Chapter 3

ADDITIONAL BUDGETING CONCEPTS

QUESTIONS FOR DISCUSSION

3-1. Yes. If taxes are deemed to be unacceptably high, people may circumvent them, even if it means moving to another jurisdiction. Unlimited spending can lead to deficits that could bankrupt the government, or at a minimum create rising interest rates and costs that might be more than can be sustained over time.

3-2. A line-item budget shows the costs of the organization broken down by spending for each traditional line-item of expenditure, such as salaries, supplies, rent, depreciation, and interest. Responsibility center budgets show the amount budgeted to be spent by each responsibility center. A responsibility center is a unit or department that is under the direction of a manager who is responsible for its financial performance. A program budget shows the amount of spending for each of the major programs of the organization. Typically responsibility and program budgets are further subdivided to show line-item expenses.

3-3. The critical issue is in the type of information generated by each. A line item budget will tell Mary how much was spent on art rental, shipping, and salaries for all programs. Mary has to decide which exhibits to eliminate, so she must know all of the costs for each program, regardless of whether they relate to shipping, rent of art, or insurance. Then she can judge which programs to eliminate. She will not necessarily eliminate the most expensive. The cost of each program will have to be weighed against its benefits.

3-4. A top-down budget is one that is prepared by top management. The budgeted amount is given to responsibility center managers, who are expected to achieve the budgeted result. However, it is very difficult for top managers to be aware of all of the likely factors affecting spending in each responsibility unit. An alternative approach is bottom-up, in which responsibility unit managers propose budgets for their unit and provide justification for the requested spending.

A bottom-up approach makes better use of the expertise of employees throughout the organization, is more likely to result in employees who want to achieve the budget, and is more likely to be achieved. However, it requires top management willing to accept some degree of decentralization. In very autocratic, centralized organizations where top management desires retention of high levels of control, a top-down budget is more likely to be employed.

3-5. False.

3-6. Zero-based budgeting could be very effective here. Rather than simply adding a certain percent to all departments, or even evaluating incremental requests from all departments, ZBB would result in an analysis of the future needs for each department in light of the changing conditions. Rather than an incremental approach, the city needs a method that can substantially reallocate resources among city departments, either upward or downward for each department.

3-7. Program services and supporting services. It is nice for a not-for-profit organization to be able to track the portion of spending that is going directly toward providing services, and therefore accomplishing its mission.

3-8. Mandates are requirements that certain spending take place. For example, the state could mandate that every local government spend at least $500,000 per year to provide public library services. Entitlements are benefits that must be given to any individuals who meet eligibility criteria specified in the law creating the entitlement. For example, Medicare applies to everyone over a certain age who applies. If the number of eligible applicants increases, the government must provide Medicare benefits to those individuals, even if it causes government spending levels to be higher than desired.

3-9. Performance budgeting is an approach designed to improve the budget process by focusing more on what we hope to accomplish than simply on inputs used. The method calls upon the manager and organization to define goals, plan the amount of resources needed to accomplish those goals, and then assess how well the goals have been achieved. The method is particularly useful when it is possible to apparently do the same amount of work with different budgeted amounts of resources (e.g., maintain ten parks), yet the underlying quality of worked performed does not remain constant.

The first step is to clearly define objectives, referred to as performance areas. Next, one must identify the operating budget. Then the percent of operating budget resources that will be devoted to each objective must be determined. The operating budget resources can then be allocated to the performance areas. Measures of performance for each objective or performance area must be established. Then a performance budget can be developed.

3-10. False.

3-11. This is a technique that argues that all costs in the budget must be justified each year, not just budget increases from year to year. The method also focuses on the evaluation of alternatives and their costs and benefits.

3-12. C.

3-13. A flexible budget is an operating budget for varying workload levels. It gives managers an understanding of what is likely to happen to revenues, expenses, and profits (surpluses or deficits) if the volume of services provided varies from the expected level.

3-14. No. There may be trend or seasonality. If so, the average will obfuscate such variability.

3-15. The closer a forecast line is to historical data points, the closer it is likely to be to future results. By fitting historical data to a curved line rather than a straight line, they are likely to be closer to that line. Projecting that curved line into the future is therefore likely to produce a more accurate prediction of the actual future results.

