

OUTPATIENT CARE DATA SYSTEM**BACKGROUND OF THE INVENTION**

The present invention is directed to an outpatient care data system that tracks the status of patients at locations remote from a hospital.

A hospital typically has a computerized patient data network that keeps track of the medical status of patients currently in the hospital. Such a network could keep track of medical treatments administered to the patients, billing data relating to costs incurred by the patients, medical history data relating to patients such as prior medical procedures received by the patients, medical condition data such as medications to which patients are allergic, etc.

Although generally advantageous to track the medical status of the patients when they are in the hospital, such an in-hospital network cannot keep track of patients after they leave the hospital. For example, when a patient is discharged from the hospital to a skilled care facility, personnel at the skilled care facility must manually obtain the patient's medical and personal information from the patient and/or the hospital, resulting in duplication of effort and the possibility of erroneous information being entered or pertinent information being omitted. This disadvantage is aggravated by the current tendency to minimize a patient's stay in the hospital due to pressures to limit medical costs.

SUMMARY OF THE INVENTION

The present invention is directed to an outpatient care data system dedicated to the transmission, storage and retrieval of outpatient data relating to care of outpatients and to an electronic nursing station adapted to be used in the outpatient care data system.

In one aspect, the outpatient care data system includes a regional data system for a regional area and a plurality of metropolitan area data systems operatively connected to the regional data system. The regional and metropolitan area data systems store outpatient data in the form of a plurality of comprehensive medical records for a plurality of outpatients located within the regional and metropolitan areas. The medical records include, for each outpatient, an identification of the outpatient, an identification of the outpatient's physician, and data representing the medical history of the outpatient.

Each metropolitan area data system may be provided with an electronic nursing station located within a hospital and first and second types of outpatient systems operatively coupled to the electronic nursing station on a real-time basis. The first type of outpatient system is situated at a first non-hospital location remote from the hospital and includes a medical device associated with an outpatient present at the first non-hospital location, and the second type of outpatient system is situated at a second non-hospital location remote from the hospital and includes a medical device associated with an outpatient present at the second non-hospital location.

Each metropolitan area data system may also include a plurality of interactive computer terminals disposed at different terminal locations remote from the hospital at which the electronic nursing station is located. The interactive computer terminals facilitate real-time retrieval of data in the comprehensive medical records for the outpatients.

In a second aspect, the outpatient care data system includes first and second electronic nursing stations located within first and second hospitals, respectively, first and

second outpatient systems operatively coupled to the first electronic nursing station on a real-time basis, third and fourth outpatient systems operatively coupled to the second electronic nursing station on a real-time basis, a data storage system operatively coupled to the first and second electronic nursing stations for storing outpatient data received from the first and second electronic nursing stations, and a plurality of interactive computer terminals operatively coupled to the data storage system on a real-time basis.

The data storage system stores outpatient data in the form of a plurality of comprehensive medical records for a plurality of outpatients associated with the first and second electronic nursing stations, the medical records including, for each outpatient, an identification of the outpatient, an identification of the outpatient's physician, and data representing the medical history of the outpatient.

In another aspect, the outpatient care data system includes an electronic nursing station located within a hospital and having a data storage system for storing outpatient data relating to outpatients present at non-hospital locations outside of the hospital, a plurality of interactive data terminals for communicating with the data storage system on a real-time basis, and a monitor for checking outpatient data stored in the data storage system and generating messages relating to the outpatients. The outpatient care data system also includes first and second outpatient systems operatively coupled to the electronic nursing station on a real-time basis. The first outpatient system is situated at a first non-hospital location remote from the hospital and includes a medical device associated with an outpatient present at the first remote location and the second outpatient system is situated at a second non-hospital location remote from the hospital and includes a medical device associated with an outpatient present at the second remote location.

One of the outpatient systems may be a skilled care facility system having at least one medical device for administering medical treatment to an outpatient at a non-hospital location, at least one medical device for sensing a medical condition of an outpatient at a non-hospital location and generating outpatient condition data relating to the medical condition, and means for transmitting the outpatient condition data from the non-hospital location to the electronic nursing station on a real-time basis. One of the outpatient systems may include at least one medical device located at an outpatient home and means for transmitting outpatient data from the outpatient home to the electronic nursing station on a real-time basis.

The invention is also directed to an electronic nursing station adapted to be used as part of an outpatient care data system dedicated to the transmission, storage and retrieval of outpatient data relating to care of outpatients. The electronic nursing station includes a data storage system for storing comprehensive medical data relating to outpatients, a monitor for checking outpatient data stored in the data storage system and generating messages relating to the outpatients, a data receiver adapted to receive outpatient data from first and second outpatient systems situated at first and second locations remote from the electronic nursing station, and a data transmitter for transmitting outpatient data to a plurality of interactive computer terminals disposed at different terminal locations remote from the electronic nursing station on a real-time basis.

The monitor used in the electronic nursing station may include means for determining whether a deliverable medical device was delivered to an outpatient home in accordance with a scheduled delivery time and means for gener-