

# PUBLIC HEALTH FINANCE TUTORIAL SERIES

## Module VI

### ASSESSING FINANCIAL PERFORMANCE

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#### **MODULE THEME: TANGELO COUNTY HEALTH DEPARTMENT'S FINANCIAL PERFORMANCE**

Tangelo County, which encompasses roughly 875 square miles, has a population of approximately 250,000 spread between a central city (Tangelo City) of roughly 100,000, several smaller communities, and unincorporated rural areas. The public health needs of the county are administered by the Tangelo County Health Department (TCHD). TCHD has 238 full-time employees (FTEs) and an annual budget of roughly \$16 million. In the most recent year, TCHD provided clinical services for over 30,000 active clients in the areas of primary medical care (adult and pediatric), dental care, family planning, and specialty care (HIV and STD). In addition to clinical services, TCHD conducts a wide range of programs in disease intervention, environmental health, preventive medicine, and public health preparedness.

TCHD's mission is to promote, protect, maintain, and improve the health and safety of the county's citizens and visitors. From a financial perspective, mission accomplishment requires that (1) the health department maintain the financial capability to meet mission needs and (2) the funds available to the department are used in the most productive way. How can TCHD's managers ensure that these goals are met? The answer is through analysis of the department's financial performance.

As discussed in Module III (Financial Planning and Budgeting) and Module V (Financial Reporting), TCHD develops a large amount of financial data, which it reports to its own board of directors as well as to county and state government officials. However, large amounts of data are time consuming to analyze. Furthermore, raw financial data often do not provide quick answers to basic questions about an organization's financial strengths and weaknesses. The best way to deal with these problems is to use the reported data to create measures (metrics) that focus on important areas of financial performance. In this way, a large amount of data is converted into smaller pieces that focus on specific elements of performance. By the end of this module, you will have a better understanding of how public health managers create and use metrics that enhance their abilities to assess financial performance.

#### **Learning Objectives**

After studying this module, you should be able to do the following:

- Explain the importance of assessing financial performance.
- Describe and be able to use ratio and percentage change analyses.
- Explain why comparative and trend analyses are important tools in financial performance analysis.
- Describe the problems associated with financial performance analysis.
- Explain how Key Performance Indicators (KPIs) and dashboards can be used to monitor financial condition.
- Conduct a basic financial performance analysis of your organization.

## INTRODUCTION

One of the most important characteristics of any organization, whether private or government, is its financial performance (often called *financial condition*): Does the organization have the financial capacity to perform its mission?

### Key Concept: Financial Performance Analysis

*Financial performance analysis* uses data contained in various financial and operating reports to assess an organization's financial capability to meet mission needs. Such analyses typically encompass operating and other performance measures in addition to pure financial measures.

Many judgments about an organization's financial condition are made on the basis of *financial performance analysis*, which focuses on the data contained in an organization's financial reports, including financial statements when they are available. (Financial reporting is covered in detail in Module 5 of this tutorial series.) Financial performance analysis is applied both to historical data, which reflect the results of past managerial decisions, and to forecasted data, which provides the roadmap for the organization's future. Therefore, public health managers use financial performance analysis both to assess current financial condition and to plan for the future.

Although a **strict interpretation** of financial performance analysis, using only financial data, provides important information regarding an organization's financial capabilities, it does not provide much insight into the operational causes of that condition

or the success of the organization in meeting its operational (mission) goals. Thus, many financial performance analyses go beyond pure financial data to include operating and environmental data such as staffing, process, outcome, and demographic measures. By extending the analysis beyond financial data, public health managers are better able to assess total performance and hence identify and implement strategies that ensure both financial soundness and mission success.

Financial performance analyses involve a number of techniques that extract information contained in an organization's financial and operating reports and combine it in a form that facilitates making judgments about the organization's financial health and operations. Often, the end result is a list of organizational strengths and weaknesses. In this module, several analytical techniques used in these analyses, some related topics, and the problems inherent in such analyses are discussed. In addition, an illustrative analysis of a local health department will be presented so that you will be able to see a financial performance analysis "in action." Along the way, you will discover that financial performance analyses, even though they distill information from a large amount of data, can still generate a great deal of information. Thus, a significant problem in assessing financial performance is separating the important from the unimportant and presenting the results in a simple, easy to understand, easy to monitor format.

## PERFORMANCE ANALYSIS TOOLS

The first step in most financial performance analyses is to examine the organization's financial and operating reports. Sometimes the reports include formal accounting financial statements, but in other situations budgets and other financial and operating data are used.

Unfortunately, it usually is difficult to make meaningful judgments about financial performance by merely examining raw data. To illustrate, Local Health Department (LHD) L (for large) might have \$35,000,000 in revenues while LHD S (for small) might have only \$10,000,000 in revenues. Does this difference in revenues mean that L is on "easy street" when it comes to meeting mission requirements while S probably is unable to get the job done? Of course not! The ability of any LHD to provide necessary services to all who need them is dependent on both revenues and the population served. Now suppose LHD L serves a population of 500,000 and S serves a population of 100,000. The true "wealth" of the two LHDs can be better measured and compared by applying ratio analysis to the data.

In this section, we discuss four tools used in financial performance analysis: ratio, percentage change, comparative, and trend analyses.

## Ratio Analysis

*Ratio analysis* combines data (often from different sources) to create single numbers that have easily interpretable economic significance. In other words, numbers that are easily understood that measure various aspects of financial and operating condition. Because the ratios measure important aspects of performance, they are often called *performance metrics*, or just *metrics*.

