**Finance Outline**

*Financial management is necessary for effective and efficient hospital operations. It has also become an integral component of total management.*

The basic concepts of healthcare finance are usually found in three academic

disciplines: financial accounting, managerial accounting and financial

management.

1. Financial accounting: involves the basic accounting functions of data entry, transaction analysis, and the preparation and interpretation of financial statements for internal managers and external stakeholders
2. Managerial accounting: focuses on the internal uses of accounting information for decision-making.

 Techniques include cost identification and cost/volume/

profit models.

Should provide information that will improve the efficiency and effectiveness of the use of economic resources.

1. Financial management: focuses on assets management with an emphasis on cash flow analysis

Examples: working capital, the capital structure composition, risk and cost of various amounts of debt and equity sources, the capital budgeting process, time value of money techniques and financial feasibility studies.

**I. Financial Accounting**

 A. Financial statements output

In accordance with *Generally Accepted Accounting Principles (GAAP)*, which are provided by the *Financial Accounting Standards Board (FASB)* and the *American Institute of Certified Public Accountants (AICPA)*.

B. Financial (cost) information output- required by management for decision-making

 1. Internal info does not have to comply with GAAP

 2. System shows past summaries, present studies, and future estimations

3. Flexible enough to be individualized by products/outputs, cost centers, and product lines

C. Basic financial statements

Balance sheet

* Financial position at a point in time (Fiscal Year)
* Assets organized in order of liquidity
* Liabilities organized in order of payment

Components of a Balance Sheet:

* Cost convention- value assigned at the time of purchase
* Accrual- Revenue earned and expenses incurred
* “Going concern”- values of assets based on the premise that the organization will continue to perform the same type of mission.

**BALANCE SHEET**

**TOTAL ASSETS = TOTAL DEBT AND EQUITY**

***Including: Including:***

**Current assets Current Liabilities**

**Assets Limited as to Use Long Term Liabilities**

**Tangible Assets Equity/Net Worth/Funds Balance**

**Intangible Assets**

 Income Statement- Revenues & Expenses

* Revenues and expenses over a period of time
* Bottom line of the income statement is located in the equity section of the balance sheet
* Revenue and expenses provided regardless of cash being received
* Expenses- salaries, depreciation, amortization, bad debt
	+ Note: Charity care is not shown as an expense or deduction under the revised accounting rules. Charity care and allowance accounts are shown in the footnotes of the financial statements.

**INCOME STATEMENT**

**REVENUES**

 **Net rev from patient services $XXXX**

 **Other operating rev XXXX**

 **---------**

 **Total Rev XXXX**

**EXPENSES**

 **Operating expenses $XXXX**

 **----------**

**INCOME (LOSS) FROM OPERATIONS XXXX**

 **=====**

 Statement of cash flows- uses info from balance sheet and income statements

* Explains changes in cash flows from
	+ Operating
	+ Investing
	+ Financing
* Converts net income based on the accrual basis of accounting to a cash basis by adding noncash expenses (depreciation) back to the reporting net income

 Ratio Analysis- tool to assess financial condition of an organization

Categories:

* Liquidity ability to meet short-term obligations (Cash On Hand) . or assets that can be converted into cash
* Operating use of assets and management performance
* Debt long-term survivability
* Profit management performance and ability to meet long-term

obligations.

Ratios monitored to assess performance are:

 **Medical Claims Expense Ratio = Total Medical Claims Expense**

 **Premium Revenue**

 **Administrative Expense Ratio = Non-health Service Expenses**

 **Total Operating Revenue**

**II. Management Accounting-** Determine the cost of a particular decision

Decisions include:

* Pricing decisions
	+ Short-range
	+ Long-range
* Capital investment
* Discontinuance/sales value
* Performance evaluation

Fixed costs: do NOT vary directly with volume of activity

 Variable costs: vary directly with volume of activity

***SEE GRAPHS ON ACHE REFERENCE MANUAL (PAGES 47-50)***

Total Cost- Deals with budgeting, performance measurement, and other strategic/operational decisions

* Whenever you have fixed costs, you cannot determine per-unit costs without specifying a volume of output

