METHOD AND SYSTEM FOR FLEXIBLY ORGANIZING, RECORDING, AND DISPLAYING MEDICAL PATIENT CARE INFORMATION USING FIELDS IN A FLOWSHEET

TECHNICAL FIELD

The invention relates generally to a the field of patient information management, and, more specifically, to the field of medical patient care information organization and display.

BACKGROUND OF THE INVENTION

The provision of health care services to patients depends on the maintenance of significant quantities of patient information, including both clinical information relating to patient treatment and patient management information, such as referral, admission, insurance, and billing information. Health care providers have traditionally maintained such patient information manually, on physical "charts" comprised of paper forms, also known as "flowsheets." Such flowsheets typically show a time series progression of different pieces of patient information. Such pieces of patient information are commonly called "parameters," and may include information about indications of patient condition, laboratory test results, assessments, and the administration of treatments. Parameters may also include administrative information, such as details relating to facility, supply, and human resource usage.

The maintenance of patient information in physical charts often has significant disadvantages. Physical charts may only be viewed or modified in a single physical location. Also, data collected automatically from medical sensors and medical laboratories may not be automatically posted to physical charts. Physical charts further are subject to inadvertent destruction, and may contain illegible information. Disadvantages such as the above militate toward automating the maintenance of patient information.

Existing alternatives for automating the maintenance of patient information fall into the categories of general-purpose databases and rigid patient information databases, both of which have significant disadvantages. General-purpose databases generally lack any measure of support for the medical environment, as they generally do not include tools for entering and viewing information in familiar flowsheet formats and do not provide any basis for organizing patient information in a manner useful to health care providers. Rigid patient information databases, on the other hand, define a particular organization of particular parameters. Neither the parameter organization nor the parameters themselves are typically modifiable by the health care provider. It can be difficult for a health care provider to adapt to a rigid organization of patient information. More seriously, a health care provider that deems the tracking of a particular parameters not specified by the rigid patient information database to be necessary to responsible patient care may be precluded from recording these parameters, or may at least be forced to record these parameters manually. The above-discussed drawbacks of general-purpose databases and rigid patient information databases demonstrate a need for a method and system for flexibly organizing, recording, and displaying medical patient care information.

SUMMARY OF THE INVENTION

The present invention provides a method and system for flexibly organizing, recording, and displaying medical patient care information. In a preferred embodiment, a patient information management facility enables users to customize a patient information hierarchy, which defines and organizes the information that may be stored about each patient, as well as patient data flowsheets, which define views in which the patient data stored according to the hierarchy may be entered and viewed, in a way that is optimized for the structure and procedures of the particular health care organization. The facility enables users to add, modify, and rearrange global or local patient information parameters that make up the hierarchy. Users may define the parameters to be any of a number of types. The user may also customize flowsheets used for entering and displaying result values of parameters defined in the hierarchy for particular patients. The user may expand and contract overview encapsulating parameters to display or hide the encapsulated parameters encapsulated therein. The facility also allows the user to link a result value of one parameter to other parameters, causing the linked-to parameters to be displayed when the result value is entered.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a high-level block diagram of the general-purpose computer system upon which the facility preferably operates.

FIG. **2** is a block diagram showing the contents of the high-capacity storage device of the file and application server computer system.

FIG. **3** is a diagram showing the patient information hierarchy.

FIG. **4** is a tabular diagram showing the parameter definition table.

FIG. **5** is a flow diagram showing the steps performed by the facility in order to create a new parameter.

FIG. **6** is a flow diagram showing the steps preferably performed by the facility in order to display a flowsheet for a particular patient.

FIG. **7** is a diagram showing the contents of a sample result table.

FIG. **8** shows the display of a flowsheet having the sample flowsheet definition.

FIG. **9** is a flow diagram showing the steps preferably performed by the facility in order to display each encapsulating parameter.

FIG. **10** is a screen diagram of the sample flowsheet in which an encapsulating parameter has been expanded.

FIG. **11** is a screen diagram showing the user entering a result value.

FIG. **12** is a flow diagram showing the steps preferably performed by the facility in order to enter a received result value.

FIG. **13** is a display diagram showing the addition of linked-to parameters to the flowsheet in response to the entry of a linked-from result value.

FIG. **14** is a screen diagram showing the addition of a respiration parameter to the sample flowsheet.

FIG. **15** is a flow diagram showing the steps preferably performed by the facility in order to add a parameter to a flowsheet.

FIG. **16** is a flow diagram showing the steps preferably performed by the facility in order to replace such a placeholder with a particular parameter.

FIG. **17** is a display diagram showing the replacement of placeholder **824** with the Ibuprofen parameter **925**.