

## CHAPTER 3

# FINANCIAL ANALYSIS AND MANAGEMENT REPORTING

*There is much more cognizance and awareness of the capital aspects of the balance sheet and a better understanding of the credit markets so you can decide where to invest cash, how to eke out investment returns on excess cash, and how to position the organization for the future.*

Robert Hemker, chief financial officer of Palomar Health, San Diego, California (who went on to become Palomar's president and chief executive officer)

### LEARNING OBJECTIVES

*After completing this chapter, you should be able to do the following:*

- ▶ Identify and understand the major components of financial statements
- ▶ List in order and explain each step in the financial analysis process
- ▶ Explain the principles in preparing good financial reports

NOTE: Terms shown in **boldface** in this chapter are defined in the margins and appear in the glossary. Terms in *bold italic* also appear in the glossary.

## INTRODUCTION

Financial analysis and management reporting are integral parts of the management functions of control and financial management. Financial analysis includes methods used by investors, creditors, and management to evaluate the past, present, and future financial performance of a healthcare organization. On completion of the analysis, the information is reported to the appropriate stakeholders, inside and outside the organization, at which time the stakeholders take action in the form of decisions.

## STEPS IN FINANCIAL ANALYSIS

Financial analysis includes the following three steps:

1. Establish the facts about the organization.
2. Compare the facts about the organization over time and to facts about similar organizations.
3. Use perspective and judgment to make decisions regarding the comparisons.

Financial analysis by management can occur at any level—departmental, divisional, or organizational—within the organization.

At the organizational level, establishing the facts (the first step) usually relates to a review of the organization's key financial statements, including the balance sheet, statement of operations, statement of changes in net assets, and statement of cash flows. As recommended by the American Institute of Certified Public Accountants (AICPA), healthcare organizations with permanent controlling financial interests in other healthcare organizations should prepare consolidated financial statements to properly report the relationship (AICPA 2012). Before they undertake financial analysis, investors and creditors may require that independent auditors review the financial statements to confirm their accuracy.

The second step, comparing the facts in the organization over time and to facts in other, similar organizations, includes ratio analysis, horizontal analysis, and vertical analysis. *Ratio analysis*, which was introduced in chapter 1, evaluates an organization's performance by computing the relationships of important line items found in the financial statements. There are four kinds of ratios: liquidity, profitability, activity, and capital structure.

**Horizontal analysis** evaluates the trend in the line items by focusing on the percentage change over time. **Vertical analysis** evaluates the internal structure of the organization by focusing on a base number and showing percentages of important line items in relation to the base number. When ratio analysis, horizontal analysis, and vertical analysis have been completed, the organization can compare present ratios, trends, and percentages to its past ratios, trends, and percentages. The organization can also develop industry comparisons

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### horizontal analysis

Evaluation of the trends in an organization's finances by focusing on percentage change over time.

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### vertical analysis

Evaluation of the internal structure of an organization by focusing on a base number and showing percentages of important line items in relation to the base number.

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that compare the organization's present ratios, trends, and percentages to those of other, similar organizations.<sup>1</sup>

The third step of financial analysis, using perspective and judgment to make decisions, takes into account the information obtained in the first two steps, in addition to information derived from the decision maker's unique perspective and judgment, to make the decision. Decisions that may at first appear to be contrary to the information provided in the first two steps may make perfect sense based on pressures from internal and external constituents, including medical staff, employers, regulators, donors, and others.

The example of a fictional facility, Bobcat Hospital, will be used to illustrate the financial analysis concepts in this chapter.

## BALANCE SHEET

The *balance sheet* shows the organization's financial position at a specific point in time, typically at the end of an accounting period (see exhibit 3.1). The balance sheet presents the organization's assets, liabilities, and net assets (or shareholders' equity in for-profit organizations) and its relationships, which are reflected in the following accounting equation:

$$\text{Assets} = \text{Liabilities} + \text{Net Assets}$$

**Assets** are economic resources that provide or are expected to provide benefit to the organization. *Current assets* are economic resources that have a life of less than one year (i.e., the organization expects to consume them within one year). Current assets are listed on the balance sheet in order of liquidity. *Cash* is money on hand and in the bank that the organization can access immediately. *Temporary investments* consist of money placed in securities with maturities up to one year, such as commodities and options. The category *receivables, net*—made up of patient accounts receivable, net of allowances for contractual allowances, charity care, and bad debt—represents money due to the organization from patients and third parties for services already provided. *Inventory* is the cost of food, fuel, drugs, and other supplies purchased by the hospital but not yet used or consumed. *Prepaid expenses* are expenditures made by the hospital for goods and services not yet consumed or used in hospital operations (sometimes referred to as *deferred expenses*), such as rent and insurance premiums.

*Noncurrent assets* are economic resources that have a life of one year or more (i.e., the organization expects to consume them over a span longer than one year). *Plant and equipment, net* consists of economic resources, such as land, buildings, and equipment, minus the amount that has been depreciated over the life of the buildings and equipment (which is called *accumulated depreciation*). *Long-term investments* are economic resources that the hospital owns, such as corporate bonds and government securities, and intends

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### assets

Economic resources that provide or are expected to provide benefit to the organization.