To illustrate ratio analysis, consider the revenue and population data for LHD L and LHD S presented earlier. If the revenues for each LHD are divided by the matching populations served, a metric is created that helps place the revenue amount in perspective and hence makes it a better measure than just revenue. For LHD L, the revenue per each person

### Key Concept: Ratio Analysis

*Ratio analysis* combines data to create single numbers (*performance metrics*, or just *metrics*) that have easily interpretable economic significance. Its purpose is to help managers deal with large amounts of raw data.

in the population, or *per capita revenue*, is  $\$35,000,000 \div 500,000 = \$70.00$ , while for LHD S the amount is  $\$10,000,000 \div 100,000 = \$100.00$ . By scaling the revenue amounts according to each department's population, it is now clear that LHD S, although having less revenue, is actually in a better financial position revenue-wise than is the larger LHD L.

Of course, other factors come into play when assessing revenue adequacy, such as the needs of the population as measured by, say, percent of the population below the poverty line. But, as a starting point, the revenue per capita metric clearly is superior to looking just at the raw revenue dollar amount.

The good news is that most metrics are easy to calculate and use. The bad news is that an almost unlimited number of metrics can be constructed, and the choice depends in large part on the nature of the organization being analyzed, the purpose of the analysis, and the availability of comparative data. (Comparative data is discussed on page 4.)

## Percentage Change Analysis

*Percentage change analysis* is another technique used in financial performance analyses. Here, the year-to-year percentage changes in performance metrics are calculated and compared. When this is done, it is easy to identify which metrics are growing faster or slower than others and thus which metrics are under control and which are not. Presumably, once the out of control metrics are identified, managers can take whatever actions are necessary to stabilize the situation and hence improve future performance.

### Key Concept: Percentage Change Analysis

*Percentage change analysis* examines the amount, in percentage terms, by which a metric changes over time. This allows managers to quickly see which metrics are growing faster (or slower) than others.

To illustrate percentage change analysis, consider the per capita revenue for LHD L of \$70.00 calculated above. Now assume that the following year's per capita revenue is \$71.33. The difference between the two values is  $\$71.33 - \$70.00 = \$1.33$ , and the percentage change from one year to the next is  $\$1.33 \div \$70.00 = 0.019$ , or expressed as a percentage, 1.9 percent.

The ability of LHD L to meet mission needs is highly dependent on the amount of funds that it has to spend. Therefore, all else the same, increasing per capita revenues means a better mission capability, while decreasing per capita revenues reduces the ability of the LHD to accomplish its mission. Even more important to good financial performance is the ability of an organization to increase its per capita revenues faster than the population (especially the needy) is increasing.

The conclusions reached in percentage change analyses generally parallel those derived from ratio analysis. However, occasionally a serious deficiency is highlighted only by one of the two analytical techniques. Thus, a thorough financial performance analysis usually consists of both ratio and percentage change analyses.

## Comparative Analysis

When conducting ratio analysis, the value of a particular ratio, in the absence of other information, reveals very little about an organization's financial performance. For example, is LHD L's per capita revenue metric of \$70.00 good or bad? Without additional information, it really is impossible to interpret this value.

### Key Concept: Comparative Analysis

*Comparative analysis* is used to help managers interpret ratios and other metrics. The concept involves comparing an organization's metrics with those of other similar organizations, either individually or as a group (often expressed as an *industry average*).

One aid to interpreting ratios is *comparative analysis*, which uses data from similar organizations to establish *benchmarks* and then compares organizational metrics to those benchmarks.

To illustrate, assume that the average value for per capita revenue for all LHDs in the state is \$68.00. L's per capita revenue metric of \$70.00 is somewhat above the state average, which indicates that the managers at L are doing a good job of generating revenues **as compared to the average LHD in the state**.

But precisely how good are they doing? It would be useful to have a more complete set of comparative data. For example, suppose we know that the top 25 percent (upper quartile) of state LHDs have per capita revenue greater than \$75.00. With that information, we know that although LHD L is above the state average of \$68.00, it is not among the leaders, where "leaders" are defined as the top 25 percent of state LHDs.

Comparative data is not always easy to obtain. Ideally, comparative data would come from organizations that are similar (in size, mission, population demographics, and so on) to the one being analyzed. If the comparative data are from all similar organizations, it typically is called *industry data* and so the resulting benchmarks are called *industry averages*. If an LHD is being analyzed, industry averages typically are based on all LHDs within the state, and hence the industry averages are *state averages*. Alternatively, comparative data sometimes can be drawn from individual organizations such as a primary competitor or from just a few organizations that are considered to be top performers in the industry.

## Trend Analysis

Another aid to interpreting ratios is *trend analysis*, in which the value of a single metric is analyzed over time. Trend analysis tells managers whether a particular measure of performance is improving, holding constant, or deteriorating over time. To illustrate trend analysis, consider the per capita revenue for LHD L of \$70.00 calculated earlier. Now assume the following data over a 5-year period:

### Key Concept: Trend Analysis

*Trend analysis* is another technique to help managers interpret ratios and other metrics. Here, a metric is examined over time to see whether performance in that area is holding constant, improving, or deteriorating.

