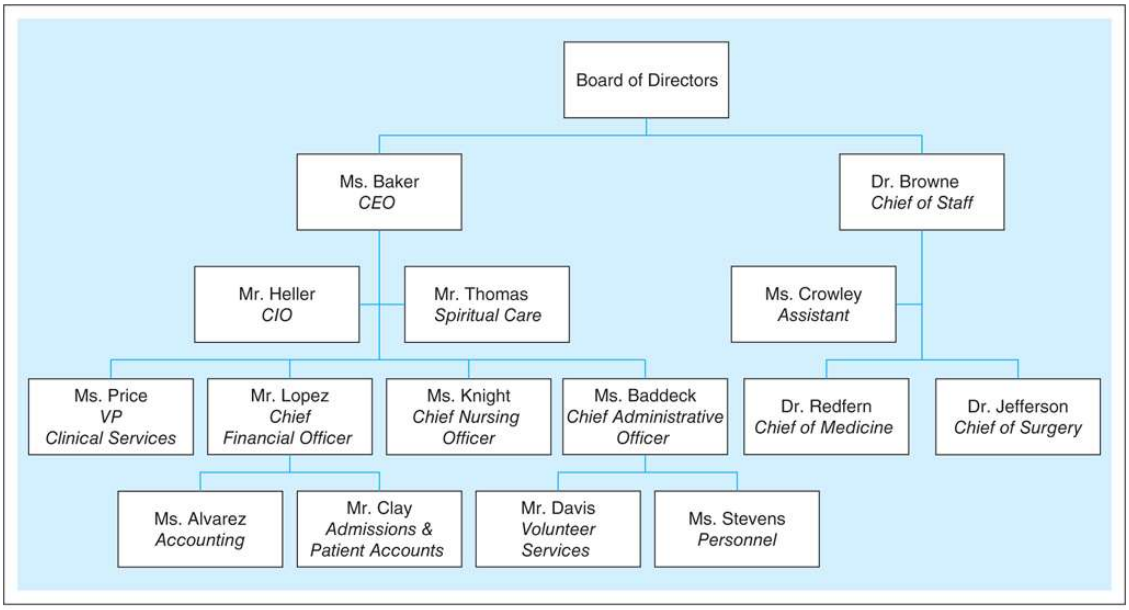
MVCH FIGURE 1-1 Organizational chart



The study team has developed a preliminary list of business functions that describe the administrative and medical activities within the hospital. These functions consider the organizational goals and CSFs explained in the prior section. At this point, the study team has identified five major business functions that cut across all of the organizational units:

1. ***Patient care administration*** **Manage the logistical and record-keeping aspects of patient care**

2. ***Clinical services*** **Provide laboratory testing and procedures, and patient monitoring and screening**

3. ***Patient care services*** **Provide patients with medical care and support services**

4. ***Financial management*** **Manage the financial resources and operations of the hospital**

5. ***Administrative services*** **Provide general management and support services not directly related to patient care**

The study team has been able to break each of these high- level business functions into lists of more detailed functions (see MVCH Figure 1-2), but the team knows that these lists are not complete nor well defined at this point.

Mountain View Community Hospital has computer applications that support the following areas (among others): patient care administration, clinical services,

financial management, and administrative services. Many of these applications have been purchased from outside vendors, but a few have been developed internally. Most of the computer applications are implemented using relational database and client/server technology. In the client/server environment, the client runs the database applications that request the data. The server runs the DBMS software, which fulfills the requests and handles the functions required for concurrent, shared data access to the database. Most of the databases (as well as the applications) are two tier, using the classification introduced in this chapter.

Patient care administration	Clinical services	Patient care services	Financial management	Administrative services
Patient scheduling	Electrodiagnosis	Dietary/Nutrition	Patient accounting	Purchasing
Patient registration	Psychiatric testing	Nursing/Surgery	• *Bill patient*	Inventory control
• *Admit patient*	Patient monitoring	Rehabilitation	• *Account for receivables*	Housekeeping
• *Assign patient to bed*	Multiphasic screening	• *Perform physical therapy*	Cost accounting	Personnel
• *Transfer patient*	Radiology	Blood banking	Payroll	Volunteering
• *Discharge patient*	• *Perform X-rays*		General accounting	• *Recruit volunteers*
Physician orders	Laboratory		Risk management	• *Schedule volunteers*
Laboratory reporting	• *Perform blood tests*			• *Evaluate volunteers*

Enterprise Modeling

The study team identified a preliminary set of 11 entity types that describe the data required by the hospital in support of the various business functions: FACILITY, PHYSICIAN, PATIENT, DIAGNOSTIC UNIT, WARD, STAFF, ORDER, SERVICE/DRUG, MEDICAL/SURGICAL ITEM, SUPPLY ITEM, and VENDOR. From discussions with hospital staff, reviewing hospital documents, and studying existing information systems, the study team developed a list of business rules describing the policies of the hospital and nature of the hospital's operation that govern the relationships between these entities. Some of these rules are:

1. **A FACILITY maintains one or more DIAGNOSTIC UNITS (radiology, clinical laboratory, cardiac diagnostic unit, etc.).**

2. **A FACILITY contains a number of WARDs (obstetrics, oncology, geriatrics, etc.).**

3. **Each WARD is assigned a certain number of STAFF members (nurses, secretaries, etc.); a STAFF member may be assigned to multiple WARDs.**

4. **A FACILITY staffs its medical team with a number of PHYSICIANs. A PHYSICIAN may be on the staff of more than one FACILITY.**

5. **A PHYSICIAN treats PATIENTs, and a PATIENT is treated by any number of PHYSICIANs.**

6. **A PHYSICIAN diagnoses PATIENTs, and a PATIENT is diagnosed by any number of PHYSICIANs.**

7. **A PATIENT may be assigned to a WARD (outpatients are not assigned to a WARD). The hospital cares only about the current WARD a patient is assigned to (if assigned at all).**

8. **A PATIENT uses MEDICAL/SURGICAL ITEMS, which are supplied by VENDORs. A VENDOR also provides SUPPLY ITEMs that are used for housekeeping and maintenance purposes.**

9. **A PHYSICIAN writes one or more ORDERS for a PATIENT. Each ORDER is for a given PATIENT, and a PA- TIENT may have many ORDERs.**

10. **An ORDER can be for a diagnostic test (lab tests such as lipid profile, CBC, liver function tests; diagnostic imaging such as MRIs and X-rays) or a drug.**

They recognized that certain business functions, such as risk management and volunteering, were not adequately represented in the set of data entities and business rules, but they decided to deal with these and other areas later. The study team stored descriptions of these data entities and the business rules in the CASE repository for later analysis. Using the identified entities and business rules, the study team developed a preliminary enterprise data model (see MVCH Figure 1-3). Again, this conceptual model is preliminary and does not follow all the conventions used in the information systems department for drawing data models, but the purpose of this enterprise model is to give only a general overview of organizational data.