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Bobcat Hospital Balance Sheet, as of December 31 2017, 2016 (in thousands)	2017	2016
<b>ASSETS</b>		
Current assets		
Cash	\$ 124	\$ 280
Temporary investments	45	30
Receivables, net	3,536	3,717
Inventory	175	140
Prepaid expenses	<u>32</u>	<u>40</u>
Total current assets	3,912	4,207
Noncurrent Assets		
Property, plant, and equipment	6,980	6,580
Accumulated depreciation	-1,730	-1,660
Net property, plant, and equipment	<u>5,250</u>	<u>4,920</u>
Long-term investments	609	990
Other noncurrent assets	<u>113</u>	<u>109</u>
Total noncurrent assets	5,972	6,019
Total assets	<u>9,884</u>	<u>10,226</u>
<b>LIABILITIES &amp; NET ASSETS</b>		
Current liabilities		
Accounts payable	\$ 302	\$ 370
Notes payable	345	335
Accrued expenses payable	871	408
Deferred revenues	10	15
Estimated third-party adjustments	137	224
Current portion of long-term debt	184	178
Total current liabilities	<u>1,849</u>	<u>1,530</u>
Noncurrent liabilities		
Long-term debt, less current portion	3,600	3,500
Total liabilities	5,449	5,030
<b>NET ASSETS</b>		
Unrestricted net assets	3,285	3,896
Temporarily restricted net assets	750	700
Permanently restricted net assets	<u>400</u>	<u>600</u>
Total net assets	<u>4,435</u>	<u>5,196</u>
Total liabilities and net assets	<u>\$9,884</u>	<u>\$10,226</u>

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to hold for more than one year. **Other noncurrent assets** include assets limited as to use (by contracts with outside parties) and goodwill which represents the amount above fair market value based on an entity's future earning potential.

**Liabilities** are economic obligations, or debts, of the organization. **Current liabilities** are economic obligations, or debts, that are due within one year. **Accounts payable** are amounts the organization owes to suppliers and other trade creditors for merchandise and services purchased from them, but for which the organization has not yet paid. **Notes payable** are short-term obligations for which a formal contract has been signed, such as a short-term loan. **Accrued expenses payable** are liabilities for expenses that have been incurred by the hospital but for which the hospital has not yet paid, such as compensation to employees. **Deferred revenue** is money received by the hospital but not yet earned by the hospital, such as registration fees for an educational program not yet provided. **Estimated third-party adjustments** are approximations of how much money the organization will be required to return to third-party payers due to overpayments to the organization. **Current portion of long-term debt** is the amount of the organization's long-term debt (not including interest) that is expected to be paid within one year.

**Long-term liabilities** are economic obligations, or debts, that are due in more than one year. **Long-term debt, net of current portion** is an economic obligation, or debt, that is due in more than one year, minus the amount that is due within one year.

**Net assets** is the current American Institute of Certified Public Accountants (AICPA)–approved term for the difference between assets and liabilities in not-for-profit healthcare organizations<sup>2</sup> and represents the owner's (community's or religion's) and others' (donors external to the organization) financial interest in the organization. **Unrestricted net assets** include net assets that have not been externally restricted by donors or grantors, such as the excess of revenues to expenses from operations. Unrestricted net assets include net assets that are contractually limited by the governing body, such as proceeds of debt issues, funds deposited with a trustee and limited to use by an indenture agreement, and funds set aside under self-insurance arrangements and statutory reserve requirements. **Temporarily restricted net assets** include donor-restricted net assets that the organization can use for the donor's specific purpose after the organization has met the donor's restriction, such as the passage of time or an action by the organization. **Permanently restricted net assets** include donor-restricted net assets with restrictions that never expire, such as endowment funds. In fiscal years beginning after December 15, 2017, organizations will be expected to present net assets in two categories instead of three: "net assets without donor restrictions" and "net assets with donor restrictions". Generally accepted accounting principles (GAAP) will require organizations to disclose the amount, purpose, and type of board restrictions for net assets without donor restrictions, and GAAP will require organizations to disclose the nature and amount of donor restrictions for net assets with donor restrictions (Connor and Mosrie 2016).

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#### liabilities

Economic obligations, or debts, of the organization.

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#### net assets

The difference between assets and liabilities in a not-for-profit organization, which represents the owner's and others' financial interests in the organization.

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**Shareholders' equity** is the current AICPA-approved term for the difference between assets and liabilities in for-profit healthcare organizations; it represents the ownership interest of stockholders in the organization. Shareholders' equity is also called *stockholders' equity*, *owners' equity*, or *net worth* and comprises common stock and retained earnings. **Common stock** is money invested in the organization by its owners. **Retained earnings** result from income earned by the organization from operations minus *dividends* (distributions of earnings paid to stockholders based on the number of shares of stock owned).

Explanatory notes for the balance sheet and the other financial statements should identify extraordinary events, as well as certain required provisions, and should be presented following the financial statements. In fiscal years beginning after December 15, 2018, public organizations and not-for-profit organizations that have issued securities which are traded or listed on an exchange or over-the-counter market will be expected to present the effects of all leases on the balance sheet (the deadline for all other organizations is fiscal years beginning after December 15, 2019). ASU 2016-02, Leases (Topic 842) intends to increase transparency and comparability among organizations by requiring all organizations, not just healthcare organizations, to present the effects of both financial leases and operating leases on the balance sheet (historically, organizations have not presented the effects of operating leases on the balance sheet). The organization should recognize a liability (lease payments) and a right-of-use asset on the balance sheet (Connor and Mosrie 2016).

