

# PUBLIC HEALTH FINANCE TUTORIAL SERIES

## Module III

### FINANCIAL PLANNING AND BUDGETING

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#### **MODULE THEME: FINANCIAL PLANNING AND BUDGETING AT THE TANGELO COUNTY HEALTH DEPARTMENT**

Tangelo County, which encompasses roughly 875 square miles, has a population of approximately 250,000 spread among a central city (Tangelo City) of roughly 100,000, several smaller communities, and unincorporated rural areas. The racial mix of the county consists of 66 percent white, 20 percent black, 8 percent Hispanic, and 6 percent other. The county's major employers consist of a large university and junior college, multiple healthcare facilities, and governmental units at all levels. The median household income is about \$43,000 while the per capita income is roughly \$18,500. In spite of the numerous professional employment opportunities in the county, about 20 percent of the population lives below the poverty level. Roughly 67 percent of the county's population is covered by commercial health insurance, 10 percent is covered by Medicare, 3 percent is covered by Medicaid, and 20 percent is uninsured.

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.

Needless to say, TCHD is "no small potatoes." The management of an organization of this size requires significant human and financial resources. Over \$2 million (of the \$16 million total budget) is spent annually on administration, which is divided into the following five functions: general management, budgeting and finance, facilities management, information technology, and human resources.

To ensure that TCHD provides the ten essential public health services in the most effective way, all resources must be utilized as efficiently as possible. The first step in efficient allocation and utilization of resources is a sound financial planning and budgeting system.

#### **Learning Objectives**

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

- Describe the overall planning process and its importance to mission success.
- Discuss briefly the format and use of several types of budgets.
- Create a simple operating budget.
- Describe how variance analysis is used in the budgeting process.
- Explain why variance analysis is the most important part of the budgeting process.

## INTRODUCTION

Planning and budgeting play a critical role in the administration of all organizations. In fact, one could argue (and usually win) that planning and budgeting are the most important of all managerial tasks. In general, planning encompasses the overall process of preparing for the future. Because of its importance to organizational success, most public health managers, especially at large organizations and at state and national levels, spend a great deal of time on activities related to planning.

At the local level, many public health organizations organize their overall planning around a standardized methodology (often mandated at state level) that identifies local health needs and priorities. One such methodology, called Mobilizing for Action through Planning and Partnerships (MAPP), is a community-driven planning process for improving community health that helps communities apply strategic thinking to prioritize public health issues and identify resources to address them. MAPP is not an agency-focused assessment process; rather, it is an interactive process that can improve the efficiency, effectiveness, and ultimately the performance of local public health organizations.

Budgeting is one part of the overall planning process. Managers use a set of budgets to tie together planning and control functions. In general, organizational plans focus on the long-term big picture, whereas budgets address the details of both planning for the immediate future and, through the control process, ensuring that current performance is consistent with organizational goals. Budgeting can be roughly thought of as the financial part of the planning process. Within Tangelo County Health Department, in addition to the overall organizational budget, separate budgets are developed to facilitate delivery of the department's various programs including direct medical services, dental services, disease control, community health, environmental health, pharmacy, immunizations, vital statistics, and administration. In the case of large programs, separate budgets may be developed for individual services offered within the program.

This module explores how planning and budgeting are conducted within public health organizations. Of course, planning at the federal level differs from planning at the state level, which differs from planning at the local level. Although the illustrations in this module focus on the local level, the concepts presented are applicable to planning and budgeting at all organizations.

## STRATEGIC PLANNING

Financial plans and budgets are developed within the framework of the organization's overall *strategic plan*, which is a statement of where the organization is now, where it wants to be in the future, and how it intends to get there. One way to think of a strategic plan is See-Think-Develop. In other words, **see** the current situation, **think** about where the organization wants to be, and **develop** plans to get there. A comprehensive strategic plan contains many elements, including the mission statement, values statement, goals, and objectives, which we describe in the following sections.

### Key Concept: Strategic Plan

The strategic plan outlines an organization's vision for the future. It states in general terms the organization's current status, what it wants to accomplish in the future, and how it plans to do it. The key elements of the strategic plan include the (1) mission statement, (2) values statement, (3) organizational goals, and (4) organizational objectives.

### Mission Statement

The *mission statement* is the guiding light for the strategic plan because it defines the organization's overall purpose and reason for existence. The mission may be defined either specifically or generally, but it must describe what the organization does and for whom. For example, the mission statement of the Florida Department of Health is "to promote and protect the health and safety of all Floridians." Tangelo County Health Department's mission statement is "to promote, protect, maintain, and improve the health and safety of all of the county's residents and visitors." For another example, consider the mission statement of the Centers for Disease Control and Prevention (CDC): "to create the expertise, information, and tools that people and communities need to protect their health through health promotion, prevention of disease, injury and disability, and preparedness for new health threats."