**Total Cost = Total Fixed Cost + Total Variable Cost**

**Per Unit Costs \* = TFC + TVC**

 **TQ TQ \***All per-unit costs are averages

Contribution Margin Approach- Relationship between fixed and variable costs and profit

**Contribution Margin = Price after discounts – Variable cost per unit**

Break-Even Point

Given: $20 Average revenue per patient visit after discount

 - $8 Average variable cost per patient visit

 $12

Total fixed costs: $240,000

**B.E. Quantity = TFC = $240,000 = 20,000**

 **CM $12**

***OR***

**Total Revenue (20,000 X $20) = $400,000**

**Total variable costs (20,000 X $8) = $160,000**

**Total CM (20,000 X $12) = $240,000**

**Total fixed costs = $240,000**

**Excess of revenue over expenses $0**

**Quantity Equation (M=0)**

 **Q = TFC**

 **CM**

 **Quantity Equation (M>0)**

 **Q = TFC + M\***

 **CM**

 **Rate-Setting Equation (Q is given)**

 **P = TFC + TVC + M**

 **CM**

 **P = VCU + TFC + M**

 **Q** \*M = Margin or Profit

Allocation Process

Variable costs can be traced directly to the output of the department, but fixed costs must be *allocated* to the output of the department

Allocation is a subjective process and will differ based on:

* Allocation method
* Allocation base
* Responsibility centers
* Depreciation method

Costs for Performance Measurement

Direct costs: costs that can be traced to a service, organizational unit or individual provider/manager

Indirect costs: costs that must be allocated to services, organizational units, or individual providers/managers

Organize activities in “responsibility centers”:

* Cost (expense) center: inputs only measured
* Revenue center: output only measured
* Profit center: inputs and outputs measured
* Investment center: inputs and outputs measured in relation to amount of investment

Budgeting Systems

 Should focus on outputs; not inputs

Following need to be measured:

* Effectiveness: the accomplishment of the organizational objectives
* Efficiency: the measurement of resources consumed to outputs achieved

Budget goals should:

* Control and coordinate activities
* Communicate important objectives
* Motivate personnel
* Measure result

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Technique | Incremental | Program | Zero-base  | Standard-cost |
| Processes | Last year’s actuals are starting pointAmounts added for inflation, new programs | Outputs (programs) to be achieved are cost and benefits evaluated | Activities to be completed are broken into small decision packages by supervisors and then ranked by management | Requires development of what activities “should cost” for given output and quality levels using time and motion studies and detailed cost data |
| Strengths  | Budgeting is by responsibility centerEasy to do | Focuses on outputsIncludes input/output comparisons | Starts from zero each yearAll dollars requested must be justifiedInvolves lower levels of managementProvides a priority ranking of activities proposed to be accomplishedCombines inputs with outputs | Provides goals for supervisors to meetRequires involvement of supervisors, technicians and financial personnelFocuses on currently attainable efficiency |
| Weaknesses  | Assumes last year’s amount was rightSubject to arbitrary costsFocuses on inputs | Does not align with responsibility centersDifficult to assign responsibility when more than one cost center is involved | Lengthy processLower-level supervisors are not trained to complete decision packagesImpossible from a practical point of view to start from zero | Reliable cost data typically not availableLengthy processStandards need to be updated frequently |

**III. Financial Management-** Focuses on ensuring that the capital requirements of the organization are met and recognizing the difference between accounting costs and economic costs (decision process).

Components of financial management include:

1. Costs of doing and staying in business

3. Costs of changing a business

4. Returns to suppliers of capital

Accounting Costs

* Outputs of the accounting system
* Accordance with GAAP
* Break-even occurs when revenue = expenses

Economic Costs

* + - Current market value
		- Economic break-even includes a return to all suppliers of capital and requires that total financial requirements be met.

Capital Investment

* Financial management decisions involves capital investment decisions
* Focus on cash flows rather than on accounting flows
* Basically economic decisions

Economic Decisions

* Opportunity costs: benefits given up by not selecting next best alternative (costs typically not in financial statements)
* Incremental (marginal) costs: Out-of-pocket costs that will change if and only if a decision is made (determined from special studies)
* Sunk costs: costs not changed by the decision under consideration (accounting costs)

Capital Investment Decisions

* Uses of capital
	+ Amount and timing of the cash flows adjusted for the time value of money is the measurement focus

Sources of capital:

 Equity (fund balance)

* Contribution capital
* Retained earnings

 Debt

* Short-term (trade credit)
* Long-term (notes, bonds, leasing)

\*As debt increases, risk to lender increases, and higher interest rates follow

* Increased use of debt requires additional equity

**Weighted Average Cost of Capital (WACC) Model**

* Measures the cost of various services of capital and impact of capital structure.

