Study Notes

Responsibility Centers

Health care organizations are divided into **responsibility centers,** organizational units in which a manager is responsible for operations and evaluates the unit's performance. For example, a nurse manager may be responsible for an inpatient pediatric unit, the manager for a home-care program is responsible for all home-care services that are delivered, and the manager of a housekeeping department is responsible for the cleanliness of the facility. Every program and department in a health care organization can be classified as a responsibility center.

Responsibility accounting provides the information necessary to assist a manager in operating a responsibility center. **Responsibility accounting** is defined as the classification of financial and statistical data according to the organizational unit that produces the revenue and incurs the expense.

Profit Centers and Cost Centers

Responsibility centers can be subdivided into two categories: those that generate revenue as a result of serving patients, and those that do not. Those that do generate revenue and incur costs from patient care are known as **profit centers. Cost centers,** on the other hand, are overhead departments that only incur costs. For example, an inpatient care unit can be classified as a profit center because it incurs costs *and* generates revenue from patient admissions. The housekeeping department, however, is a cost center because it incurs costs, but does not generate revenue.

To summarize, health care facilities are typically organized into departments with a manager who is responsible for the performance and operating results of the department. This operating unit is known as a responsibility center. If the responsibility center generates revenue it is called a profit center; if it does not generate revenue it is called a cost center.

Direct Costs, Indirect Costs, and Full Costs

A profit center can incur three types of cost: direct costs, indirect costs, and full costs. To understand these costs, let’s consider how they relate to a ten-bed inpatient pediatric unit:

- **Direct Costs:** As the name suggests, these costs are directly associated with the department. If the department closes, the direct costs are eliminated. For example, if the pediatric unit closes, the direct cost of nursing personnel and support staff is eliminated, as are supply costs (such as IVs) and the costs of providing meals to patients.
- **Indirect Costs:** These are costs not directly associated with a department. If the pediatric unit closes, there are still numerous indirect costs that remain for the hospital. A partial list of the indirect costs includes the following overhead departments:

    - human resources
    - information services
    - executive team
    - medical records
    - legal
    - occupancy expenses
    - planning
- **Full Costs:** The full cost of operating the pediatric unit is the total of both the unit's direct costs and indirect costs.

The manager of the pediatric unit, a profit center, is responsible for controlling the direct costs, whereas the indirect costs are simply allocated to the pediatric department by the health care organization. These indirect costs are also known as **overhead costs,** because they are not unique to any specific department, but are borne by all departments in a health care organization.

Cost Allocation

Cost allocation, also known as cost finding, is a method to determine the full cost of operating a profit center. This method allows health care organizations to allocate the costs of cost centers (i.e., overhead departments that do not generate revenues but do incur costs) to profit centers (i.e., patient-services departments that do generate revenues and also incur costs).

Cost allocation is necessary in order to know the full cost of producing a patient service. Knowing the full cost of producing a patient service allows a health care organization to determine if a payment is adequate. In our example of the pediatric unit above, cost allocation would be used to determine 1) which overhead costs to allocate to the unit and 2) how to determine the total amount that should be allocated.

There are numerous ways to conduct cost allocation. The three principles common to all cost-allocation methods are:

1. The goal of a cost-allocation system is to apportion overhead costs to the activities that create the need for the costs.
2. A cost-allocation system should be fair so that profit-center managers believe that the overhead allocation for their department reflects the amount of overhead services needed by their department.
3. The allocation process should foster a cost-reduction mind-set within the organization.

Two Cost-Allocation Techniques

Two prominent methods of cost allocation are:

1. **Direct method of cost allocation:** This “top-down” approach starts with the costs of overhead departments and allocates these indirect costs to the profit centers. The discussion that follows will demonstrate how the direct method of cost allocation is performed.

2. **Activity-based costing (ABC) method:** This "upstream" approach is based on the activities performed to provide a patient service. This method is more complex than the direct method, and will not be covered in this course.

Direct Method of Cost Allocation

Please closely examine table 1, a simplified revenue and cost analysis for General Hospital. The table shows that General Hospital has three patient-services departments (patient-care units, the laboratory, and the radiology department) that generate $27 million (row 4) in total revenue. The table also shows the costs for eight departments. Direct costs are costs for the three patient-services departments: patient care (row 5), laboratory (row 6), and radiology (row 7). Indirect (overhead) costs are for the five supports departments: financial services (row 9), facilities (row 10), housekeeping (row 11), administration (row 12), and personnel (row 13).