## Values Statement

The *values statement* represents the core beliefs that define the culture of the organization. Often, this statement contains a brief list of the organization's basic beliefs. For example, Tangelo County Health Department (TCHD) believes in the following values:

- **Excellence.** Strive to achieve quality outcomes through continuous performance improvement and learning.
- **Commitment to Service.** Provide services unconditionally and without partiality.
- **Accountability.** Assume full responsibility for behavior and performance.
- **Empowerment.** Create a culture that encourages people to exercise judgment and initiative in pursuit of organizational goals.
- **Integrity.** Commit to honesty, fairness, loyalty, and trustworthiness in all dealings with clients and employees.
- **Respect.** Honor the contributions of one another in our daily activities and create an environment that appreciates diversity.
- **Teamwork.** Encourage active collaboration to solve problems, make decisions, and achieve common goals.

You can get a very good feel for TCHD's organizational culture from this list, which plays an important role in constructing the remainder of the strategic plan.

## Organizational Goals

Although the mission and values statements articulate the general philosophy of the organization, they do not provide managers with specific operational goals. *Organizational goals* set forth the outcomes from operations, usually in qualitative terms, that management seeks to attain. These goals are not static, but rather should be changed over time as conditions change, and they should be challenging yet realistically achievable.

TCHD divides its organizational goals into the seven major areas. To illustrate, here are three of those areas:

### 1. *Quality and client satisfaction:*

- To make quality performance the goal of each employee.
- To be recognized by our clients as a worthy provider of healthcare services.
- To rapidly identify and resolve areas of client dissatisfaction.
- To provide the highest quality, most cost-effective client care through a collaborative effort among staff and management.

### 2. *Human resource management:*

- To develop and manage human resources to make TCHD an attractive place to work.
- To identify and develop timely channels of communication among all members of staff and management.
- To respond in a timely manner to all staff concerns brought to the attention of management.

### 3. *Financial performance:*

- To maintain a financial condition that permits us to provide those community services deemed to be critical.
- To develop the financial budgeting and control systems necessary to efficiently and effectively allocate resources within the organization.

### **Organizational Objectives**

Once an organization has defined its goals, it must develop objectives to help achieve those goals. *Organizational objectives* generally are quantitative in nature, such as specifying a target immunization rate. Furthermore, the extent to which organizational objectives are met may be the basis for managers' performance compensation (bonuses and the like).

For example, TCHD's objectives that match the first financial performance goal above are as follows:

- To maintain a financial reserve of at least 2.5 percent but no more than 5 percent of each year's annual budget.
- To have at least 40 percent of total revenues come from fees and grants as opposed from governmental appropriations.

These objectives support the financial condition goal by (1) creating a fund that can be used to cover expense overruns and appropriation shortfalls and (2) reducing the reliance of TCHD on governmental appropriations, which are subject to significant variations due to economic cycles and changes in political sentiment.

### **Self-Test Questions**

1. Briefly describe the nature and use of the following strategic planning tools:

- a. Mission statement
- b. Values statement
- c. Organizational goals
- d. Organizational objectives

2. Why do managers at all levels need to be familiar with the organization's strategic plan?

## OPERATIONAL PLANNING

Operational planning provides a roadmap for executing the business's strategic plan. The key document here is the *operating plan*, which contains the detailed guidelines for meeting organizational objectives. In other words, the operating plan provides the "how to" or perhaps the "how we expect to" portion of an organization's overall plan for the future.

### Key Concept: Operating Plan

An operating plan is a schedule of events and a list of responsibilities for meeting the goals and objectives laid out in the strategic plan. The operating plan ensures that everyone knows what needs to get done by when and provides a means to coordinate and track progress. Operating plans are more detailed than strategic plans. In fact, too much detail in the strategic plan can obscure the overall vision of the organization.

Operating plans can be developed for any time horizon, but most firms use a five-year horizon. Thus, the term *five-year plan* is often used in place of operating plan. In a five-year plan, the plans are most detailed for the first year, with each succeeding year's plan becoming less specific. A full five-year plan requires can be a very large document, depending on the location and size nature of the public health organization.

For TCHD, much of the operational planning takes place at the department, program, and service level, with technical assistance from the administrative and financial staffs. Each department and program has its own mission and goals as well as objectives and budgets designed to support its goals. When consolidated, these subunit plans constitute the overall health department plan.

### Self-Test Questions

1. What is the primary difference between strategic and operating plans?
2. What is the most common time horizon for operating plans?

## THE BASICS OF BUDGETING

*Budgeting* entails the entire process of constructing and using *budgets*, which are detailed plans for obtaining and using financial resources during a specified period of time. In general, budgets rely heavily on revenue and cost estimates, so the budgeting process applies many of the concepts presented in Module II.

The field of *public budgeting*, which has a unique set of guidelines, applies to budgeting within governmental entities. In particular, federal, state, and local governments prepare budgets that are used to translate policy into plans for implementation. Within local public health agencies, budgets are used to allocate resources to programs and services, as well as to those administrative activities needed to support the mission-related programs and services.