3-16. False. Computers fail to take into account what people know. Managers may have information about why the futue is unlikely to be a reflection of the past. Such managerial information should be used to modify computer-generated predictions.

3-17. There are two common techniques designed specifically to help improve the accuracy of estimates when no specific historical information is available. These are the Delphi and nominal group techniques. In both approaches, a team or panel must be selected that consists of individuals who are likely to have reasoned insights with respect to the item being forecast. The nominal group technique is one in which the individuals are brought together in a structured meeting. Each member writes down a forecast. Then all of the written forecasts are presented to the group by a group leader without discussion. Once all the forecasts have been revealed, the reasoning behind each one is discussed. After the discussions, each member again makes a forecast in writing. Through a repetitive process, a group decision is eventually made. In the Delphi approach, the group never meets. All forecasts are presented in writing to a group leader, who provides summaries to all group members. After several rounds a decision is made based on the collective responses. The weakness of the Delphi method is that it takes more time and is more cumbersome than the nominal group method. Nevertheless, Delphi decisions are based more on logic than on personality or position.

3-18. These statements separate activities into their major functions of providing services, administration, and fund-raising.

PROBLEMS

3-19 1. i Zero-Based
2. vi Flexible

3-20. Performance budgets focus on _____outcomes or results, what they were trying to achieve, goals and objectives, mission or other similar answers_____ rather than solely on outputs.

3-21. **DNH OPERATING BUDGET**

	Base Volume	Flexible + 10% Volume	
Revenue			
Adoption Fee	$135,000	$148,500	# dogs * fee
Additional Contributions	18,000	19,800	# dogs * % placed * % extra donation
Fund Raising	40,000	40,000	Fixed
Total Revenue	$193,000	$208,300	
Expenses			
Salaries	$95,000	$95,000	Sum of salaries - all fixed
Benefits	23,750	23,750	Benefit % * salaries
Base Vet expenses	25,200	27,720	# dogs * visits * fee
Spay/Neuter & Transport	27,000	29,700	# dogs * spay fee & transport cost
Food	5,400	5,940	# dogs * days * cost of food per day
Depreciation	15,000	15,000	Cost of kennel & equipment/life - fixed
Total Expenses	$191,350	$197,110	
Profit/(Loss)	$1,650	$11,190	

3-22. **BIG C BAND BUDGET**

	Base Volume	
Revenue		
Tuition	$30,000	30 students * $500 * 2 semesters
Community Musicians	1,500	30 community musicians * $25 * 2 semseters
Concert Revenues	2,400	4 concerts * 200 people * $3.00
Total Revenue	$33,900	
Expenses		
Salaries	$15,000	1 Graduate Assistant * $15,000
Brass Rental	1,800	10 instruments * $90 * 2 semesters
Woodwind Rental	1,500	15 instruments * $50 * 2 semesters
Instrument Depreciation	2,800	(Tuba $4000 + Bari $2,500 + Percussion $7,500)/5 years
Music	4,500	30 arrangements * $150 each
Rehearsal Space Rental	7,500	15 nights per semester $250 per night * 2 semesters
Variable Concert Costs	600	$.75 per person * 200 people * 4 concerts
Fixed Concert Costs	1,700	($100 cleaning + $50 student labor + $200 promotion + $75 insurance) * 4 concerts
Total Expenses	$35,400	
Surplus/(Deficit)	($1,500)	

3-23. (Flexible Budget) The Zoo expects the following number of visitors per month:.

Visitor Type	Monthly Number of Admission Tickets	Price per Admission ($)	Admission Revenues	Total Admitted
Adult	800	8	$6,400	800
Child	950	5	4,750	950
Schoolchild	1,000	3	3,000	1,000
Families	300	20	6,000	1,200
Total			$20,150	3,950

	10% Below	Budget	10% Above
Revenues			
County Grant	$7,000	$7,000	$7,000
Admissions	18,135	20,150	22,165
Total Revenues	$25,135	$27,150	$29,165
Expenses			
Administration	$ 12,000	$ 12,000	$ 12,000
Staff	10,000	10,000	10,000
Train Costs	1,185	1,317	1,449
Maintenance	3,555	3,950	4,345
Total Expenses	$ 26,740	$ 27,267	$27,794
Profit/(Loss)	$ (1,605)	$ (117)	$ 1,371

3-24. (Flexible Budget)