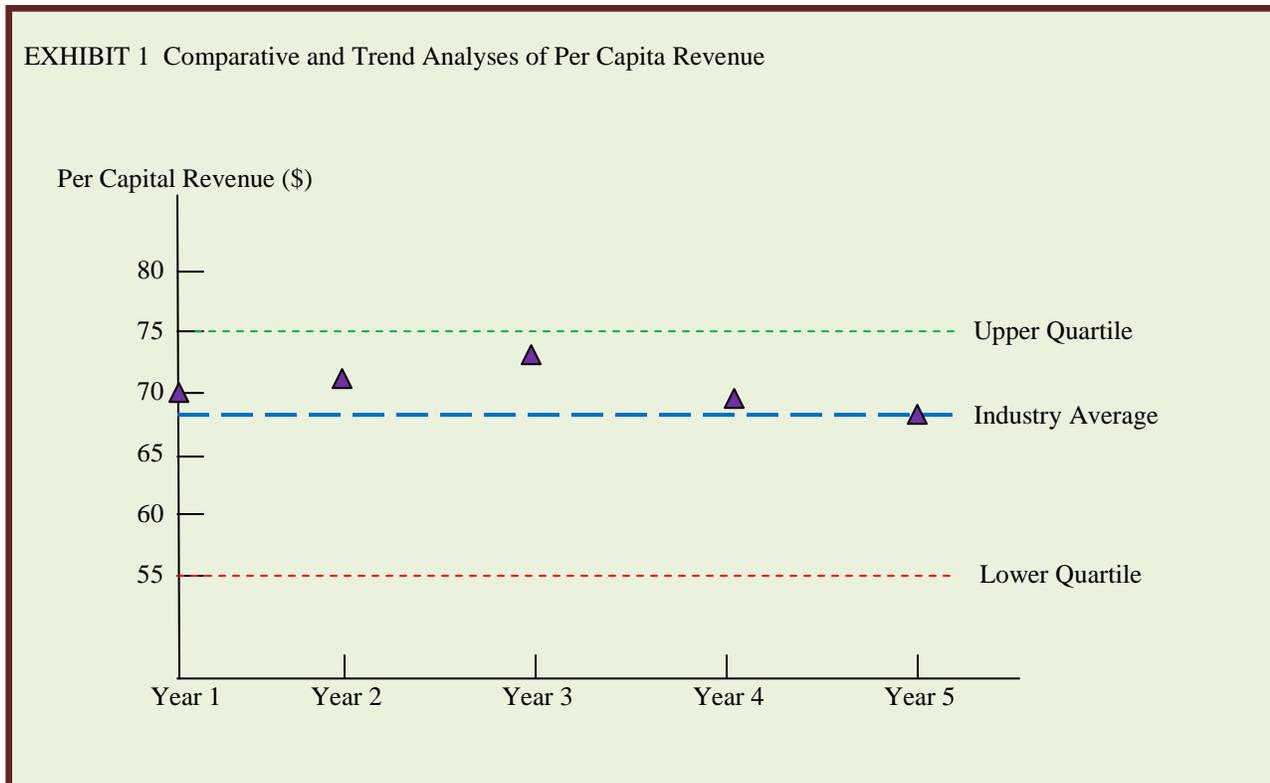
<u>Year</u>	<u>Per Capita Revenue</u>	<u>% Change</u>
1	\$70.00	--
2	71.33	1.9%
3	72.89	2.2
4	69.76	-4.3
5	67.81	-2.8

The percentage change (% Change) column tells managers that per capita revenue increased from Year 1 to Year 2 by 1.9 percent and from Year 2 to Year 3 by 2.2 percent. Thus, per capita revenue not only improved over Years 1-3, but improved at an increasing rate.

Although this is good news, the situation turned unfavorable in Years 4 and 5, which showed a 4.3 and 2.8 percent **decrease** in per capita revenue. By following the trends of a particular metric over time managers can identify situations that require attention (corrective action) before they get out of hand.

### Combining Comparative and Trend Analyses Graphically

Comparative and trend analyses can be combined in a single graph such as the one shown in Exhibit 1 for LHD L's per capita revenue. The light dashed lines represent the upper and lower quartiles of other LHDs in the state, the heavy dashed line is the industry (state) average value, and the triangles are the values for LHD L. It is easy to quickly see that L's per capita revenue increased for the first three years and then fell for the next two. However, over the entire 5-year period (except for the final year), L's per capita revenue was above its peer group average, but fell short of the top performers (upper quartile).



### Self-Test Questions

1. What is the purpose of financial performance analysis?
2. Explain how ratio and percentage change analyses are used to assess financial performance.
3. What is the value of comparative and trend analyses?
4. Explain how comparative and trend analyses can be combined and portrayed graphically.

## LOCAL HEALTH DEPARTMENT ILLUSTRATION

Now that you understand the tools used in financial performance analysis, let's see how these tools are used at the Tangelo County Health Department (TCHD). Exhibit 2 contains a sample of the financial data that TCHD reports to the state health department. In addition, Exhibit 3 contains selected non-financial data; some of which will be used in our illustration of financial performance analysis.

### EXHIBIT 2 Sample TCHD Annual Financial Reporting Data

#### *Aggregate Data:*

#### **1. Revenues:**

Federal revenues (Excluding Medicaid and Medicare)	\$ 1,675,170
State revenues	6,900,167
County revenues	1,036,451
Medicaid revenues	2,345,370
Medicare revenues	128,143
Fees from medical services	683,999
Fees from environmental health services	503,897
Fees from vital statistics	311,595
Other revenues	<u>2,643,855</u>
Total Revenues	<u>\$16,228,647</u>

#### **2. Expenditures:**

Salaries and wages	\$ 9,113,603
Fringe benefits	3,047,526
Expenses	3,124,166
Other	325,701
Fixed capital outlays (construction/renovation)	<u>5,650</u>
Total Expenditures	<u>\$15,616,645</u>

#### **3. Fund Balances:**

General fund balance	\$ 1,675,125
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#### **4. Other Financial Data:**

Accounts receivable	\$ 457,518
Total amount written off	\$ 72,378

EXHIBIT 2 (Continued) Sample TCHD Annual Financial Reporting Data

*Specific Revenue and Expenditure Breakouts:*

**5. Revenues:**

Restricted (categorical) revenues	\$ 2,444,725
Grant revenues	\$ 3,398,258
Environmental health revenues	\$ 620,613
Dental revenues	\$ 70,684
Immunization revenues	\$ 676,045
Medical services revenues	\$ 5,382,495

**6. Expenditures:**

Administrative expenditures	\$ 2,286,614
Program expenditures	\$13,330,031
Laboratory expenditures	\$ 514,208
Public health preparedness expenditures	\$ 630,360
Chronic diseases expenditures	\$ 366,641
Medical services expenditures	\$ 6,097,197
Pharmacy expenditures	\$ 363,778
Environmental health expenditures	\$ 953,179
Dental expenditures	\$ 78,951
Immunization expenditures	\$ 1,052,886