## STATEMENT OF OPERATIONS

The **statement of operations**, called the *income statement* in for-profit organizations, summarizes the organization's net revenues, expenses, and excess of net revenues over expenses (called *income before taxes* in a for-profit organization) over a period of time (see exhibit 3.2). The relationship of the statement of operations to the balance sheet can be best expressed by the following expanded accounting equation:

$$\text{Assets} = \text{Liabilities} + \text{Net Assets} + (\text{Net Revenue} - \text{Expenses})$$

where the permanent accounts of the balance sheet, which are accounts that carry balances forward to the next year, relate to the temporary accounts of the statement of operations, which are accounts that zero out at the end of each year. To zero out the net results of the statement of operations at the end of the year, the net results are transferred to unrestricted net assets on the balance sheet (or to retained earnings on the balance sheet of a for-profit organization).

**Revenues** are the amounts earned by organization or sometimes donated to it. **Gross patient services revenues** are the total amount of charges for patients utilizing the hospital, regardless of the amount actually paid. Deductions from gross patient services

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### revenues

The amounts earned by the organization or sometimes donated to it.

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	2017	2016
<b>REVENUES</b>		
Gross patient services revenue (non-GAAP)	\$13,031	\$12,610
Provision for contractual adjustments (non-GAAP)	-4,209	-4,083
Provision for charity care (non-GAAP)	-420	-408
Net patient services revenue	8,402	8,119
Provision for bad debt allowance	-600	-4,763
Net patient services revenue less provisions for bad debt	7,802	7,643
Premium revenue	400	0
Other operating revenue	440	447
Total operating revenue	<u>\$ 8,642</u>	<u>\$ 8,090</u>
<b>EXPENSES</b>		
Salaries, wages, and benefits	4,980	5,278
Supplies, drugs, purchased services	3,080	2,956
Depreciation and amortization	471	443
Interest	113	109
Total operating expenses	<u>8,644</u>	<u>8,786</u>
OPERATING INCOME	-2	-696
<b>NON OPERATING INCOME</b>		
Investment income	\$ 95	\$ 85
<b>EXCESS OF REVENUE OVER EXPENSES</b>		
	93	-611
Unrestricted net assets	3,285	3,896
Temporarily restricted net assets	750	700
Permanently restricted net assets	<u>400</u>	<u>600</u>
<b>CHANGES IN NET ASSETS</b>		
Total changes in net assets	4,435	5,196

**EXHIBIT 3.2**  
Bobcat Hospital  
Statement of  
Operations  
(in thousands)  
through December  
31, 2017, 2016

revenues include amounts deducted from total charges to account for contractual allowances and charity care.

*Net patient services revenue* is money generated by providing patient care minus the amount the organization will not collect as a result of discounting charges per contractual agreement and providing charity care. For financial reporting purposes, patient services revenue does not include provisions for charity care because charity care was never intended to result in cash flow. GAAP in 2010 required that organizations report the amount of charity care recorded at cost along with the method of determining cost and

the organization's charity care policy in notes to the financial statements. (*Bad debt* is the accounting recognition of how much money the organization has billed but will not collect; the amount reported must be based on charges. Bad debt should not be confused with charity care. ***Bad debt expense*** reflects the amount for which the organization provided services with the expectation of payment. ***Charity care*** reflects services the organization provided with no expectation of payment.)

*Net patient services revenue minus provisions for bad debt* includes net patient service revenue minus the amount the organization will not collect as a result of bad debt. In 2012 GAAP moved bad debt from an operating expense to a deduction of revenue to account for the patient's inability to pay deductibles for high-deductible health policies (which the organization knows at time of service). In 2016 the AICPA Revenue Recognition Task Force for Healthcare proposed, but did not require, new guidance for presenting bad debt. After recording revenue at the amount the organization expects to be paid, bad debt would then be recognized in two categories: *classic bad debt* (the organization believes the patient is able to pay, but the patient does not pay) would be recorded as a bad debt expense under operating expenses; and an *implicit price concession* (the organization believes the patient is unable to pay, but the patient is not eligible for charity care, and the organization recognizes a write-off based on internal policy). The proposed new guidance for presenting bad debt would allow organizations to group patients with similar characteristics, such as true self-pay or high deductible (Connor and Mosrie 2016).

***Premium revenue*** is money generated from capitation arrangements that must be reported separately from patient services revenue because premium revenue is earned by agreeing to provide care, regardless of whether care is ever delivered. ***Other operating revenue*** is money generated from services other than health services to patients and enrollees. It may include revenue from rental equipment and office space, sales of supplies and pharmaceuticals, cafeteria and gift shop sales, and so on. Often the test for whether revenue is considered other operating revenue or nonoperating revenue is whether the revenue was generated in support of the organization's mission statement. Why is it important to distinguish between operating and nonoperating revenue? Because for a not-for-profit hospital, income derived from operations is not taxed, but income from unrelated businesses, such as the gift shop, may be taxed as unrelated business income. ***Net assets released from restrictions used for operations***, while not reflected in Bobcat Hospital's statement of operations, consist of money previously restricted by donors that has become available for operations.

**Expenses** are the amounts of resources used by the organization. The category of ***operating expenses*** represents resources used on operations to generate revenue in support of the organization's mission statement. These expenses can be listed by functional classification (organizational division), such as nursing department and support department, which is useful for internal purposes, or by natural classification, under such as categories as *salaries, wages, and benefits* or *supplies, drugs, and purchased services*, as is the case with Bobcat Hospital's statement of operations, which is useful for external purposes.

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**expenses**

Amounts of resources used by the organization.

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The category *depreciation and amortization* reflects the expensing of long-term assets over time to show their declining value. *Interest* is the expense incurred with borrowed money. *Other operating expenses* are miscellaneous expenses that have not been reported elsewhere.

**Operating income** is the money earned from providing patient care services and includes the total revenue, gains, and other support minus the total operating expenses. *Nonoperating income* is the money earned from non-patient care services, such as *investment income*, as shown on Bobcat Hospital's statement of operations.