**Capital Source Optimum Percentage X Cost = Weighted Cost**

**Short-term debt 10 X 0 = 0**

**Long-term debt 30 X 10 = 3**

**Equity 60 X 12 = 72**

**WACC = 10.2%**

Capital Investment Decision

Techniques:

* Equipment (purchase or divestiture)
* People (hiring and firing)
* Interest-bearing instruments
* Repurchase of debt instruments
* Programs (initiating/terminating)

Inputs required to determine rate of return on capital decisions

* Cash flows (inflows and outflows)
* Economic life
* Discount rate (cost of capital)
* Impact if taxation and/or cost-based reimbursement

Evaluation Techniques

1. Economic evaluation techniques (adjusted for the time value of money)

* Net present value (NPV): difference between the discounted cash inflows and discounted cash outflows over the life of the investment
* Internal rate of return (IRR): the discount R rate, which, when used to discount a series of cash inflows and outflows, makes the NPV of those cash flows equal to zero

 2. Accounting Evaluation Techniques

* Accounting rate of return: average increase in income reported on the financial statement divided by the total or average investment
* Pay back: amount of time it takes to recover the cash outflows of the investment from the cash inflows

***Diagnostic Equipment Project A Project B***

**Cost, including installation $ 60,000 $ 55,000**

**Est. annual labor cost savings $ 20,000 $ 16,000**

**Est. economic life 5 years 5 years**

**Tax rate 40% 40%**

**Cost of capital 15% 15%**

**Incremental cash inflows $ 20,000 $ 16,000**

**Depreciation expense $ 12,000 $ 11,000**

**Taxable income before taxes $ 8,000 $ 5,000**

**Taxes 40% - $ 3,200 - $ 2,000**

**Net income after taxes $ 4,800 $ 3,000**

**Accounting rate of return (before taxes) 13.33% 9.01%**

**Accounting rate of return (after taxes) 8.00% 5.45%**

**Payback 3 years 3.4375 years**

**Net present value:**

**Year 0 cash outflow $ 60,000 $ 55,000**

**Year 1-5 inflows before taxes $ 20,000 $ 16,000**

**Year 1-5 inflows after taxes $ 16,800 $ 14,000**

**Factor for inflows (15%) 3.352 3.352**

**Present value of inflows before taxes $ 67,040 $ 53,632**

**Present value of inflows after taxes $ 56,314 $ 46,928**

**Internal rate of return before taxes 19.86% 13.95%**

**Internal rate of return after taxes 10.92% 8.62%**

Current Ratio “Liquidity Ratio”

* Measures a company’s ability to pay short-term obligations

**Current Ratio = Current Assets/ Current Liabilities**

Acid Test Ratio

* Determines whether a firm has enough short-term assets to cover immediate liabilities without selling inventory

**= (Cash + AR + Short-Term Investments)/ Current Liabilities**

Total Asset Turnover

* Amount of sales/revenue generated per dollar of assets. Determines the efficiency of the company.

**= Sales or Revenue/ Total Assets**

Inventory Turnover

* Amount of times a organizations inventory is used and replaced over a period of time.

**= Sales or COGS/ Inventory**

Fixed Asset Turnover

* Measures the organizations ability to generate net sales from fixed-asset investments.

**= Net Sales/ Net Property, Plan, and Equipment**

Operating Margin

* Used to measure pricing strategy and operating efficiency.

**= Operating Income/ Net Sales**

Return on Assets/ Return on Investment

* How efficient management is using assets to generate earnings.

**=Net Income/ Total Assets**

Reimbursement Methods:

**Per Diem-** Hospitals receive a flat rate for each day of inpatient services provided.

**DRG-** Reimbursement is based on the diagnoses and procedures performed during the hospital stay.

**Capitated-** Based on a payment per person, rather than a FFS. (PMPM- total risk for all services)