Price	$ 5.00	$ 6.00	$ 7.00
Volume	× 20,000	× 18,000	× 16,000
Revenue	$ 100,000	$ 108,000	$ 112,000
Less Fixed Cost	32,000	32,000	32,000
Less Variable Cost $4 × Volume	80,000	72,000	64,000
Surplus/(Deficit)	$(12,000)	$ 4,000	$16,000

Change the price to $6. Assuming this is a Not-for-Profit organization with a mission to provide care, a price of $5 puts it at risk of closing. A price of $7 makes a larger profit, but fewer patients receive care. The $6 price balances the need to make a profit with the desire to maximize care offered.

3-25. (Performance Budget)

	Total	Arrests	Arrests	Traffic Citations	Traffic Citations	Emerg. Responses	Emergency Responses
Salary	$2,700,000	20%	$540,000	30%	$810,000	15%	$405,000
Vehicle costs	100,000	25%	25,000	30%	30,000	5%	5,000
Supplies	200,000	70%	140,000	10%	20,000	5%	10,000
Total	$3,000,000		$705,000		$860,000		$420,000

	Performance Budget			
from above	$705,000	$860,000	$420,000	
Budgeted Volume	÷ 1,000	÷ 4,000	÷ 1,000	
Cost/unit	$705 per Arrest	$215 per Citation	$420	per Response

Traffic citations serve to not only punish violators, but to protect society. The possibility of being stopped for a citation possibly prevents people from speeding, running red lights, etc. If the City stopped issuing citations, they would make the community a more dangerous place to live.

3-26 (Line-Item Budget) Also see Excel file for more details.

Eger Township
Budget
For Year Ending March 31, 2013

Salaries	$2,204,451.50
Fringe Benefits	462,934.82
Supplies	187,235.82
Telephone	32,255.52
Gas & Electric	71,832.68
Rent	128,349.00
Interest	42,410.00
Depreciation	438,827.00
	$3,568,296.34

3-27 Responsibility Budget) Also see Excel file for more details.

Eger Township
Budget
For Year Ending March 31, 2013

Management	$1,766,645.43
Public Works	670,216.04
Recreation	312,217.63
Public Safety	819,217.24
	$3,568,296.34

3-28 (Responsibility Budget Showing Line Items) See also Excel file.

Eger Township
Budget
For Year Ending March 31, 2013

	Recreation	Public Safety	Public Works	Management	Total
Salaries	$107,071.00	$461,203.50	$387,457.00	$1,248,720.00	$2,204,451.50
Fringe Benefits	22,484.91	96,852.74	81,365.97	262,231.20	462,934.82
Supplies	39,603.00	38,095.00	85,553.59	23,984.23	187,235.82
Rent	0.00	0.00	0.00	128,349.00	128,349.00
Gas & Electric	8,865.34	7,780.00	22,637.34	32,550.00	71,832.68
Telephone	4,414.38	9,510.00	4,130.14	14,201.00	32,255.52
Depreciation	129,779.00	205,776.00	89,072.00	14,200.00	438,827.00
Interest	0.00	0.00	0.00	42,410.00	42,410.00
	$312,217.63	$819,217.24	$670,216.04	$1,766,645.43	$3,568,296.34

3-29 (Functional Budget) See also Excel file.

Eger Township
Budget
For Year Ending March 31, 2013

	Program Functions								Support Function	
	Police Protection	Fire Protection	Garbage Collection	Snow Removal	Road Repair	Park Mainten-ance	Concerts	Athletics	Manage-ment	Total
Salaries	$310,432.00	$150,771.50	$241,089.00	$84,736.00	$61,632.00	$31,555.00	$14,315.00	$61,201.00	$1,248,720.00	$2,204,451.50
Fringe Benefits	65,190.72	31,662.02	50,628.69	17,794.56	12,942.72	6,626.55	3,006.15	12,852.21	262,231.20	462,934.82
Supplies: Office	7,957.00	4,426.00	1,832.00	831.59	3,163.00	427.00	624.00	3,890.00	23,984.23	47,134.82
Supplies: Parks						4,278.00				4,278.00
Supplies: Concerts							2,941.00			2,941.00
Supplies: Athletic								27,443.00		27,443.00
Supplies: Salt				36,748.00						36,748.00
Supplies: Blacktop					42,979.00					42,979.00
Supplies: Fire Truck		22,856.00								22,856.00
Supplies: Uniforms	2,856.00									2,856.00
Rent									128,349.00	128,349.00
Gas & Electric	3,890.00	3,890.00	2,385.00	18,236.00	2,016.34	524.00	262.00	8,079.34	32,550.00	71,832.68
Telephone	4,755.00	4,755.00	1,832.00	1,272.77	1,025.37	617.00	619.00	3,178.38	14,201.00	32,255.52
Depreciation Exp.	52,888.00	152,888.00	40,000.00	20,128.00	28,944.00	8,293.00	2,744.00	118,742.00	14,200.00	438,827.00
Interest									42,410.00	42,410.00
Total	$447,968.72	$371,248.52	$337,766.69	$179,746.92	$152,702.43	$52,320.55	$24,511.15	$235,385.93	$1,766,645.43	$3,568,296.34