**Excess of revenues over expenses** (or *net income* in for-profit organizations) is the operating income plus the nonoperating income minus total expenses. For not-for-profit organizations, AICPA requires excess of revenues over expenses to be reported as the performance indicator that reflects the results of operations. Not-for-profit organizations must report the performance indicator in a statement of operations that also presents the total changes in unrestricted net assets. The notes to the financial statements should provide a description of the nature and composition of the performance indicator (AICPA 2012).

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**operating income**  
Money earned from providing patient care services. It includes the total revenue, gains, and other support minus the total operating expenses.

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**excess of revenues over expenses**  
Operating income plus nonoperating income minus total expenses.

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### STATEMENT OF CHANGES IN NET ASSETS

The *statement of changes in net assets*, called the *statement of equity* in a for-profit organization, shows the reasons why net assets changed from the beginning of the statement period to the end of the statement period as reported in summary fashion on the balance sheet. Because AICPA requires not-for-profit organizations to report changes of unrestricted net assets on the statement of operations, many organizations also include changes in temporarily restricted and permanently restricted net assets on the statement of operations, which eliminates the need for a separate statement of changes in net assets. This statement is important in showing how the changes in the excess of revenues over expenses affect the net asset, or equity, position of the organization (as was shown in the example in exhibit 3.2).

*Unrestricted net assets* come directly from the statement of operations and have already been explained in that section. The category *temporarily restricted net assets* presents the changes in temporarily restricted net assets during the statement period. Within this category (and not shown in exhibit 3.2) are several subcategories: The subcategory *contributions for charity care* represents money donated to the hospital for the provision of charity care. *Net realized and unrealized gains on investments* reflects an increase in the value of the investment (unrealized until sold) and an increase in cash (realized through dividends or interest). *Net assets released from restrictions* includes money previously restricted by donors that has become available for use. *Increase (decrease) in temporarily restricted net assets* presents the total changes in temporarily restricted net assets during the statement period.

The category *permanently restricted net assets* presents the changes in permanently restricted net assets during the accounting period. Within this category (and not shown in exhibit 3.2) are several subcategories. *Contributions for endowment funds* includes money

received from donors with permanent restrictions on the principal and interest. *Net realized and unrealized gains on investments* represent an increase in value of the investment and an increase in cash.

The final ***total changes in net assets*** is the difference between total net assets at the beginning of the year and total net assets at the end of the year. In exhibit 3.2, this line shows an increase in Bobcat Hospital's total net assets.

### STATEMENT OF CASH FLOWS

The ***statement of cash flows*** shows the organization's *cash flow*—that is, the amounts of cash receipts and where they came from and the amounts of cash disbursements and where they went during the statement period (see exhibit 3.3; notes for the statement are shown in exhibit 3.4 that follows). In a not-for-profit organization, the statement is divided into cash flow from operations, cash flow from investments, and cash flow from financing, including restricted income and contributions. For-profit organizations do not divide the cash flows into categories, but the bottom line is the same—net increase (decrease) in cash.<sup>3</sup>

*Cash flow from operating activities* begins with the change in net assets (this figure comes from the statement of changes in net assets or is computed from the difference in total net assets between statement periods) and then includes the changes in cash between statement periods for providing patient care services. Information from the statement of operations was prepared using accrual accounting, as required by GAAP. This means that revenues were recorded when the services were billed, not when the bills were paid. Expenses were recorded when they contributed to operations, not when they were paid. Revenues and expenses must be adjusted as well as noncash events, such as depreciation. The remainder of this section of the statement of cash flows makes the necessary adjustments.

*Cash flow from investing activities* includes the changes in cash between statement periods for investing in fixed assets, such as property and equipment, and for selling fixed assets. *Cash flow from financing activities* includes the changes in cash between statement periods for financing activities—such as debts, endowments, grants, and transfers—to and from parent organizations.

*Net increase (decrease) in cash and cash equivalents* is computed by adding the net cash from operating, investing, and financing activities.

*Cash and cash equivalents, beginning of year* corresponds with the cash and cash equivalents, end of year for the previous year. *Cash and cash equivalents, end of year* is computed by adding the net increase (decrease) in cash and cash equivalents to the cash and cash equivalents, beginning of year, and corresponds to cash and cash equivalents on the balance sheet for the same statement period.

	<b>2017</b>	<b>EXHIBIT 3.3</b> Bobcat Hospital Statement of Cash Flows, 2017
<i>Cash flow from operating activities</i>		
Change in net assets	\$ (384)	
Adjustments to reconcile change in net assets to net cash provided by operating activities		
Extraordinary loss from extinguishment of debt		
Depreciation and amortization	471	
Net realized and unrealized gains on investments	0	
Transfer to parent	0	
Provisions for bad debt	600	
(Increase) decrease in:		
Patient accounts receivable	181	
Trading securities	0	
Other current assets	27	
Other assets	47	
Increase (decrease) in:		
Accounts and notes payable	-58	
Accrued expenses payable	463	
Estimated third-party settlements	-92	
Other current liabilities	6	
Other liabilities	100	
Net cash flow from operating activities	1,361	
<i>Cash flow from investing activities</i>		
Purchase of investments		
Capital expenditures	-1,413	
Net cash flow from investing activities	-1,413	
<i>Cash flow from financing activities</i>		
Transfers to parent	0	
Proceeds from restricted contributions and restricted investments income	95	
Payments on long-term debt	-184	
Payments on capital lease obligations	0	
Proceeds from issuance of long-term debt	0	
Net cash flow from financing activities	-89	
Net increase (decrease) in cash and cash equivalents	-141	
Cash and cash equivalents at the beginning of the year	310	
Cash and cash equivalents at the end of the year	169	

**EXHIBIT 3.4**

Bobcat Hospital  
Notes to Financial  
Statements 2017

**1. Organization and Nature of Operations**

Bobcat Hospital is a 120 bed, nonprofit hospital offering the following services: inpatient, outpatient, emergency, long-term care, rehab, and home care.