EXHIBIT 3 Sample TCHD Annual Non-Financial Reporting Data

**1. Demographic**

Total population	251,703
Median population age	29.0
Number in population under 18	62,207
Number in population over 65	25,172
Number in population below the poverty level	57,388
Number of residential building permits issued	401
Number of people covered by Medicaid	7,607
Number of people uninsured	49,108

**2. Workforce**

Total FTE (full time equivalents)	238
Total liability for unused vacation and sick leave	\$1,232,330
Number of finance employees with discipline specific education	1.0
Number of employees with finance responsibilities	4.0

**3. Mission Critical**

Number of priority programs	12
Number of community health outcomes showing Improvement over 3 years	6
Number of community health outcomes monitored annually	13
Total expenditures targeted to health disparity programs	\$1,266,698
Total number of agency programs	37

To help make the financial performance analysis easier to interpret, the metrics, which are calculated from the data in Exhibits 2 and 3, are organized into five groups (revenue, expenditure, workforce, mission, and demographic) according to the type of information they provide.

Note that our purpose here is not to provide a complete financial performance analysis of TCHD, but rather to illustrate the process and to give you a feel for the types of metrics used.

### **Revenue Metrics**

The purpose of *revenue metrics* is to assess the quality of the organization's revenues. By "quality," we mean the ability of the revenues to provide the organization with the financial resources necessary to accomplish its mission. To do this, revenues must (1) grow to support population growth; (2) be from a diversity of sources so they are sustainable in the aggregate even as individual sources ebb and flow over time; (3) offer flexibility in that the organization can use the revenues for a variety of purposes; and (4) be dependable in that they can be counted on over the long term.

Note that all metrics in this illustration are presented in the same format. First, the name of the metric and its formula will be listed in boldface along with the current year calculation for TCHD based on the values reported in Exhibits 2 and 3. Next, the previous two years' values and the state average will be listed. (Note that the state average value reported here is the median value, which means that half the state LHDs have values greater than that reported and half have values less than that reported.) Finally, a short interpretation is presented.

#### **Revenues per Capita (Total revenues ÷ Population served)**

$\$16,228,647 \div 251,703 = \$64.48.$

Previous 1 year = \$62.13.

Previous 2 year = \$57.46.

State average = \$67.69.

The larger the per capita revenues, the greater the amount of financial resources available for mission needs (per population served). TCHD's revenues per capita is increasing, but still sits slightly lower than the state average. There is nothing alarming here, and the annual increases are encouraging. Still, there is reason to believe that the potential exists for increasing revenues per capita above the state average. Thus, TCHD's managers should examine what the top performers are doing and take actions to attempt to improve this metric.

#### **Restricted Revenues as a Percent of Total Revenues (Restricted revenues ÷ Total revenues)**

$\$2,444,725 \div \$16,228,647 = 0.151 = 15.1\%.$

Previous 1 year = 18.9%.

Previous 2 year = 19.7%.

State average = 20.3%.

Restricted revenues are those that are provided for a specific purpose (categorical revenues). If restricted revenues represent a significant portion of the organization's total revenues, the discretionary use of financial resources by local managers is limited. Only 15.1 percent of TCHD's revenues are restricted, as compared to the state average of 20.3 percent. Furthermore, this percentage has decreased over the past three years. Because overall revenues are increasing (on a per capita basis), a falling restricted revenue percentage means that an increasing revenue amount is available for discretionary use.

**Revenue Sources As a Percent of Total Revenues (Revenue source ÷ Total revenues)**

These metrics provide managers with a measure of the diversity of the organization’s sources of revenue. The greater the number of sources, and hence the smaller the proportion of each source, the more diverse the revenue stream. Greater diversity protects the organization from financial resource disruptions caused by loss of one (or just a few) sources. In addition, some sources are considered to be “better” than other sources for a variety of reasons, say, because the source has been very consistent over time. To illustrate these ratios, we will calculate two metrics:

**Medicaid revenues as a percent of total revenues (Medicaid revenues ÷ Total revenues)**

$\$2,345,370 \div \$16,228,647 = 0.145 = 14.5\%$ .

Previous 1 year = 11.8%.

Previous 2 year = 13.4%.

State average = 11.7%.

Medicaid revenues are reimbursements to TCHD by Medicaid for services rendered to Medicaid enrollees. Thus, this metric reflects not only the population served that is eligible for Medicaid but also how aggressive the organization is in ensuring that all Medicaid-eligible clients are actually enrolled and that covered services are billed for and collected. TCHD’s metric has gone down and then up but remains above the state average.

**County revenues as a percent of total revenues (County revenues ÷ Total revenues)**

$\$1,036,451 \div \$16,228,647 = 0.064 = 6.4\%$ .

Previous 1 year = 6.8%.

Previous 2 year = 7.4%.

State average = 5.5%.

There is some evidence that a higher percentage of county revenues means more local governmental concern with public health issues, and hence increased emphasis on mission needs. On the other hand, local revenues typically are more subject to variation due to economic conditions because of the limited tax base. TCHD’s proportion of county revenues is above the state average (which is good) but has decreased over the last three years (which is bad)

**General Fund Balance as a Percent of Total Revenues (General fund balance ÷ Total revenues)**

$\$1,675,125 \div \$16,228,647 = 0.103 = 10.3\%$ .

Previous 1 year = 6.3%.

Previous 2 year = 7.0%.

State average = 14.5%.

The general fund balance represents the financial reserves (savings) of an organization. Sometimes reserves are amassed for a specific purpose, but more typically, especially in public health organizations, reserves are used to protect programs against unexpected revenue shortfalls. Depending on the public health setting, some organizations are prohibited from accumulating reserves, while others are limited as to the amount of reserves. TCHD’s general fund balance as a proportion of total revenues is 10.3 percent. This means that next year’s revenues could fall by 10.3 percent from this year, but the total revenues would remain at the current level if the entire reserve was used to replace the revenue reduction. TCHD reserves are higher than the previous two years (which is good) but they are well below the state average (which is bad).