3-30 (Line-Item, Responsibility, And Functional Budget Using Chart-Of-Account Numbers) See also Excel Solution.

Part A.

State Budget	
Department of Labor	
For the Year Ending June 30, 2014	
Revenues	
Direct State Appropriations	**$22,735,519**
Grants-in-Aid	**26,958,230**
Total Revenues	**$49,693,749**

Part B.

State Budget	
Department of Labor	
For the Year Ending June 30, 2014	
Revenues	
Economic Planning and Development	**$15,972,206**
Economic Assistance and Security	**24,651,316**
Manpower and Employment Services	**9,070,227**
Total Revenues	**$49,693,749**

Part C.

State Budget	
Department of Labor	
For the Year Ending June 30, 2014	
Revenues	
Economic Planning and Development	
Direct State Appropriations	**$13,155,480**
Grants-in-Aid	**2,816,726**
Economic Planning and Development Subtotal	**$15,972,206**
Economic Assistance and Security	
Direct State Appropriations	**$3,972,273**
Grants-in-Aid	**20,679,043**
Economic Assistance and Security Subtotal	**$24,651,316**
Manpower and Employment Services	
Direct State Appropriations	**$5,607,766**
Grants-in-Aid	**3,462,461**
Manpower and Employement Services Subtotal	**$9,070,227**
Total Revenues	**$49,693,749**

Part D.

State Budget
Department of Labor
For the Year Ending June 30, 2014

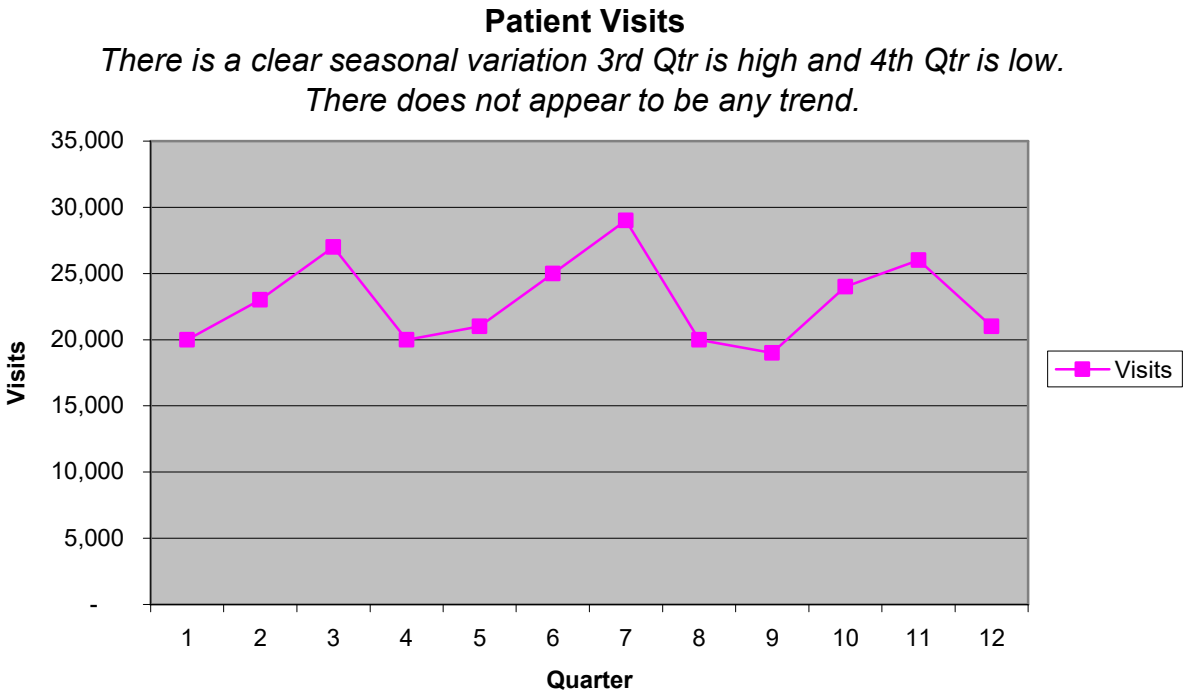
Revenues	
Administration and Support Services	
Direct State Appropriations	**$1,303,157**
Grants-in-Aid	**1,105,088**
Administration and Support Services Subtotal	**$2,408,245**
Unemployment Insurance	
Direct State Appropriations	**$3,425,997**
Grants-in-Aid	**4,008,514**
Unemployment Insurance Subtotal	**7,434,511**
State Disability Insurance	
Direct State Appropriations	**$3,026,400**
Grants-in-Aid	**1,303,372**
State Disability Insurance Subtotal	**$4,329,772**
Vocational Rehabilitation Services	
Direct State Appropriations	**$1,211,528**
Grants-in-Aid	**9,722,784**
Vocational Rehabilitation Services Subtotal	**$10,934,312**
Workplace Standards	
Direct State Appropriations	**$8,314,898**
Grants-in-Aid	**9,434,755**
Workplace Standards Subtotal	**$17,749,653**
Employment Services	
Direct State Appropriations	**$5,453,539**
Grants-in-Aid	**1,383,717**
Employment Services Subtotal	**$6,837,256**
Total Revenues	**$49,693,749**