**2. Community Benefit and Charity Care**

Bobcat Hospital provides healthcare services through various programs that are designed to enhance the health of the community. Bobcat Hospital provides emergent and urgent care to persons who cannot afford health insurance because of inadequate financial resources. Bobcat Hospital's financial assistance policy provides care to patients regardless of their ability to pay, and all uninsured patients are eligible for discounts based on their income up to 400% of the federal poverty level. The amount of charity care provided is based on this policy, and the cost of charity care is calculated based on the charges for such services multiplied by the hospital's cost-to-charges ratio (0.66334). The cost of charity care provided in 2017 was \$134,400. Not included in this amount, but still considered a community benefit, is the loss to the Medicaid program.

**3. Bad Debt**

The amount of bad debt is based on GAAP principle of revenue recognition and the amount recognized in 2017 was \$600,000 based on charges.

**4. Net Patient Services Revenue**

Patient services revenue is reported at estimated net realizable amounts for services rendered. The amount is net of provisions for contractual allowances (\$4,209,000) in addition to provisions for charity care (\$420,000) and bad debt (\$600,000). Provisions for contractual allowances recognized discounts provided based on agreements with Medicare, Medicaid, other government programs, and major insurance companies.

**RATIO ANALYSIS**

A **ratio** is a comparison between two or more financial facts, such as income to assets or assets to liabilities. Ratios are useful because they help an organization compare a period's results to previous periods or to the results of other, similar organizations.

Ratios emerge from facts located on the financial statements, which report an organization's financial position at a point in time and its financial operations over a period of time. Investors and creditors analyze financial statements, primarily through ratio analysis, to predict future earnings and the ability to service debt. Managers use ratio analysis to predict the future and to plan strategies that will influence the future. Financial statement analysis concentrates on four classifications of ratios: liquidity, profitability, activity, and capital structure (see exhibit 3.5 for Optum medians for all hospitals reporting in 2017 for 2015 fiscal years).

**ratio**

A comparison between two or more financial facts, such as income to assets or assets to liabilities.

Ratios	Optum Median 2015	<b>EXHIBIT 3.5</b> Selected Financial Ratios, Optum Medians 2014
<b>Liquidity</b>		
Current	2.18	
Collection period	47.30	
Days cash-on-hand, all sources	111.6	
Days cash-on-hand, short-term sources	35.2	
Average payment period	55.3	
<b>Profitability</b>		
Operating margin (%)	.75	
Total margin (%)	4.10	
Return on net assets (%)	7.30	
<b>Asset efficiency</b>		
Total asset efficiency	.98	
Age of plant (years)	10.91	
Fixed asset turnover	2.49	
Current asset turnover	3.48	
Inventory turnover	59.77	
<b>Capital structure</b>		
Net asset financing (%)	55.60	
Long-term debt to capitalization	26.50	
Debt service coverage	2.68	
Cash flow to debt (%)	23.40	

Source: Adapted from Optum (2017). Used with permission.

## LIQUIDITY RATIOS

**Liquidity ratios** are ratios that measure of an organization's ability to meet short-term obligations. Measuring an organization's liquidity is important in evaluating an organization's financial performance.

- **Current Ratio**

$$\frac{\text{Total current assets}}{\text{Total current liabilities}}$$

The *current ratio* is the basic indicator of financial liquidity, which is an organization's ability to meet its obligations. It is nondirectional; higher values mean better debt-paying

### liquidity ratios

Ratios that measure an organization's ability to meet short-term obligations.

capacity, but a ratio that is too high may mean that the organization could invest excess current assets more wisely. The primary disadvantage of the current ratio is that it does not take into account the relative liquidity of the particular types of current assets.

- **Collection Period**

$$\frac{\text{Net receivables}}{\text{Net patient services revenue}/365}$$

The *collection period* is also called *days in accounts receivable* and is a measure of how long the average patient (or payer) takes to pay the bill after discharge. It is directional; higher values indicate that the organization is collecting its bills slowly, which may indicate liquidity problems; lower values indicate more rapid collections, which lead to more available cash.

- **Days Cash on Hand, Short-Term Sources**

$$\frac{\text{Cash} + \text{Temporary investments}}{(\text{Total expenses} - \text{Depreciation expenses})/365}$$

*Days cash on hand, short-term sources* is a measure of how long an organization could meet its obligations from cash and temporary investments. Higher values indicate short-term liquidity.

- **Days Cash on Hand, All Sources**

$$\frac{\text{Cash} + \text{Temporary investments} + \text{Unrestricted long-term investments}}{(\text{Total expenses} - \text{Depreciation expenses})/365}$$

*Days cash on hand, all sources* is a measure of how long an organization could meet its obligations if cash, temporary investments, and unrestricted long-term investments were discontinued. Higher values indicate short-term liquidity.

- **Average Payment Period**

$$\frac{\text{Total current liabilities}}{(\text{Total expenses} - \text{Depreciation expenses})/365}$$

*Average payment period* is a measure of how long the organization takes to pay its obligations. Lower values indicate liquidity and are preferable.