### **Operating Surplus/Deficit (Total revenues ÷ Total expenses)**

	$\$16,228,647 \div \$15,616,645 = 1.04.$
Previous 1 year	= 1.00.
Previous 2 year	= 0.97.
State average	= 0.99.

The operating surplus/deficit measures whether revenues exceed expenses. If this metric is 1.00, revenues equal expenses and there is no surplus generated to increase the general fund balance. If the value is greater than 1.00, revenues exceed expenses and a surplus is generated, and the larger the value the greater the surplus. However, a value less than 1.00 means that expenses exceed revenues, and hence the organization has to dip into its reserves (if it has any) to finance that year's activities. TCHD's operating surplus/deficit is 1.04, which means that revenues exceeded expenses by 4 percent. This value has increased over the past three years and is greater than the state average, which is good. In fact, the state average is less than one, which means that about half of the LHDs did not cover their expenses.

### **Expenditure Metrics**

The purpose of *expenditure (expense) metrics* is to assess the "contribution" of the organization's expenses to mission accomplishment. In other words, are the revenues of the organization being spent wisely? Specific areas of examination include the following: (1) Do the expenditures grow as the population (and hence need) grows? (2) Are the expenditures productive and effective? (3) Do the expenditures focus on priority programs? Here are some examples of expenditure metrics:

### **Expenditures per Capita (Total expenditures ÷ Population served)**

	$\$15,616,645 \div 251,703 = \$62.04.$
Previous 1 year	= \$61.97.
Previous 2 year	= \$59.37.
State average	= \$68.69.

Expenditures per capita is a gross indicator of how much was spent by the organization per population served. The greater this value, the better. However, this metric does not distinguish between "good" expenditures, which contribute to the organization's mission and "bad" expenditures, which are wasteful and nonproductive. TCHD's value increased over the past three years, which is good, but still fell short of the state average.

### **Administrative Expenditures as a Percent of Total Expenditures (Administrative expenditures ÷ Total expenditures)**

	$\$2,286,614 \div \$15,616,645 = 0.146 = 14.6\%.$
Previous 1 year	= 14.3%.
Previous 2 year	= 16.0%.
State average	= 11.5%.

All organizations require administrative (overhead) expenditures, such as general management, financial services, housekeeping, and so on, to operate. However, the mission of a local public health department is accomplished primarily by its program personal rather than by administrators. Thus, it is important that as much of the financial resources as practical be applied to programs as opposed to general administration. Of course, if administrative expenses are reduced too much, then programs will suffer from lack of efficient coordination and oversight. TCHD's administrative expenditures as a percent of total expenditures has varied over time, but is still well above the state average. TCHD's managers must take a hard look to ensure that the dollars expended on administrative activities are well spent so that the maximum amount of financial resources can be devoted to mission-related activities.

### **Program Expenditures as a Percent of Total Expenditures (Program expenditures ÷ Total expenditures)**

These metrics provide managers with a measure of the proportion of total expenditures devoted to individual programs. The greater the percentage for a particular program, the greater the emphasis (as measured by dollars) on that program. To illustrate, we will calculate two metrics:

#### **Immunization program expenditures as a percent of total expenditures (Immunization expenditures ÷ Total expenditures)**

$$\$1,052,886 \div \$15,616,645 = 0.067 = 6.7\%.$$

$$\text{Previous 1 year} = 6.6\%.$$

$$\text{Previous 2 year} = 6.9\%.$$

$$\text{State average} = 4.1\%.$$

Immunization is one of the important missions of public health. The goal of the vaccination program is to reduce and eventually eliminate as many vaccine-preventable diseases as possible. An important part of TCHD's immunization program is to offer free immunizations to children up to 18 years of age. To this end, over 30,000 vaccines were administered this year. TCHD's immunization metric has been variable over the past three years but remains well above the state average. Of course, the children's program is influenced by the number of children in the population, which is 62,207. Another useful metric would be immunization expenditures per child.

#### **Public health preparedness expenditures as a percent of total expenditures (Public health preparedness expenditures ÷ Total expenditures)**

$$\$630,360 \div \$15,616,645 = 0.040 = 4.0\%.$$

$$\text{Previous 1 year} = 5.0\%.$$

$$\text{Previous 2 year} = 6.6\%.$$

$$\text{State average} = 3.5\%.$$

Public health preparedness is an important function of the public health system. For example, TCHD prepares plans to deal with any natural or man-made disaster or epidemic that might affect the population served. Examples include hurricanes, bio-terrorism, and influenza pandemics. TCHD's public health preparedness expenditures as a percent of total expenditures has fallen significantly over the last three years but remains above the state average.

This might be a good time to emphasize that the metrics presented here are just a sampling. Often, the creation of one metric raises additional questions that can be best answered by the creation of additional metrics. Although this may seem to be a never-ending process, eventually managers can extract as much information as possible from the raw data. Also, creating more and more metrics is of little value to managers if comparative data are not available to help interpret the metrics. Finally, the last section of this tutorial suggests that the identification of key metrics can help senior managers focus on a limited number, and hence not be distracted by the large number of metrics available.

## Workforce Metrics

The purpose of *workforce metrics* is to assess the efficiency of the organization's workforce. A workforce that is too small will not be able support the organization's mission. Conversely, a workforce that is too large siphons off financial resources that could be used more productively.

### Employees per 1,000 Population (Number of FTEs ÷ [Population served ÷ 1,000])

$238 \div (251,703 \div 1,000) = 0.95$ .  
Previous 1 year = 0.93.  
Previous 2 year = 0.96.  
State average = 0.95.

Employees per 1,000 population reflects the amount of workforce per population served. A higher value might mean that more (or better) services are being provided, but it could also mean that the organization is over-staffed. TCHD's metric has stayed relatively constant over time and it right on the state average. Thus, it is likely that TCHD has a staffing level that is more or less appropriate.