OR

State Budget
Department of Labor
For the Year Ending June 30, 2014

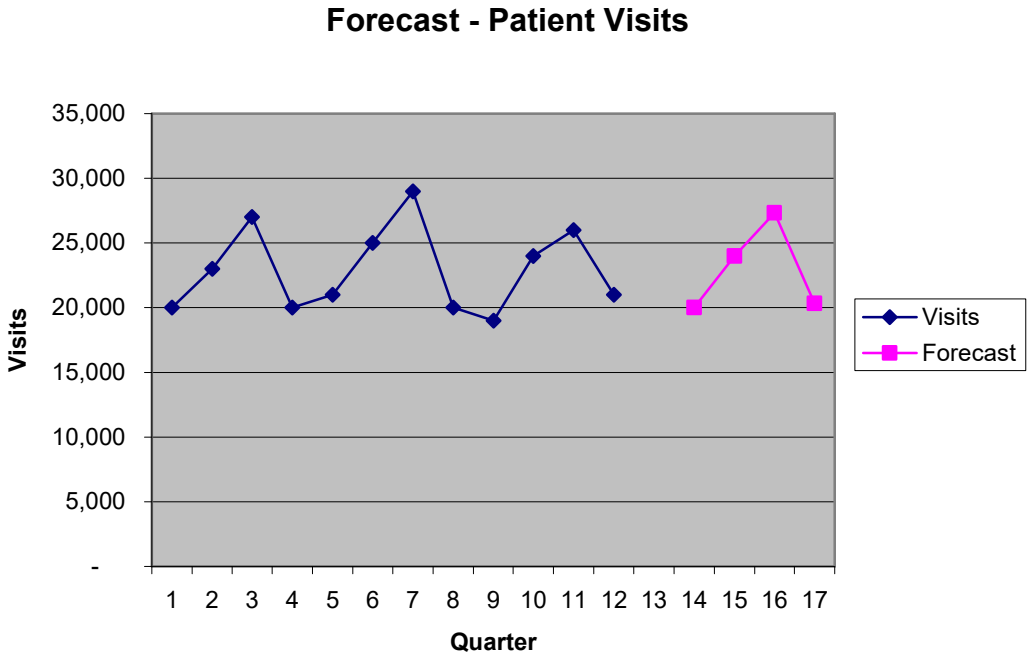
	Revenues		
	Direct State Appropriations	Grants-in-Aid	Total
Administration and Support Services	$1,303,157	$1,105,088	$2,408,245
Unemployment Insurance	3,425,997	4,008,514	7,434,511
State Disability Insurance	3,026,400	1,303,372	4,329,772
Vocational Rehabilitation Services	1,211,528	9,722,784	10,934,312
Workplace Standards	8,314,898	9,434,755	17,749,653
Employment Services	5,453,539	1,383,717	6,837,256
Total Revenues	$22,735,519	26,958,230	$49,693,749

3-31-



Given the lack of any trend, the forecast is based on a simple moving average for each quarter.