## PROFITABILITY RATIOS

**Profitability ratios** reflect an organization's ability to exist and grow by measuring the relationship of revenues to expenses. Profitability is a double-edged sword for not-for-profit healthcare organizations in that too much profit brings criticism from the community (and possibly the Internal Revenue Service) and too little profit brings criticism from the governing body.

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**profitability ratios**  
Ratios that measure an organization's ability to exist and grow.

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- **Operating Margin**

$$\frac{\text{Operating income}}{\text{Total operating revenue}} \times 100$$

*Operating margin* is operating income divided by total operating revenue and reflects profits from only operations. Higher values indicate profitability.

- **Total Margin**

$$\frac{\text{Excess of revenues over expenses}}{\text{Total operating revenue}} \times 100$$

*Total margin* is the excess of revenues over expenses divided by total operating revenues and reflects profits from both operations and nonoperations (typically investment income). Higher values indicate profitability.

- **Return on Net Assets**

$$\frac{\text{Excess of revenues over expenses}}{\text{Net assets}} \times 100$$

*Return on net assets* (or *equity* for for-profit organizations) is the basic measure of profit in relationship to investment. Higher values reflect profitability.

## ASSET EFFICIENCY RATIOS

**Asset efficiency ratios** reflect an organization's ability to be efficient by measuring the relationship between revenue and assets. For purposes of these ratios, total revenue includes net nonoperating gains.

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**asset efficiency ratios**  
Ratios that measure efficiency by comparing revenue to assets.

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- **Total Asset Turnover**

$$\frac{\text{Total operating revenue} + \text{Other income}}{\text{Total assets}}$$

*Total asset turnover* is the basic measure of how efficiently an organization is using its assets in relation to making revenue. Higher values usually indicate higher efficiency; however, older facilities with assets that are mostly depreciated may appear to be efficient because of a low numerator. Cleverley (2010) recommends calculating the age of plant ratio to determine whether efficiency or an older facility is causing a high total asset turnover ratio. The formula to determine the average age of a facility is

$$\frac{\text{Accumulated depreciation}}{\text{Depreciation expense}}$$

Lower values are preferable.

- **Fixed Asset Turnover**

$$\frac{\text{Total operating revenue} + \text{Other income}}{\text{Net fixed assets}}$$

*Fixed asset turnover* is a subset of the total asset turnover in that it measures how efficiently an organization is using its fixed assets (usually property, plant, and equipment) in relation to generating revenue. Higher values indicate higher efficiency.

- **Current Asset Turnover**

$$\frac{\text{Total operating revenue} + \text{Other income}}{\text{Current assets}}$$

*Current asset turnover* measures how efficiently an organization is using its current assets in relation to generating revenue. Higher values indicate higher efficiency and can be obtained by increasing revenue proportionately more than current assets or decreasing current assets proportionately more than total revenue.

- **Inventory Turnover**

$$\frac{\text{Total operating revenues} + \text{Other income}}{\text{Inventory}}$$

*Inventory turnover* measures the number of times an organization turns over its inventory relative to total operating revenue and other income. Low values usually indicate overstocking.

### CAPITAL STRUCTURE RATIOS

**Capital structure ratios** reflect the organization's long-term liquidity by measuring a variety of relationships to capital. Capital structure ratios are used by banks and bond rating agencies to determine creditworthiness.

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**capital structure ratios**  
Ratios that measure an organization's long-term liquidity by measuring a variety of relationships to capital.

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- **Net Asset Financing**

$$\frac{\text{Net assets}}{\text{Total assets}} \times 100$$

*Net asset financing* (or *equity financing* for for-profit organizations) measures the relationship between assets owned by the organization (i.e., assets minus liabilities) and total assets. This ratio is nondirectional; higher values are usually preferable. However, high-performing hospitals use debt financing, which lowers this ratio, but not excessively.

- **Long-Term Debt to Capitalization**

$$\frac{\text{Long-term debt}}{\text{Long-term debt} + \text{Net assets}} \times 100$$

*Long-term debt to capitalization* measures the relationship between long-term debt and assets owned by the organization. Lower values are preferable, whereas higher values imply a greater reliance on debt financing and may indicate a reduced ability to take on additional debt.

- **Debt Service Coverage**

$$\frac{\text{Excess of revenues over expenses} + \text{Depreciation expense} + \text{Interest expense}}{\text{Debt principal payment} + \text{Interest payments}}$$

*Debt service coverage* measures the ability to meet long-term debt obligations. Higher values indicate an organization's ability to meet long-term debt obligations. Principal payments are found as payments on long-term debt on the statement of cash flows.

- **Cash Flow to Debt**

$$\frac{\text{Excess of revenues over expenses} + \text{Depreciation expense}}{\text{Current liabilities} + \text{Long-term debt}} \times 100$$



### CRITICAL CONCEPTS

#### Creating a Financial Analysis

Imagine that you are the financial manager of Clark Pediatrics Center and you have a meeting with the board of directors in a month. You need to create a financial analysis of the organization. You have also been asked to compare Clark Pediatrics to other pediatric healthcare organizations in the area to create a trend comparison. What must you do to complete a financial analysis? What information do you need for both horizontal analysis and vertical analysis? What sources can you use for comparison? What kind of decisions can be made regarding this information?

*Cash flow to debt* measures the ability to meet both short-term and long-term obligations. Higher values indicate an organization's ability to meet both short-term and long-term obligations, and lower values indicate a possible problem in meeting long-term obligations. Cleverley (2010) indicates that the cash flow to debt ratio is one of the best predictors of financial failure in organizations.