Public health managers must think of budgets not as accounting tools but as managerial tools. Budgets are more important to program and service line managers than to the financial staff because budgets provide the means to plan and communicate operational expectations within an organization. Every manager within an organization must be aware of the plans made by other managers and by the organization as a whole, and budgets provide a way to communicate these plans. In other words, the budgeting process and the resultant final budget allow senior managers to allocate financial resources within an organization.

Planning, communication, and allocation are important purposes of the budgeting process, but perhaps the greatest value of budgeting is that it establishes financial benchmarks for control. When compared to actual results, budgets provide managers with feedback about the financial and operational performance of a department, a program, a contract, or the organization as a whole. Such comparisons help managers evaluate the performance of individual activities within an organization.

Finally, budgets inform managers about what needs to be done to improve performance. When actual results fall short of those specified in the budget, managers must identify the areas that caused the sub-par performance. In this way, managerial resources can be brought to bear on those areas of operations that offer the most promise for financial improvement.

In addition, the information developed by comparing actual results with expected (planned) results (the control process) is useful in improving the overall accuracy of the planning process. Managers want to meet budget targets, and hence most managers will think long and hard when those targets are being developed.

#### Key Concept: Budgeting

Budgeting can be defined simply as “planning for how much money you have and how it is spent.” The purpose of budgeting for public health organizations is essentially the same as budgeting for families (or individuals). However, the complexities in large organizations with many programs and services make the budgeting process more difficult and time consuming. Budgeting plays an important role in public health organizations because it is the primary tool for senior managers both to allocate resources to meet mission needs and to monitor operations to ensure that those needs are met.

For budgeting purposes, departments within an organization often are classified as cost centers or profit centers. *Cost centers* are organizational sub-units that incur costs but do not directly generate revenues. For example, the administrative units in a local public health department, such as facilities and finance, are cost centers. Managers of cost centers are held responsible only for the costs of running their departments.

*Profit (revenue) centers* are organizational sub-units that generate revenues as well as costs, so their managers can be held accountable for profitability. For example, the vital statistics department of TCHD, which in a recent year had about \$300,000 in revenues and \$140,000 in expenses. Note, however, that in public health settings, profit center managers typically have more control over costs than over revenues.

### Self-Test Questions

1. What is budgeting?
2. What are its primary purposes and benefits?
3. What is a cost center? A revenue center?

### BUDGETING DECISIONS

Managers must make several decisions regarding the budgeting process, including these three most important ones: (1) general approach to the process, (2) timing of the budget(s), and (3) the forecast basis.

#### General Approach

Because budgets affect virtually everyone in the organization, and individuals' reactions to the budgeting process can have considerable influence on an organization's overall effectiveness, it is wise to carefully consider how the budgeting process takes place.

In the *bottom-up approach*, budgets are developed first by department or program or service managers. Presumably, such individuals are most knowledgeable about the needs of their respective activities. Next, the subunit budgets are submitted to the administrative services department for review and incorporation into the organizational budget, which then must be approved by senior management. Unfortunately, the aggregation of the sub-unit budgets often results in an organizational budget that is not financially feasible. In such cases, the subunit budgets are sent back to the initial preparers for revision. This starts a negotiation process aimed at creating a budget that is acceptable to all parties or at least to as many parties as possible.

A more authoritarian approach to budgeting is the *top-down approach*, in which little negotiation takes place between sub-unit and senior managers. Here, the budget is developed by the administrative (finance) staff and then, after approval by senior management, sent to sub-unit managers for implementation. Activities managers may have some input into the process, but not nearly as much as in the bottom-up approach.

The top-down approach has the advantages of being relatively expeditious and reflecting top management's perspective from the start. However, because it limits involvement and communication, the top-down approach often results in less commitment among sub-unit managers and employees than does the bottom-up approach. Most people will perform better and make greater attempts to achieve budgetary goals if they have played a prominent role in setting those goals in the first place. The idea of participatory budgeting is to involve as many managers, and even employees, as possible in the budgeting process.

### Timing

Virtually all public health organizations have annual budgets, which set the standards for the coming year. The problem with an annual cycle is that it does not allow managers to detect adverse trends quickly enough to affect annual results. Thus, most organizations also have quarterly budgets, while many have monthly or even weekly budgets.

Not all budget types or sub-units within an organization have to use the same timing pattern. Additionally, many organizations prepare budgets for one or more *out years*, which are more closely aligned with financial planning than with operational control.

### Forecast Basis

Traditionally, public health organizations have used the *conventional (incremental) approach* to budgeting as the forecast basis. In this approach, the previous budget is used as the starting point for creating the new budget. Each line on the old budget is examined, and then adjustments are made to reflect changes in circumstances.

