benefit such patient records are kept, identical information must be recorded on different forms. Again this involves additional time-consuming work and frequently causes errors to be interjected into the patient records. In addition, desired patient information may be inaccessible to a legitimate user because it is stored on a form with which such user is unfamiliar or on a form which is being accessed by another user at that time.

A further problem with manual patient record-keeping systems is that it is difficult to extract patient care information for auditing and review purposes. For example, the Joint Commission on Accreditation of Healthcare Organizations (JCAH) stipulates many diverse requirements for providing documentation, and fulfilling such requirements is often difficult. Therefore, it would be beneficial to have a patient record-keeping system which provided a direct relationship between a physician's order and the documentation corresponding to that order (e.g. whether the order was completed, or the reasons that it wasn't completed).

It has been estimated that nurses' salaries account for 30%-40% of a hospital's operating budget, and that they spend 25%-40% of their time performing clerical and communications tasks. Because of changes in government regulation, insurance reimbursement policies, and competition, hospitals are increasingly under pressure to reduce their operational costs. As a result, hospital occupancy and patient length of stay have decreased, and more hospital patients are acutely ill. However, staffing levels have been reduced to cut costs. In addition, there often exist shortages of qualified nurses. Thus, hospitals are providing care for sicker patients with fewer people, and there is a significant need for making those people more productive through hospital automation.

To maximize the productivity of hospital staff and to maximize overall patient care by making optimum use of patient data, various automated clinical record-keeping systems have been proposed and even implemented.

While automated record-keeping systems are known which organize many types of information, including information relating to customers, clients, and even medical/dental patients, no automated clinical records management system is known which provides the unmistakable benefits of an automated system and yet which very closely parallels the organization and appearance of the conventional, familiar manual hospital records charting system.

In known automated hospital record-keeping systems the user interface is typically "machine-oriented". In a