### OPERATING INDICATORS

In addition to ratio analysis using information found in the financial statements, management may also analyze the following *operating indicators*, which are important measures of financial performance in relation to operations. Operating indicator information is not usually found on the financial statements, but it should be readily available on a variety of reports used by management.

- **Average Length of Stay**

$$\frac{\text{Patient days}}{\text{Discharges}}$$

The *average length of stay (ALOS)* measures how long patients stay in the hospital on average. Because a high percentage of hospital patients either reimburse the hospital per case or are on a capitated arrangement, lower ALOSes that hold down costs are preferable. However, hospital management should be aware of the incremental costs associated with keeping patients longer before developing rigorous discharge policies to lower their ALOS. Median ALOS for all hospitals reporting to Optum (2017) for 2015 was 4.50. Hospital

management should also be aware that ALOS varies for a variety of reasons, including case mix. Adjusted ALOS usually means that ALOS has been adjusted for case mix. Median ALOS adjusted for case mix for all hospitals reporting to Optum (2017) for 2015 was 2.7.

- **Occupancy Rate**

$$\frac{\text{Patient days}}{365 \times \text{Licensed beds}}$$

*Occupancy rate* measures capacity, or the percentage of the hospital that is being used. Higher values are typically preferable unless a large portion of the hospital's business is represented by capitation agreements. Median occupancy rate for all hospitals reporting to Optum (2017) for 2015 was 55.3.

## FINANCIAL ANALYSIS AND ANNUAL REPORTS

For-profit organizations prepare *annual reports*, which include financial and other information, and send them to their stockholders. Only recently have not-for-profit organizations begun to prepare annual reports as a vehicle of communication and accountability to the community.

There are several principles for preparing good reports, including annual reports:

- ◆ *Audience and purpose:* Management should prepare reports with the audience and purpose as the central focus. Preparing reports that readers will not understand is always dangerous. For instance, executive management should use a different level of detail in preparing a report for department managers than in preparing a report for the governing body. In addition to audience, management should always keep in mind the primary reason for the report. For instance, annual reports for for-profit organizations that have selling stock as a primary purpose will attract attention by using lots of color. Not-for-profit organizations, which must be more concerned about costs incurred, should provide an austere, yet functional, annual report.
- ◆ *Timeliness:* Reports designed to provide control within the organization, such as budget reports, must be prepared and distributed in a timely manner to maximize the effects of any necessary corrective action.
- ◆ *Accuracy:* Accuracy in reporting information is more important than timeliness. Reports with mistakes are detrimental to the organization because they create credibility problems.

- ◆ *Clarity*: Reports should be clear and concise to the audience and should leave little room for misinterpretation.
- ◆ *Comparability*: Reports should maintain formats to accommodate easy comparisons from statement period to statement period and among different organizations.
- ◆ *Commentary*: Reports should provide explanations when necessary. Even financial statements should provide explanations in the form of notes to the financial statements.
- ◆ *Meaningfulness*: Reports should be used for better decision making, which can only happen if the information is needed by the decision maker.

Annual reports provide accountability of the organization to the stockholders and act as a vehicle to sell more stock.

## CHAPTER KEY POINTS

- Financial analysis includes three steps: (1) establish the facts in the organization, (2) compare facts in the organization over time and to facts in similar organizations, and (3) use perspective and judgment to make decisions regarding the comparisons.
- The balance sheet represents the organization's assets, liabilities, and net assets.
- The statement of operations summarizes the organization's net revenues, expenses, and excess of net revenues over expenses.
- The statement of changes in net assets is the equity in a for-profit organization.
- The statement of cash flows categorizes an organization's cash flows.
- Ratio analysis compares facts over time of an organization and compares this information to similar organizations.
- Operating indicators measure the financial performance in relation to operations.

## DISCUSSION QUESTIONS

1. How would you explain the three steps in financial analysis at the organizational level?
2. What is the purpose of creating a balance sheet? List the three general classifications of the balance sheet and possible categories under these classifications.

3. What is the purpose of the statement of operations? List the main classifications and the possible categories under the classifications.
4. What types of organizations use the statement of changes in net assets, and why?
5. What is the statement of cash flows? The statement is divided into three segments; list each category.
6. What are the four classifications of ratios on which the financial statement analysis focuses?
7. What are the operating indicators used to analyze the financial performance of an organization?
8. What must an annual report include to be considered a good report?

## NOTES

1. Acquiring ratio, trend, and percentage data on specific competitors may be impossible. However, several services sell data in the aggregate for comparable organizations, and some data are published by Moody's Investors Service, Dun & Bradstreet, and Troy.
2. In the 1996 *AICPA Audit and Accounting Guide for Health Care Organizations*, the term "net assets" replaced the term "fund balance" in not-for-profit healthcare organizations for external reporting purposes. Prior to 1996, not-for-profit organizations established numerous self-balancing funds consisting of assets, liabilities, and fund balances. AICPA, and more specifically Financial Accounting Standards Board (FASB) Statement No. 117, concluded that some not-for-profit organizations did not always present information about the fund balances on external reports. Although the AICPA and FASB Statement No. 117 do not preclude not-for-profit healthcare organizations from using fund accounting for internal reporting purposes, since 1996 those organizations have been required to classify all fund balances into three broad categories and report the categories on the balance sheet.
3. Statements of cash flows can be prepared using either the indirect method or the direct method. The indirect method of computing cash flows is based on accrual accounting changes in various assets and liabilities. The direct method is based on the actual changes in cash accounts for revenues and expenses. The direct method, which is recommended by FASB Statement No. 95, focuses on the primary sources of cash, such as patients and third-party payers, and uses of cash, such as salaries and supplies. The computation of the direct method is a complex process because of the number of accruals in each line item. In fiscal years beginning after December 15, 2017, organizations may present cash flow using either the direct or the indirect method (Connor and Mosrie 2016).