Viewed from the perspective of cost accounting, General Hospital has eight responsibility centers—three of which are classified as profit centers (patient care, laboratory, and radiology), and five of which are classified as cost centers (financial services, facilities, housekeeping, administration, and personnel). Managers in the profit centers are responsible for both revenues and expenses, whereas managers in the cost centers are responsible only for the costs incurred. The total direct cost of the three profit centers is $11,600,000 (row 8), and the total indirect cost of the overhead departments is $13,850,000 (row 14). The full costs of General Hospital are $25,450,000 (row 15; $11,600,000 + $13,850,000).

Table 1: General Hospital responsibility centers, direct costs, and indirect costs

Revenues	
Patient Care	$16,000,000
Laboratory	$5,000,000
Radiology	$6,000,000
Total Revenue	$27,000,000
Costs	
(Direct Costs)	
Patient Care	$5,500,000
Laboratory	$3,300,000
Radiology	$2,800,000
Total direct cost	$11,600,000
(Indirect costs)	
Financial Services	$1,500,000
Facilities	$3,800,000
Housekeeping	$1,600,000
Administration	$4,400,000
Personnel	$2,550,000
Total indirect cost	$13,850,000
Full cost (direct and indirect costs)	$25,450,000
Surplus	$1,550,000

The purpose of cost allocation is to allot the indirect costs of the five overhead departments (cost centers) to the three patient-services departments (profit centers). In doing so, the costs of the overhead departments are assigned to the patient-services departments to determine the full cost of providing care.

Basics of Cost Allocation

To conduct a cost allocation, it's necessary to determine the following four elements, in the order listed:

1. **Cost pool:** A grouping of costs from an overhead department to be allocated
2. **Cost driver:** Criterion upon which the cost allocation from an overhead department is made
3. **Allocation rate:** The percentage of a cost pool that is allocated from an overhead department to a profit center
4. **Allocation amount:** The amount of the overhead-department cost allocated to the patient-services department

Let's examine each of these four elements in sequence for General Hospital. Table 2 reorganizes the data from table 10.1 so that a cost-allocation methodology can be illustrated. The five overhead departments (financial services, facilities, housekeeping, administration, and personnel) are listed vertically. The three profit centers (patient care, laboratory, and radiology) are listed horizontally across the top of the table in two sections: allocation rate (columns 2–4) and allocation amount (columns 5–7).

Table 2: General Hospital cost allocation

		Allocation rate			Allocation Amount		
Department	Cost pool (indirect costs)	Patient Care	Laboratory	Radiology	Patient Care	Laboratory	Radiology
Financial Services	$1,500,000	60%	20%	20%	$900,000	$300,000	$300,000
Facilities	$3,800,000	65%	15%	20%	$2,470,000	$570,000	$760,000
Housekeeping	$1,600,000	80%	10%	10%	$1,280,000	$160,000	$160,000
Administration	$4,400,000	60%	15%	25%	$2,640,000	$660,000	$1,100,000
Personnel	$2,550,000	60%	20%	20%	$1,530,000	$510,000	$510,000
Total indirect costs	$13,850,000				$8,820,000	$2,200,000	$2,830,000

Refer to table 2 as you consider the discussion of these elements that follows.

Cost Pool

The cost pool (column 1) consists of the costs for each of the five overhead departments, as well as the total costs of these five departments. The total cost pool to be allocated is $13,850,000.

Cost Drivers

The cost driver is the criterion used to allocate the cost of each overhead department in the cost pool to a patient-services department. The identification of meaningful cost drivers is an important step in developing a sound cost-allocation system. The cost driver should reflect the extent to which the cost from an overhead department is used by each specific profit center. An example of a cost driver might be area (square footage). A department that occupies twice as much space as other departments will be allocated twice the cost as other departments. In the General Hospital example, the cost driver is different for each overhead department. To simplify this illustration, the cost drivers will be taken as a given in our General Hospital example.

Allocation Rate

The allocation rate is the proportion of the cost pool used by the profit center. For example, the financial services line item (row 1) has the following allocation rates: the patient-care department uses 60% (column 2) of financial services, the laboratory uses 20% (column 3), and radiology uses 20% (column 4). Notice that summing the three allocation rates in row 1 results in 100% (60% + 20% + 20%). This ensures that 100% of the cost pool of $1,500,000 (column 1) for financial services is allocated to the profit centers.