Under conventional budgeting, many budget changes are applied more or less equally across all activities. For example, employee compensation might be assumed to increase at the same inflation rate for all activities within an organization. In essence, conventional budgeting assumes that prior budgets are valid (make sound economic sense), so it focuses on determining the adjustments (typically minor) that must be made to account for changes in the operating environment.

#### Key Concept: Conventional Versus Zero-Based Budgeting

Conventional (incremental) budgeting is based on the assumption that the previous budget accurately reflects mission needs and related revenues and costs. Thus, relatively minor changes are made to each new budget to reflect any changes in circumstances, such as increased labor rates. In zero-based budgeting, each budget starts with a clean slate, and all costs and potential revenues must be justified anew. Conventional budgeting is less costly to perform, but any errors and inefficiencies existing in the budget tend to reoccur year after year. Zero-based budgeting is more time consuming and hence costly, but usually it produces a more realistic, and hence effective, budget.

As its name implies, *zero-based budgeting* starts with a clean slate. Thus, all subunits begin with a budget of zero. Subunit managers then must fully justify every expense item (i.e., labor, equipment, space utilized, supplies used, and the like) on the basis of expected volume of services provided. In effect, activities must justify their contribution (positive or negative) to the organization's mission and financial condition each budget period. In some situations, subunit managers must prepare budgets that show the impact of alternative funding (resource allocation) levels. Senior management, then, can use this information to make rational decisions about where cuts should be made in the event of financial constraints.

Conceptually, zero-based budgeting is superior to conventional budgeting, but the managerial resources required for zero-based budgeting far exceed those required for conventional budgeting. Zero-based budgeting is most useful at organizations facing financial constraints, because this approach to budgeting forces organizations to implement cost-control efforts on a more or less continuous basis.

As a compromise to bearing the full costs of zero-based budgeting, some organizations use conventional budgeting annually but then use a zero-based budget on a less-frequent basis—say, every five years. An alternative way to reduce budgeting costs is to use the conventional approach on 80 percent of the activities each year and the zero-based approach on 20 percent. Then, over every five-year period, the entire organization will be subjected to zero-based budgeting. This approach takes advantage of the benefits of zero-based budgeting without allowing it to consume more resources than it is worth.

### **Self-Test Questions**

1. What is the difference between bottom-up and top-down approaches to budgeting?
2. What time periods are used in budgeting?
3. What are the primary differences between conventional and zero-based budgets?

### **BUDGET TYPES**

Although an organization's immediate financial expectations are expressed in a document called *the budget*, in most organizations “the budget” is actually composed of several component budgets whose contents and format are dictated by the organization's structure and by managerial preferences. That said, several types of budgets are used either formally or informally at virtually all public health organizations. However, before we go into the types of budgets, it is useful to discuss the single factor that drives all budgets, the volume forecast.

#### **Volume Forecasting**

The most important part of any budgeting process is the volume forecast. How many immunizations will be required, how many clinic visits will occur, how many sanitary inspections will be required, how many dental patients will be seen, and so on? The volume forecast lays the groundwork for the remainder of the budgeting activities, because volume drives both revenues (for fee-based services) and costs (for all services).

To get a rough feel for volume forecasting, consider TCHD's approach for forecasting its medical clinic volume. To begin, the managers examine volume trends in clinic visits over the past five years and make a preliminary forecast of the number of visits, assuming a continuation of past trends. Next, the managers consider the external forces at work in the county. For example, the level of population growth, disease trends, and overall economic conditions, which impact the number of uninsured, who are the primary users of the clinic. If these external forces are expected to influence clinic volume away from the statistical trend line, the preliminary volume forecast is adjusted accordingly.

Next, TCHD's managers analyze any internal actions that would impact volume. For example, are any new clinic services planned or will some services be discontinued? Finally, they consider the effect of any planned pricing actions on volume. For example, does TCHD have plans to raise fees on some clients or services to boost revenues or to lower fees to provide greater access? If such actions are expected to affect the clinic volume forecast, it must be revised to reflect the expected impact. Marketing campaigns and changes in external contracts also affect volume, so probable developments in these areas must be considered.

The better the volume forecast, the better the budget. If the medical clinic volume exceeds the amount that was expected and planned for, TCHD will have difficulty in meeting its client's needs. However, if the volume forecasts are overly optimistic, the clinic could end up with too much capacity, which means higher-than-necessary costs because of excess facilities and staff. By overspending on the clinic, resources that could be used more productively by other programs or services are wasted.

#### **Revenue Budget**

In private healthcare organizations, such as for-profit and not-for-profit non-public hospitals, the starting point for the budgeting process is the volume forecast, because virtually all revenues stem directly from the provision of services. However, in public health organizations, the bulk of the revenues typically arise from governmental appropriations. For

### Key Concept: Budget Types

The revenue budget contains the organization's (or subunit's) sources of revenues, while the expense budget focuses on the expenses of the budget unit. Large organizations typically have separate revenue and expense budgets, while smaller entities, such as programs and services, typically create only a single operating budget that contains both revenues and expenses.

example, roughly 60 percent of TCHD's total revenues are derived from federal, state, and county appropriations, while only 40 percent stem from fees and reimbursements that result directly from services provided.