# RATIO ANALYSIS

## *Ratio Analysis Practice Problem*

Using the financial statements for Bobcat Hospital in Chapter 3, calculate the following ratios for 2016:

Current ratio

Collection period ratio

Days cash on hand, all sources, ratio

Days cash on hand, short-terms sources, ratio

Average payment period ratio

Operating margin ratio

Total margin ratio

Return on net assets ratio

Total asset turnover ratio

Age of plant ratio

Fixed asset turnover ratio

Current asset turnover ratio

Inventory ratio

Net asset financing ratio

Long-term debt capitalization ratio

Debt service coverage ratio

Cash flow to debt ratio

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## Ratio Analysis Practice Problem Solution

### Current ratio

$$\frac{\text{Total current assets}}{\text{Total current liabilities}} = \frac{\$4,207}{\$1,530} = 2.75$$

### Collection period ratio

$$\frac{\text{Net receivables}}{\text{Net patient service revenue}/365} = \frac{\$3,717}{\$7,643/365} = 177.507$$

### Days cash on hand, all sources, ratio

$$\frac{\text{Cash} + \text{Temporary investments} + \text{Unrestricted long-term investments}}{(\text{Total expenses} - \text{Depreciation expenses})/365}$$

$$= \frac{\$280 + \$30 + \$85}{(\$8,786 - \$443)/365} = 17.281$$

### Days cash on hand, short-term sources, ratio

$$\frac{\text{Cash} + \text{Temporary investments}}{(\text{Total expenses} - \text{Depreciation expense})/365} = \frac{\$280 + \$30}{(\$8,786 - \$443)/365} = 13.562$$

### Average payment period ratio

$$\frac{\text{Total current liabilities}}{(\text{Total expenses} - \text{Depreciation expense})/365} = \frac{\$1,530}{(\$8,786 - \$443)/365} = 66.935$$

### Operating margin ratio

$$\frac{\text{Operating income}}{\text{Total operating revenue}} \times 100 = \frac{\$-696}{\$8,090} \times 100 = -8.603\%$$

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**Total margin ratio**

$$\frac{\text{Excess of revenues over expenses}}{\text{Total operating revenue}} \times 100 = \frac{\$-61}{\$8,090} \times 100 = -7.553\%$$

**Return on net assets ratio**

$$\frac{\text{Excess of revenue over expenses}}{\text{Total net assets}} \times 100 = \frac{\$-611}{\$5,196} \times 100 = -11.759\%$$

**Total asset turnover ratio**

$$\frac{\text{Total operating revenue} + \text{Other income}}{\text{Total assets}} = \frac{\$8,090 + \$85}{\$10,266} = 0.799$$

**Age of plant ratio**

$$\frac{\text{Accumulated depreciation}}{\text{Depreciation expense}} = \frac{\$1,660}{\$443} = 3.747$$

**Fixed asset turnover ratio**

$$\frac{\text{Total operating revenue} + \text{Other income}}{\text{Net fixed assets}} = \frac{\$8,090 + \$85}{\$4,920} = 1.662$$

**Current asset turnover ratio**

$$\frac{\text{Total operating revenue} + \text{Other income}}{\text{Total current assets}} = \frac{\$8,090 + \$85}{\$4,207} = 1.943$$

**Inventory turnover ratio**

$$\frac{\text{Total operating revenue} + \text{Other income}}{\text{Inventory}} = \frac{\$8,090 + \$85}{\$140} = 58.393$$

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**Net assets financing ratio**

$$\frac{\text{Total net assets}}{\text{Total assets}} \times 100 = \frac{\$5,196}{\$10,226} \times 100 = 50.812$$

**Long-term debt to capitalization**

$$\frac{\text{Long-term debt}}{\text{Long-term debt} + \text{Net assets}} \times 100 = \frac{\$3,500}{\$3,500 + \$5,196} \times 100 = 40.248\%$$

**Debt service coverage ratio**

$$\frac{\text{Excess of revenues over expenses} + \text{Interest expense} + \text{Depreciation}}{\text{Interest} + \text{Principal payments}}$$
$$= \frac{\$-611 + \$443 + \$109}{\$178 + \$109} = -0.206$$

**Cash flow to debt ratio**

$$\frac{\text{Excess of revenues over expenses} + \text{Depreciation}}{\text{Current liabilities} + \text{Long-term debt}} \times 100$$
$$= \frac{\$-611 + \$443}{\$1,530 + \$3,500} \times 100 = -3.340$$

## Ratio Analysis Self-Quiz Problem

Using the financial statements for Bobcat Hospital in Chapter 3, calculate the following ratios for 2017 and indicate whether they are better or worse than the 2016 ratios. Indicate whether the 2017 ratios are better or worse than the benchmarks using the Optum medians for each ratio (see Exhibit 3.5):

Current ratio

Collection period ratio

Days cash on hand, all sources, ratio

Days cash on hand, short-term sources, ratio

Average payment period ratio

Operating margin ratio

Excess margin ratio

Return on net assets ratio

Total asset turnover ratio

Age of plant ratio

Fixed asset turnover ratio

Current asset turnover ratio

Inventory ratio

Net asset financing ratio

Long-term debt to capitalization ratio

Debt service coverage ratio

Cash flow to debt ratio

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