### Personnel Costs as a Percent of Total Expenditures (Salaries and wages plus fringe benefits ÷ Total expenditures)

$(\$9,113,603 + \$3,047,526) \div \$15,616,645 = 0.779 = 77.9\%$ .  
Previous 1 year = 79.1%.  
Previous 2 year = 76.0%.  
State average = 74.2%.

In any public health organization, personnel costs are by far the highest category of costs because, for the most part, public health services are provided by people and not machines. Furthermore, all organizations want to hire and retain good managers and workers, which require competitive wage rates. Still, it is important that salary dollars be wisely spent, and high personnel costs as a percent of total costs may mean that an organization is overpaying its employees or that the employees are not as productive as they should be. TCHD's personnel costs as a percent of total expenditures have fluctuated over the past three years and are somewhat higher than the state average. Because (as calculated above) the number of employees appears to be appropriate, it would be prudent for TCHD's manager so take a close look at the organization's compensation structure.

### Fringe Benefits as a Percent of Salaries and Wages (Fringe benefits ÷ Salaries and wages)

$\$3,047,526 \div \$9,113,603 = 0.334 = 33.4\%$ .  
Previous 1 year = 32.8%.  
Previous 2 year = 31.1%.  
State average = 31.3%.

Because personnel costs represent such a large proportion of total expenditures, it is necessary to monitor fringe benefits as well as salaries and wages. TCHD's fringe benefits (as a percentage of salaries and wages) have been drifting higher over the past three years and are above the state average. Perhaps the higher than average personnel costs are caused primarily by overly generous fringe benefits. In any case, TCHD's managers should take a hard look at employee costs to ensure that these dollars are being efficiently spent.

**Average Accumulated Leave Liability (Total liability for unused leave ÷ Total FTEs)**

\$1,232,330 ÷ 238 = \$5,178.  
Previous 1 year = \$4,913.  
Previous 2 year = \$4,585.  
State average = \$4,327.

Typically, employees are paid for unused leave upon retirement or termination. Although the total liability (\$1,232,330) would only come due if the organization itself is terminated, the payments made on an annual basis represent resources that are unavailable for other purposes. TCHD’s average leave liability is increasing and well above the state average, which indicates that managers should examine its leave payment policies to ensure that they are competitive but not overly generous.

**Mission Metrics**

The purpose of *mission metrics* is to ensure that the organization’s programs, especially the critical ones, are successful (meeting established goals). Note that many mission metrics are developed by program managers as opposed to being part of the overall organization’s financial performance assessment. For example, number of immunizations performed or number of AIDS drug assistance program enrollees. However, some metrics, as illustrated here, examine the overall organization’s mission success.

**Percent of Monitored Programs with Health Outcome Improvement over the Past Three Years  
(Number of monitored programs with improvement ÷ Total number of monitored programs)**

6 ÷ 13 = 0.462 = 46.2%.  
Previous 1 year = 46.2%.  
Previous 2 year = 38.5%.  
State average = 35.7%.

Clearly, the best measure of performance of a public health organization is its ability to meet mission goals, which can be roughly interpreted as meeting program goals. The percent of monitored programs with outcome improvement metric is a measure of the ability of the organization to improve the health of the population served. TCHD’s metric has improved over time and is above the state average, which indicates that it is doing a good job comparatively of accomplishing its mission. Still, there is much room for improvement, and TCHD’s managers should strive for a value of 100 percent for this metric.

**Percent of Total Expenditures Targeted to Health Disparities Programs  
(Expenditures on health disparities programs ÷ Total expenditures)**

\$1,266,698 ÷ \$15,616,645 = 0.081 = 8.1%.  
Previous 1 year = 4.9%.  
Previous 2 year = 5.1%.  
State average = 9.0%.

This metric focuses on the organization’s commitment to reduce health disparities. TCHD’s percent of total expenditures devoted to health disparities has increased this year, but remains short of the state average. This could mean that more emphasis should be given to combating health disparities, but it could also mean that Tangelo County has a population with fewer disparities than the state average.

## Demographic Metrics

As we indicated several times when discussing previous metrics, demographic information often is useful when interpreting other metrics. Here are just a few of the demographic metrics that provide relevant information.

### Percent of Population Under 18 (Number in population less than 18 ÷ Total population)

$$62,207 \div 251,703 = 0.247 = 24.7\%.$$

$$\text{Previous 1 year} = 24.6\%.$$

$$\text{Previous 2 year} = 24.5\%.$$

$$\text{State average} = 21.0\%.$$

The greater the proportion of population under 18 years of age, the greater the potential need for children's services. TCHD's metric indicates that the county's proportion of children has remained relatively constant over the last 3 years and is somewhat higher than the state average.

### Percent of Population Over 65 (Number in population over 65 ÷ Total population)

$$25,172 \div 251,703 = 0.100 = 10.0\%.$$

$$\text{Previous 1 year} = 10.1\%.$$

$$\text{Previous 2 year} = 9.9\%.$$

$$\text{State average} = 24.2\%.$$

The greater the proportion of population over 65 years of age, the greater the potential need for geriatric services. However, because most elderly are covered by Medicare, they typically have greater access to health services than do other age categories. TCHD's metric indicates that the county's proportion of elderly has remained relatively constant over the last 3 years but is significantly less than the state average. Clearly, Tangelo County is quite different from the other counties in regards to its population age distribution.

### Percent of Population below the Poverty Level (Number in population below the poverty level ÷ Total population)

$$57,388 \div 251,703 = 0.228 = 22.8\%.$$

$$\text{Previous 1 year} = 22.6\%.$$

$$\text{Previous 2 year} = 22.3\%.$$

$$\text{State average} = 13.7\%.$$

The greater the proportion of population living below the poverty level, the greater the need for public health services. TCHD's metric indicates that the county's proportion of the poor has remained relatively constant, but at a level much higher than the state average. All else the same, that indicates greater need for public health services than the average county in the state.