QT	Visits	
1	20,000	
2	23,000	
3	27,000	
4	20,000	
5	21,000	
6	25,000	
7	29,000	
8	20,000	
9	19,000	
10	24,000	
11	26,000	
12	21,000	
13		**20,000**
14		**24,000**
15		**27,333**
16		**20,333**



3-32. SALARIES, BENEFITS, SUPPLIES, RENT, INTEREST, ETC.

3-33.

A. FLEXIBLE
B. CAPITAL BUDGETS
C. ZERO-BASED
D. ACCRUAL

3-34.

Revenue	10% Decrease	Base [5000]	10% Increase
Grant	$100,000	$100,000	$100,000
Fares (V*.8*.75)	2,700	3,000	3,300
	$102,700	$103,000	$103,300
Expenses			
Supervisor	$36,000	$36,000	$36,000
Coordinators (6*17*10*50)	51,000	51,000	51,000
Insurance (1750*2)	3,500	3,500	3,500
Supplies/copying	2,500	2,500	2,500
Mileage (V*.35*5)	7,875	8,750	9,625
	$100,875	$101,750	$102,625
Excess/(Deficit)	$1,825	$ 1,250	$675

3-35

People fed		15,000	19,500
Trucks	# people/500	30	39
Revenue and Support		Base	+30%
Revenue (variable)	# people * $4.10 * 30 days	$1,845,000	$2,398,500
Grant (fixed)	given in the problem	50,000	50,000
TotalRevenue and Support		$1,895,000	$2,448,500
Expenses			
Staff Salaries (fixed)	(48000+30000+24000)/12	$8,500	$8,500
Staff Benefits (fixed)	25% salaries	2,125	2,125
Food (variable)	# people * $3.95 * 30 days	1,777,500	2,310,750
Trucking Costs (step fixed)	(# people / 500) * $2,600	78,000	101,400
Depreciation	given in the problem	14,000	14,000
Total Expenses		$1,880,125	$2,436,775
Surplus / (deficit)		$14,875	$11,725

CASE STUDY:
DENISON SPECIALTY HOSPITAL

SOLUTION

Part II

Section C

1. Departmental Expense Budget

	Salary	Supplies	Bad Debts	Rent	Depreciation	Total
Radiology	$2,000,000	$360,000				$2,360,000
Nursing	4,400,000	160,000				4,560,000
Admin.	500,000	20,000				520,000
General	0	0	$380,000	$300,000	$100,000	780,000
Total	$6,900,000	$540,000	$380,000	$300,000	$100,000	$8,220,000

Denison Specialty Hospital Expense Budget for Next Year	
Radiology	$2,360,000
Nursing	4,560,000
Administration	520,000
General—Rent and Bad Debts	780,000
Total	$8,220,000

2. Expense Budget by Program

	Radiology	Nursing	Admin.
Oncology	80%	50%	50%
Cardiac	15%	40%	35%
Rhinoplasty	5%	10%	15%

Denison Specialty Hospital Expense Budget for Next Year	
Oncology*	$4,528,000
Cardiac	2,360,000
Rhinoplasty	652,000
General—Rent and Bad Debts	680,000
Total	$8,220,000

* Note: Cost of new oncology equipment is charged to oncology program.