The percentage rates are givens in this example. Calculating these rates is done by the accounting department of the health care organization: It is typically *not* the responsibility of the managers of the patient-services departments to determine these rates.

Allocation Amount

The next step in the cost-allocation example is to determine the allocation amount assigned to each profit center from the cost pool of the specific overhead department. This allocation is the dollar amount of the cost pool allotted to each of the three profit centers. The allocation amount is calculated by multiplying the cost pool by the allocation rate for each overhead department. Let's look again at table 10.2 to see how the allocation amount for financial services (row 1) is calculated. The allocated amount for patient care is $900,000 (column 5), which is 60% of the cost pool of $1,500,000 (column 1). The allocated amount for the laboratory is $300,000 (column 6), which is 20% of the cost pool of $1,500,000. The allocated amount for radiology is $300,000 (column 7), which is 20% of the cost pool of $1,500,000.

Indirect Cost Allocation

The above discussion illustrates how the cost pool of $1,500,000 for the financial services department is allocated to the three profit centers. The same process is repeated for each of the four remaining overhead departments, as shown in table 2.

Let's look at how the total indirect cost is determined for each of the profit centers. For example, the patient-care department (column 5) has indirect costs allocated from all five overhead departments, which are summed to total $8,820,000 (row 6, column 5). For the laboratory, the total indirect cost is $2,200,000 (row 6, column 6). For the radiology department, the total indirect cost is $2,830,000 (row 6, column 7). The total indirect costs for each of the profit centers have now been calculated.

Full Costs

The final step is to determine the full cost for each of the three profit centers. Table 3 summarizes how the full costs are calculated. This is done by simply adding the indirect costs and direct costs. The direct costs are taken from rows 5, 6, and 7 in table 1. The indirect costs are taken from row 6 in table 2.

We are now able to determine the full cost for each profit center. Please recall that full cost = direct costs + indirect costs. For patient care (column 1), the full cost is $14, 320,000 (row 3) and

is calculated by adding together the indirect cost of $8,820,000 (row 1) and direct cost of $5,500,000 (row 2). This step is repeated for laboratory (column 2) and radiology (column 3).

Table 3: General Hospital final allocation

	Patient Care	Laboratory	Radiology	Total	
Indirect Costs	$8,820,000	$2,200,000	$2,830,000	$13,850,000	*Row 1*
Direct Costs	$5,500,000	$3,300,000	$2,800,000	$11,600,000	*Row 2*
Full Costs	$14,320,000	$5,500,000	$5,630,000	$25,450,000	*Row 3*
	Col 1	*Col 2*	*Col 3*	*Col 4*	

The costs of all overhead departments (cost centers) must eventually be allocated to the departments that generate revenues (profit centers). This is necessary in order to determine the full costs of producing patient services. Once the full costs are known, it is possible to determine if payment for services is adequate to cover the costs of care.

Summary

This module introduced the concept of responsibility centers and reviewed the direct method of cost allocation. Some organizations have sophisticated cost-management systems that are beyond the scope of this course, but the basic principles apply to all cost-allocation techniques.

Cost Behavior and Cost Allocation

Although cost behavior (discussed in module 9) and cost allocation both look at cost analysis in an organization, they are very different concepts and have quite different applications. Cost-behavior analysis looks at costs in relation to volume forecasts and is future oriented. Cost behavior is the analysis of costs in relation to volume changes as a result of the underlying cost structure. The underlying cost structure is categorized according to fixed costs, variable costs, and semifixed costs. Cost-behavior concepts can be applied to contribution-margin analysis and break-even analysis.

Cost allocation is a method to calculate overhead cost for a patient-services department. The full costs can be determined by adding the direct costs and indirect (overhead) costs of a service. Cost allocation is used to calculate the full costs of a service in order to determine if payment for the service is adequate; it's also used to set prices for services.

A useful way to remember the distinction between cost behavior and cost allocation is that cost behavior deals with total cost, whereas cost allocation deals with full cost. To summarize the concepts:

Cost behavior: total cost = fixed costs + semifixed costs + total variable costs

Cost allocation: full cost = direct costs + indirect costs