### **Percent of Population Uninsured (Number of uninsured ÷ Total population)**

49,108 ÷ 251,703 = 0.195 = 19.5%.

Previous 1 year = 19.4%.

Previous 2 year = 19.2%.

State average = 20.8%.

The greater the proportion of uninsured in the population, the more difficult the access to health services. All else the same, this should mean a greater burden on the public health system. TCHD's percentage of uninsured has rising somewhat over the past 3 years but remains below the state average.

### **Illustration Recap**

This is a good time to reiterate why financial performance analyses are so important to good management. The key point here is that neither financial statements nor budgets, although very important sources of financial information, provide information in a form that facilitates the evaluation of an organization's financial resources and its ability to use those resources to meet mission needs.

The development and interpretation of financial and other metrics can provide managers with insights into their organization's ability to maintain existing service levels, withstand economic disruptions, and meet new demands that result from either new threats or growing populations. In addition, financial performance analyses can assist managers in meeting the very important organizational goals of mission, accountability, transparency, and continuous improvement.

### **Self-Test Questions**

1. What information can be learned from revenue metrics? From expenditure metrics? From workforce metrics?
2. What is the difference between program performance and aggregate mission performance?
3. What role does demographic metrics play in financial performance assessment?
4. With the TCHD example in mind, what is your opinion regarding the value of financial performance analysis?

### **LIMITATIONS OF FINANCIAL PERFORMANCE ANALYSIS**

While financial performance analysis can provide a great deal of useful information regarding an organization's operations and financial condition, such analyses have limitations that necessitate care and judgment. In this section, some of the problem areas are highlighted.

#### **Differences Across Organizations**

Many public health organizations, especially local health departments (LHDs), are organized differently and have somewhat different missions. For example, some LHDs are part of state networks while others operate more or less independently. Also, some LHDs provide clinical services while others do not. The lack of homogeneity among LHDs complicates comparative analyses because it makes it difficult to develop meaningful comparative data, especially at the national level.

A similar problem occurs because different accounting practices among organizations can distort financial metrics, especially when financial statements are used to provide data for the metrics. For example, organizations can use different fiscal years, which can distort comparative financial data.

## Interpreting Whether a Metric is Good or Bad

Generalizing about whether a particular metric is good or bad often is difficult. For example, a high number of employees per 1,000 population metric may mean that the population served requires greater-than-average public health services, in which case the high metric is justified, or it may indicate an excessive amount of employees, which is bad. Similarly, a high general fund balance as a proportion of total revenues may denote a prudent LHD that is saving for a “rainy day” or one that is not spending enough annually to meet mission requirements.

In addition, most organizations have some metrics that look good and others that look bad, which makes the overall financial position, whether strong or weak, difficult to determine. For this reason, significant judgment is required when analyzing financial performance. Although there have been some attempts to create a single metric that can be used to summarize financial performance, it very difficult to express a complex organization’s financial status with just one metric (or even with just a few metrics).

## Self-Test Question

1. What are some problems inherent in financial performance analyses?

## KEY PERFORMANCE INDICATORS AND DASHBOARDS

Financial performance metrics typically are created and reviewed on an annual and quarterly basis. Although annual and quarterly financial performance analyses are standard at most public health organizations, managers need to monitor financial condition on a more regular basis so that problem areas can be identified and corrective action taken in a timely manner. However, the type of financial performance analyses described in this tutorial with, say, weekly data, would overload managers, and as a result, important findings could be missed.

### Key Concept: Key Performance Indicators

*Key Performance Indicators (KPIs)* are metrics that management has identified as being critical measures of organizational success. To be most useful, the number of KPIs must be kept to a bare minimum. Often, they are presented in the form of a *dashboard*.

To help solve the data overload and timeliness problems, many healthcare organizations use *Key Performance Indicators (KPIs)* and dashboards. KPIs are a **limited number** of financial and other metrics that measure performance critical to the success of the organization. In essence, KPI’s assess the current state of the organization, measure progress toward organizational goals, and prompt managerial action to correct deficiencies in a timely manner.

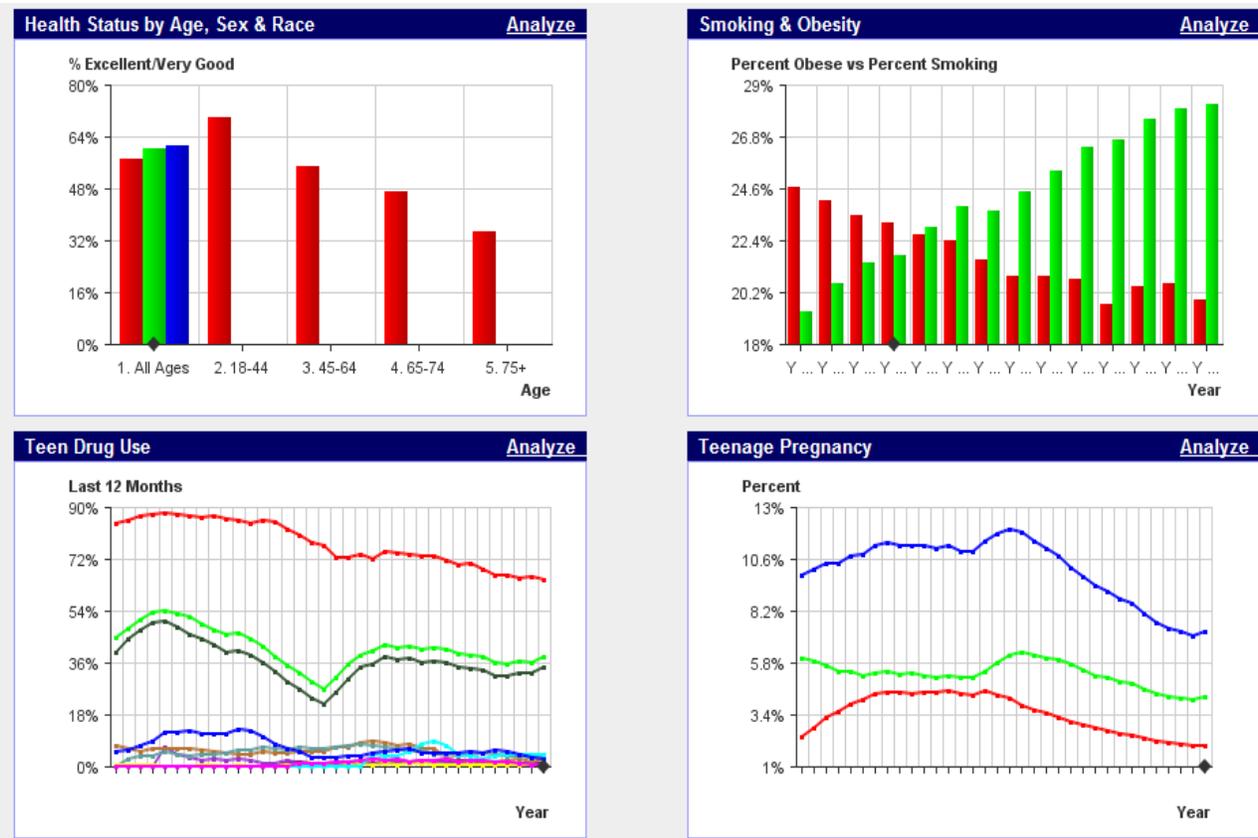
The KPIs chosen by any organization depend on the line of business and its mission, objectives, and goals. In addition, KPIs usually differ by timing. For example, a local health department having a clinical mission might have a daily KPI of the number of clinic visits, while the corresponding quarterly and annual KPI