Section D

1. Flexible Budget

	Denison Specialty Hospital Flexible Budget Activity Statement for Year Ending Last Day of Next Year				
		Patient Volume Level			
	20% Below	**10% Below**	**Budgeted**	**10% Above**	**20% Above**
Revenues					
Net Patient Revenue	$6,384,000	$7,182,000	$7,980,000	$8,778,000	$9,576,000
Gift Shop Revenue	96,000	108,000	120,000	132,000	144,000
Endowment Income	50,000	50,000	50,000	50,000	50,000
Total Budgeted Revenue	$6,480,000	$7,290,000	$8,150,000	$8,910,000	$9,720,000
Expenses					
Salaries					
Fixed	$ 800,000	$ 800,000	$ 800,000	$ 800,000	$ 800,000
Variable	4,880,000	5,490,000	6,100,000	6,710,000	7,320,000
Supplies	432,000	486,000	540,000	594,000	648,000
Bad debts	304,000	342,000	380,000	418,000	456,000
Rent	300,000	300,000	300,000	300,000	300,000
Depreciation Expense	100,000	100,000	100,000	100,000	100,000
Total Budgeted Expenses	$6,816,000	$7,518,000	$8,220,000	$8,922,000	$9,624,000
Budgeted Surplus/(Deficit)	$(336,000)	$(228,000)	$ (70,000)	$ (12,000)	$ 96,000

Section E

1. a. Patient Revenue by Quarter.

			Net	**Jan.–Mar.**	**Apr.–Jun.**	**July–Sept.**	**Oct.–Dec.**
			Revenue	**30%**	**25%**	**20%**	**25%**
Oncology	Private Insurance		$1,800,000	$ 540,000	$450,000	$360,000	$450,000
Cardiac	Private Insurance		640,000	192,000	160,000	128,000	160,000
Rhinoplasty	Private Insurance		100,000	30,000	25,000	20,000	25,000
Subtotal			$2,540,000	$ 762,000	$635,000	$508,000	$635,000
Oncology	Medicaid/Medicare		$2,400,000	$720,000	$600,000	$480,000	$600,000
Cardiac	Medicaid/Medicare		1,440,000	432,000	360,000	288,000	360,000
Rhinoplasty	Medicaid/Medicare		80,000	24,000	20,000	16,000	20,000
			$3,920,000	$1,176,000	$980,000	$784,000	$980,000
Oncology	Self-Pay		$600,000	$ 180,000	$150,000	$120,000	$150,000
Cardiac	Self-Pay		320,000	96,000	80,000	64,000	80,000
Rhinoplasty	Self-Pay		600,000	180,000	150,000	120,000	150,000
			$1,520,000	$ 456,000	$380,000	$304,000	$380,000
Oncology	Charity		0	0	0	0	0
Cardiac	Charity		0	0	0	0	0
Rhinoplasty	Charity		0	0	0	0	0
			$ 0	$ 0	$ 0	$ 0	$ 0

b. Patient Revenue by Quarter

	Revenue this Year (Current Year)				Revenue Next Year (Budget Year)			
	Jan.–Mar.	**Apr.–Jun.**	**July–Sept.**	**Oct.–Dec.**	**Jan.–Mar.**	**Apr.–Jun.**	**July–Sept.**	**Oct.–Dec.**
	30%	**25%**	**20%**	**25%**	**30%**	**25%**	**20%**	**25%**
Onc. Private	$ 540,000	$450,000	$360,000	$450,000	$ 540,000	$450,000	$360,000	$450,000
Card. Priv.	192,000	160,000	128,000	160,000	192,000	160,000	128,000	160,000
Rhino. Priv.	30,000	25,000	20,000	25,000	30,000	25,000	20,000	25,000
Subtotal	$ 762,000	$635,000	$508,000	$635,000	$ 762,000	$635,000	$508,000	$635,000
Oncology M/M	$ 720,000	$600,000	$480,000	$600,000	$ 720,000	$600,000	$480,000	$600,000
Cardiac M/M	432,000	360,000	288,000	360,000	432,000	360,000	288,000	360,000
Rhino. M/M	24,000	20,000	16,000	20,000	24,000	20,000	16,000	20,000
	$1,176,000	$980,000	$784,000	$980,000	$1,176,000	$980,000	$784,000	$980,000
Oncology Self	$ 180,000	$150,000	$120,000	$150,000	$ 180,000	$150,000	$120,000	$150,000
Cardiac Self	96,000	80,000	64,000	80,000	96,000	80,000	64,000	80,000
Rhino. Self	180,000	150,000	120,000	150,000	180,000	150,000	120,000	150,000
	$ 456,000	$380,000	$304,000	$380,000	$ 456,000	$380,000	$304,000	$380,000
Onc. Charity	0	0	0	0	0	0	0	0
Car. Charity	0	0	0	0	0	0	0	0
RhinoCharity	0	0	0	0	0	0	0	0
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