The portion of revenues that is directly tied to fee-based services is based on volume and reimbursement data rather than appropriations. Thus, managers at TCHD must consider the organization's pricing (fee-setting) strategy as well as third-party payer reimbursement rates, all of which affect *operating revenues*, which we define as revenues derived directly from services provided as opposed to appropriations. Operating revenues typically are forecasted by department, program, and/or service and then aggregated to obtain the total operating revenues for the organization.

In addition to operating revenues and appropriations, other revenues (e.g., contributions and interest income on temporary cash investments) must be forecasted. Note that in all revenue forecasts, timing is

important. Thus, the revenue budget must forecast not only the amount of revenue but also the time it is expected to occur—typically by month, quarter, and year.

### Expense Budget

Like the operating revenues portion of the revenue budget, the *expense budget* is driven by the volume of services provided. However, here the focus is on the costs of providing services. Similar to the revenue budget, the expense budget is a compilation of expense forecasts by department, program, or service.

The expense budget typically is divided into labor and non-labor components. Labor expenses include salaries, wages, and fringe benefits, including travel and education. Non-labor components include expenses associated with such items as equipment leases, utilities, and administrative and medical supplies.

### Operating Budget

For large organizations, the *operating budget* is a combination of the revenue and expense budgets. Conversely, small organizations, and subunits such as programs and services, often will not prepare formal revenue and expense budgets. Rather, they will use volume, revenue, and cost data directly to prepare a single operating budget. Operating budgets can, and are, prepared at multiple levels within organizations. Thus, operating budgets typically are prepared for entire organizations, departments, programs, service lines, and at any other level that makes sense for managerial monitoring and control.

### Self-Test Questions

1. What are some of the budget types used within public health organizations?
2. How is the operating budget related to the revenue and expense budgets?
3. What role does the volume forecast play in budget preparation?

## BUDGET EXAMPLES

In this section, we present two examples of public health budgets: an organizational operating budget and a subunit (dental clinic) expense budget.

### Organizational Operating Budget

To get a better feel for what an operating budget actually looks like, consider the annual budget of TCHD, which is presented in Exhibit 1. The data presented below were created by TCHD's managers before the year began, so this budget represents expectations of what will happen financially in the coming year.

At the end of the year, the realized budget will be compared to the beginning of year budget (the one shown above). Differences between the two budgets will be noted and the underlying causes of those differences identified to ensure that next year's realized budget is closer to expected than this year's budget. We will have much more to say about this process when we discuss the dental clinic budget.

#### EXHIBIT 1 TCHD Annual Operating Budget

##### Revenues:

Federal revenues	\$ 2,374,822	15.2%
State revenues	6,453,279	41.3
County revenues	1,063,112	6.8
Medicaid revenues	1,846,212	11.8
Medicare revenues	167,533	1.1
Fees from clinical services	644,592	4.1
Fees from environmental health services	488,001	3.1
Fees from vital statistics	303,921	1.9
Other revenues	<u>2,296,387</u>	<u>14.7</u>
Total revenues	<u>\$15,637,859</u>	<u>100.0%</u>

##### Expenses:

Salaries	\$ 9,293,369	59.6%
Fringe benefits	3,046,032	19.5
Nonlabor expenses	2,979,967	19.1
Other expenses	<u>279,402</u>	<u>1.8</u>
Total expenses	<u>\$15,598,770</u>	<u>100.0%</u>
Excess of revenues over expenses	<u>\$ 39,089</u>	<u>2.5%</u>

First, note that this is an operating budget, so it includes both revenues and expenses as well as a profit line (excess of revenues over expenses). On the revenue side, the budget shows multiple sources including federal (which are passed through by the state), state, and county appropriations. In addition to these governmental appropriations, operating revenues are obtained from Medicaid, Medicare, third-party insurers, clinic fees, and fees charged for environmental health and vital statistics services. Finally, federal grants and local grants and contracts for specific services are listed on the budget as “Other revenues.”

Note that, in addition to being expressed as dollar values, the budget line items are also expressed as percentages, which gives TCHD’s managers an instant feel for the relative importance of the revenue sources. For example, the largest source of revenues comes from the state, with over 40 percent of all revenues. Another interesting fact is that  $15.2 + 41.3 + 6.8 = 63.3\%$  of the total revenues are derived from appropriations, which leaves 36.7 percent in operating revenues, which arise directly from services provided.

On the expense side, labor costs comprise the largest item in TCHD’s budget:  $59.6 + 19.5 = 79.1\%$  of TCHD’s expenses are devoted to salaries and fringe benefits. Like all health services organizations, labor represents the largest portion of TCHD’s cost structure. This means that if funding is cut, and hence expenses must be reduced, it is very hard to do so without cutting either the size of the labor force, pay and benefit rates, or both.