might be the percent of clinic capacity used. Clearly, the number of KPIs used must be kept to a minimum to allow managers to focus on the most important aspects of financial performance.

Also, different KPIs can be used at different levels of management. For example, the director of a LHD’s inoculation program will have a set of KPIs that focus on that program. Similarly, the director of the dental clinic will have a set of KPIs that focus on metrics related to the dental clinic. Each director might review a different set of metrics monthly, quarterly, and annually.

KPIs can be presented to managers in different formats. One popular format is the *dashboard*, which presents the metrics in the form of gauges similar to an automobile's dashboard, which presents key information (for example, speed, engine temperature, and oil pressure) about the car's performance. The gauge format, often in color, allows managers to quickly interpret the metrics. The basic idea here is to allow managers to monitor the organization's most important financial metrics on a regular basis in a form that is easy to read and interpret.

Here is an example of a dashboard designed to measure various aspects of public health performance. Although this example does not use a gauge format, you can see how graphs can be used to provide pictorial representations of data that are both easier to read and more appealing than tabular data.



### Self-Test Questions

1. What is a Key Performance Indicator (KPI)? A dashboard?
2. How are KPIs and dashboards used in financial performance analysis?

### KEY CONCEPTS

Although financial reports contain a great deal of important information, this information is not in a format that facilitates easy interpretation. Thus, financial performance analysis is needed to make judgments about an organization's financial condition and its ability to meet mission goals. The key concepts of this tutorial are:

- One of the most important characteristics of any organization is its financial performance (financial condition). Does the organization have the financial capacity to perform its mission? *Financial performance analysis* provides a systematic approach to answering that question.
- Many financial performance analyses go beyond pure financial data to include operating and environmental data such as staffing, process, outcome, and population measures.

- Financial performance analysis uses several tools to make the analysis easier to perform and more consistent, including ratio analysis, percentage change analysis, comparative analysis, and trend analysis.
- *Ratio analysis* combines data from one or more sources to create single numbers that have easily interpretable significance. Ratios, and other measures created for use in financial performance analyses, are often called *performance metrics*, or just *metrics*.
- *Percentage change analysis* focuses on the change in values of a particular metric from one period to another, often from year to year. Using this tool, it is easy to see what metrics are growing faster or slower than others and thus identify which are under control and which are not.
- Metrics, with no other information, are difficult to interpret. *Comparative analysis*, also called *benchmarking*, compares the metrics of one organization with those of other organizations. This technique allows managers to make judgments as to how their organization compares with similar organizations.
- In *trend analysis*, managers examine the trends of metrics at a single organization over time to see whether that aspect of financial performance is improving, holding constant, or deteriorating.
- A convenient and easy to interpret way to present the results of comparative and trend analyses is to combine the data on a single graph.
- To ease creation and interpretation, financial performance metrics often are organized into groups that focus on the same aspect of performance. For example, the metrics of local health departments (LHDs) can be grouped into those related to revenues, expenditures, workforce, mission, and demographics.
- *Revenue metrics* assess the “quality” of an organization’s revenues; that is, the ability of revenues to support the organizational mission both today and into the future.
- *Expenditure metrics* assess the “contribution” of the organization’s expenses to mission accomplishment. In other words, are the revenues of the organization being spent wisely?
- *Workforce metrics* assess the effectiveness of the organization’s workforce, in terms of both efficiency and cost.
- *Mission metrics* are used to assess whether or not the organization’s critical mission programs are successful.
- *Demographic metrics* typically are used to help interpret other metrics. For example, percent of population under 18 gives managers a feel for the amount of need for children’s programs.
- While financial performance analysis can provide a great deal of useful information regarding an organization’s operations and financial condition, such analyses have limitations that necessitate care and judgment.
- To help solve the data overload problem, many public health organizations use *Key Performance Indicators (KPIs)*, which are a limited number of metrics considered by managers to be crucial indicators of organizational performance.
- *Dashboards*, which present data in the form of dials and gauges, are a common way to present an organization’s KPIs.

Financial performance analysis provides a systematic approach to reorganizing financial data in a way that facilitates comparisons and judgments with the goal of ensuring that the organization has the financial resources needed to accomplish its mission.

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