Note that on this budget, revenues exceed expenses by over \$39,000. This amount is shown on the bottom line in Exhibit 1. In general, for-profit and private not-for-profit health services organizations strive to operate “in the black.” That is, they strive to have something left over, an “excess of revenues over expenses.” This allows organizations to build reserve funds that can be used to meet unexpected expenses when they occur rather than be forced to cut costs or to “rob Peter to pay Paul” (take funds from another department or program or service to fund the shortfall). In general, these reserves are designated as a *general fund balance*.

If governmental entities were not allowed to build reserves, the revenue reductions resulting from the current recession would cause states, cities, and other governmental bodies to curtail essential services even more drastically than was done in 2008-2011. Finally, note that the excess \$39,089 in the budget, when divided by the \$15,637,859 in total revenues, results in a *profit margin* (or just *margin*) of 2.5 percent. A positive margin indicates that the organization will add to its reserves, while a negative margin signifies that the organization must dip into reserves or revise its budget.

To gain more detail than presented in Exhibit 1, budgets can be recast to focus on specific elements of the revenue and cost categories. For example, Exhibit 2 contains budget breakouts of selected revenue categories. Note that these amounts are not in addition to the amounts shown in Exhibit 1, but rather represent a different categorization of a portion (\$12,592,822) of TCHD’s roughly \$16 million in total revenues. Also, note that the percentage amounts shown in Exhibit 2 represent the proportion of total revenues rather than the proportion of revenues contained in the exhibit.

Restricted (categorical) revenues	\$ 2,444,725	15.6%
Grant revenues	3,398,258	21.7
Environmental health revenues	620,614	4.0
Dental revenues	70,684	0.4
Immunization revenues	676,045	4.3
Total medical services revenues	5,382,496	34.4

By examining different revenue categories, TCHD's managers can gain additional perspectives on the revenue structure of the organization. For example, restricted, or *categorical*, revenues represent funding from federal and state programs that are designated for specific purposes. For example, smoking cessation, bioterrorism preparedness, and the AIDS drug assistance programs. Because these revenues are for specific purposes, as opposed to general usage, they are not available for discretionary allocation by TCHD's managers. The same logic applies to grant revenues.

The idea here is that budgets can be constructed in many different ways, so public health managers are free to create an organizational budgeting process that maximizes the value of information presented. Of course, there are some budgets that are required by higher authorities. For example, local health departments typically prepare budgets in a prescribed format for submission to state public health entities. However, budgets for internal use can follow any format that is useful to the managers of that organization.

### Subunit Expense Budget

TCHD's dental clinic (a subunit of TCHD) provides pediatric dentistry, extractions, fillings, crowns, and dentures. Although the dentists are all volunteers, the support staff consists of volunteers, paid part-timers, partially paid workers, and one full-time paid employee (the clinic director). Exhibit 3 contains the expense budget that the dental clinic director, Martha Sanchez, created in late 2010 for the clinic's 2011 annual and first-quarter expenses.

EXHIBIT 3 Dental Clinic First Quarter and Annual Initial Expense Budgets		
	<u>First Quarter 2011</u>	<u>Annual 2011</u>
Director compensation	\$13,334	\$ 53,334
Hygienists compensation	7,041	28,164
Assistants compensation	25,969	103,877
Office staff compensation	9,512	38,047
Clinical supplies	10,000	40,000
Office supplies	500	2,000
Equipment maintenance	1,250	5,000
Utilities	1,500	6,000
Telephone	<u>900</u>	<u>3,600</u>
Total	<u>\$70,006</u>	<u>\$280,022</u>

If a subunit within an organization generates revenue directly from the provision of health services, it is common to prepare an operating budget for that activity. Thus, we could have presented the dental clinic's operating budget, which includes the revenue budget, but we can meet our learning objectives and maintain a simple illustration with only the expense budget. Many activities within public health organizations do not generate revenues directly, and hence only expense budgets have relevance.

Like the expense side of TCHD's budget, the dental clinic's major expense category is labor. The first four lines of the quarterly budget add to \$55,856, which is roughly 80 percent of the clinic's entire expenses. The remaining items in the budget consist of supplies and facilities costs.

Note that this budget focuses solely on direct costs as opposed to total costs, which include both direct and overhead costs. Direct costs are those that are unique to the clinic, while overhead costs are the costs of shared resources, such as clinic space (if applicable) and administrative support costs. Although budgets that focus on direct costs are easier to construct and focus primarily on the costs that are controllable by the clinic (or program or service) director, the true costs of providing any public health service are the total costs, which include overhead. Module II (Estimating Costs and Margins) provides a thorough discussion of direct and indirect costs.

### Self-Test Questions

1. What is the primary difference between an operating budget and an expense budget?
2. Is an operating budget appropriate for all activities within a public health organization?
3. Should an expense budget focus on direct costs or total costs?

### VARIANCE ANALYSIS

One of the most important steps in the budgeting process is *variance analysis*, which is the process of comparing actual results (the final budget) with expected results (the initial budget). In effect, *variance analysis* is an examination and interpretation of differences between what has actually happened and what was planned. If the budget is based on realistic expectations, variance analysis can provide managers with very useful information. Variance analysis does not provide all the answers, but it does help managers ask the right questions.

Actions taken in response to variance analysis often have the potential to dramatically improve the operations and financial performance of the activity being analyzed. For example, many variances are controllable, so managers can take actions to avoid unfavorable variances in the future. The primary focus of variance analysis should not be to assign blame for unfavorable results. Rather, the goal of variance analysis is to uncover the cause of operational problems so that these problems can be avoided, or at least minimized, in the future.

Unfortunately, not all variances are controllable by management. Nevertheless, knowledge of such variances is essential to the overall management and well-being of the organization. It may be necessary to revise plans, for example, to tighten controllable costs in an attempt to offset unfavorable cost variances in areas that are beyond managerial control.

#### Key Concept: Variance Analysis

Variance analysis is the comparison of what actually happens (the final budget) with what was expected to happen (the initial budget). By identifying budgetary problem areas, variance analysis helps managers make “mid-course” corrections to ensure that the financial and operational expectations of the budget unit are met.

To illustrate variance analysis, let's return to the dental clinic's first quarter budget presented in Exhibit 3. Now, assume that the quarter is over and the TCHD finance office has provided Martha with the actual expenses that occurred during the period. To conduct the variance analysis, Martha must compare what has happened in the first quarter with what was expected to happen. Then, she must determine problem areas and take action to ensure that, at the close of 2011, actual expenses are in line with those projected at the beginning of the year. The first step in the process is to combine the initial and final budgets on the same sheet and calculate the variances, which is done in Exhibit 4.

In general, a variance is obtained by subtracting one budget value from another. However, the actual subtraction can be done in two different ways. For example, the initial budget value (often called the *standard* because it is the budgetary goal) can be subtracted from the realized (actual) value:  $\text{Variance} = \text{Actual results} - \text{Initial budget value}$ . Alternatively, the actual results can be subtracted from the initial value:  $\text{Variance} = \text{Initial budget value} - \text{Actual results}$ . Both approaches to the calculation will produce the same numerical value, but the signs will differ. That is, one approach will result in a positive variance and the other will produce a negative variance.

Some organizations use the first approach on all variance calculations. However, others use the first approach on revenues and the second on expenses. The advantage of using different approaches to the calculation is that all “bad” variances are negative and all “good” variances are positive. Thus, a positive revenue variance indicates that the actual revenue that was higher than budgeted and a negative variance indicates a revenue item that was less than expected. Applied to costs, a negative expense variance indicates an expense that was higher than budgeted and a positive variance indicates one that was less than expected.

Applying this logic to the first line of Exhibit 3 gives the following result: Director compensation variance = Initial budget value – Actual results = \$13,334 – \$12,855 = \$479, a positive value. The positive value indicates a “good” variance, so the labor cost for the clinic director came in under budget by \$479, a good result. All of the other line items in Exhibit 3 were calculated in a similar manner .

	Initial Budget	Actual Results	Variance	
			Dollar	Percentage
Director compensation	\$ 13,334	\$12,855	\$ 479	3.6%
Hygienists compensation	7,041	8,614	(1,573)	(22.3)
Assistants compensation	25,969	27,433	(1,464)	(5.6)
Office staff compensation	9,512	8,470	1,042	11.0
Clinical supplies	10,000	9,344	656	6.6
Office supplies	500	529	(29)	(5.8)
Equipment maintenance	1,250	1,250	0	0
Utilities	1,500	1,355	145	9.7
Telephone	<u>900</u>	<u>793</u>	<u>107</u>	<u>11.9</u>
Total	<u>\$70,006</u>	<u>\$70,643</u>	<u>(\$ 637)</u>	<u>(0.9%)</u>

The dental clinic ended the first quarter with a negative total expense variance of \$637, which means that costs were \$637 greater than budgeted. (The parenthesis around the variance indicates a negative number.) This variance value represents a difference of less than 1 percent, so considering the difficulties inherent in forecasting expense items, the dental clinic’s staff did a good job of managing overall expenses.

However, when the individual expense items are analyzed, the results are not all as rosy. Perhaps the best way to interpret the expense item variances is to focus on the percentage variance. The relative sizes of the dollar value variances cannot be easily judged without comparing them to the initial budget values. The percentage variances, on the other hand, can be easily interpreted. For example, Martha might view a variance of less than 5 percent as just being “noise,” rather than an indication that the expense item is “out of control.” Furthermore, variances over 20 percent indicate an expense item that either was poorly forecast when the initial budget was created or in need of immediate attention to bring that cost item back into line.

Of the variances listed in Exhibit 4, the item that “leaps off the page” is Hygienists compensation, with a 22.3 percent negative variance. It is imperative that Martha take a close look at these expenses to determine why they are so much greater than budgeted. One way to provide more information on this line item is to increase the budget detail. For example, assume that the \$7,041 budgeted was derived from the assumption that hygienists would work 576 hours during the first quarter at an average hourly rate of \$12.22. (Remember that much of this labor is provided by volunteers.) Exhibit 5 shows a more detailed variance analysis that focuses on hygienist costs.

EXHIBIT 5 Dental Clinic First Quarter Hygienists Compensation Detailed Variance Analysis

	<u>Initial Budget</u>	<u>Actual Results</u>	<u>Variance</u>	
			<u>Hour or Dollar</u>	<u>Percentage</u>
Number of hours	576	545	31	5.4%
Average pay per hour	\$12.224	\$15.806	(\$3.582)	(29.3)
Total compensation	<u>\$7,041</u>	<u>\$8,614</u>	<u>(\$1,573)</u>	<u>(22.3%)</u>

Exhibit 5 reveals important information about why dental hygienist expenses were \$1,573 higher than budgeted. When compensation is broken down into hours worked and average pay per hour, we see first that the actual number of hours worked in the first quarter had a positive (good) variance of 31. That means that hygienists actually worked 31 hours less than expected. With hygienists working less than expected, one would think that hygienists' costs would be less than expected. However, the good news about hours worked was offset by bad news in hourly pay—the pay variance was a negative (bad) \$3.582. That means that hygienists were paid, on average, \$3.582 more per hour than assumed in the initial budget.

This breakdown of hygienists' expenses into the component factors (hours and rate) gives Martha additional information for analyzing the budget results. Now, she knows that the failure to meet budget was not the result of hygienists working more, but rather stemmed from the fact that they were being paid at a higher rate. To ensure that this negative trend in hygienists' costs does continue for the remainder of the year, Martha will conduct a thorough review of hygienists work assignments to place more of the workload on volunteers and less on paid employees. If this is not possible, then the alternative actions need to be considered. Perhaps funds can be reallocated from other sources either within or outside the dental clinic, or perhaps TCHD has a reserve that can be tapped to meet the unexpected cost overrun. In the worst case scenario, the dental clinic could reduce the number of client cleanings, and hence reduce the number of hygienist hours worked.

Before we close the discussion of variance analysis, note that the analysis presented here is only a portion of the dental clinic's overall (operating) budget, which in itself is only one component of TCHD's organizational budget. Still, this illustration gives you an idea of how budgeting and variance analysis is done by one public health organization.

**Self-Test Questions**

1. What is variance analysis and what is its value to public health organizations?
2. What is the difference between a “good” variance and a “bad” variance?
3. Critique this statement: “Variance analysis is completed when the variances are calculated.”

## KEY CONCEPTS

Planning and budgeting are important managerial activities. In particular, budgets allow public health managers to plan for and set expectations for the future, assess financial performance on a timely basis, and ensure that operations are carried out in a manner consistent with expectations. The key concepts of this chapter are:

- *Planning* encompasses the overall process of preparing for the future, while *budgeting* is the accounting process that ties together planning and control functions.
- The *strategic plan*, which provides broad guidance for the future, is the foundation of any organization's planning process. More detailed managerial guidance is contained in the *operating plan*, often called the *five-year plan*.
- *Budgeting* provides a means for communication and coordination of organizational expectations as well as allocation of financial resources. In addition, budgeting establishes benchmarks for control.
- The *conventional approach* to budgeting uses the previous budget as the basis for constructing the new budget.
- *Zero-based budgeting* begins each budget as a clean slate, and hence all entries have to be justified each budget period.
- *Bottom-up budgeting*, which begins at the sub-unit level, encourages maximum involvement by program and other subunit managers.
- *Top-down budgeting*, which begins at senior management level, is less participatory in nature but a more efficient way to communicate senior management's views.
- There are several types of budgets, including the *revenue budget*, *expense budget*, and *operating budget*.
- The *revenue budget* focuses on the budget unit's sources of revenues.
- The *expense budget* focuses on the budget unit's costs.
- Although large organizations have separate revenue and expense budgets that are combined to create the *operating budget*, smaller budget units, such as a department, program, or service, typically create a single operating budget.
- A *variance* is the difference between a budgeted (planned) value, or *standard*, and the actual (realized) value.
- *Variance analysis* examines differences between budgeted and realized amounts with the goal of finding out why things went either badly or well.

This tutorial contains a great deal of detail about planning and budgeting, but the most important concept to remember is that good planning and budgeting are critical to mission accomplishment. By using budgets to set goals, public health organizations set operational expectations for the future. By using variance analysis to track progress over time, managers can ensure that the established goals are actually achieved.

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