c. Patient Collections by Quarter

	Jan.–Mar.	**Apr.–Jun.**	**July–Sept.**	**Oct.–Dec.**
Private Ins.—1 Quarter lag	$ 635,000	$ 762,000	$ 635,000	$ 508,000
Med/Med—Half 1 quarter lag, half 2 quarter lag	882,000	1,078,000	1,078,000	882,000
Self-Pay—25% for each of three following quarters	266,000	285,000	304,000	285,000
Charity—no collections	0	0	0	0
Net Patient Collections by Quarter	$1,783,000	$2,125,000	$2,017,000	$1,675,000

d. Cash Budget

			Jan.–Mar.	**Apr.–Jun.**	**July–Sept.**	**Oct.–Dec.**
		Beginning Cash Bal.	$ 50,000	$ 50,000	$ 50,000	$ 50,000
		Plus Cash Receipts				
		Patient Revenue				
		Private Insurance	635,000	762,000	635,000	508,000
		Medicare and Medicaid	882,000	1,078,000	1,078,000	882,000
		Self-Pay	266,000	285,000	304,000	285,000
		Gift Shop	30,000	30,000	30,000	30,000
		Endowment	0	0	50,000	0
		Cash Available	$1,863,000	$2,205,000	$2,147,000	$1,755,000
		Less Cash Disbursements				
		Salaries	$1,725,000	$1,725,000	$1,725,000	$1,725,000
		Supplies	128,000	150,000	124,000	138,000
		Capital Acquisitions	500,000			
		Rent	75,000	75,000	75,000	75,000
		Interest	0	18,450	12,854	8,049
		Total Disbursements	$2,428,000	$1,968,450	$1,936,854	$1,946,049
		Subtotal	$(565,000)	$ 236,550	$ 210,146	$(191,049)
		Borrow/(Repay) Loan	615,000	(186,550)	(160,146)	241,049
		Ending Cash Balance	$ 50,000	$ 50,000	$ 50,000	$ 50,000
		Note Payable Balance	$ 615,000	$ 428,450	$ 268,304	$ 509,353

2. Revised Operating Budget. We must now revise the operating budget to account for interest expense on the loan.

	Denison Specialty Hospital Operating Budget For Year Ending Last Day of Next Year		
	Revenues		
	Net Patient Revenue	$7,980,000	
	Gift Shop Revenue	120,000	
	Endowment Income	50,000	
	Total Budgeted Revenue		$8,150,000
	Expenses		
	Salaries	$6,900,000	
	Supplies	540,000	
	Bad Debts	380,000	
	Rent	300,000	
	Depreciation Expense	100,000	
	Interest Expense	39,353	
	Total Budgeted Expense		8,259,353
	Budgeted Excess of Revenues over Expenses		$(109,353)

Note that we now project a loss of $109,353. We also budgeted $500,000 in cash to buy the new equipment. Why did we only need a note payable of $509,353 instead of $609,353? What can we do if the Trustees will not accept a deficit budget?

INSTRUCTOR'S NOTES

Denison Specialty Hospital
(*continued*)

You may wish to distribute copies of the previous tables as you discuss the case and retain the notes below for your discussion prep. (Solution to Part I is in Chapter 2 solutions.)

Part II

Section C

1. Departmental expense budget: The detailed information needed is provided directly in the case, except for bad debts calculated earlier.

The interesting, and potentially difficult, question coming out of this analysis is the possible allocation of bad debts, rent, and depreciation to departments. We do not have much billing information, thus it may not be possible to try to do bad debts by department.

Even if we could, it is not clear what value it would be. Rent and depreciation are more interesting. Are there separable pieces of equipment for different departments? We don't know, but it might be appropriate to allocate at least direct equipment.

2. Expense budget by program: The case tells how much of each department's services are consumed by each program. We need only multiply the appropriate percent times the expense budget by department. For example, the oncology budget is 80% of the radiology budget, plus 50% of the nursing budget, plus 50% of the administration budget.

   The allocation issue is even more pointed here. We are considering buying $500,000 of oncology equipment. The depreciation expense on that equipment is all allocated to that program, in addition to the oncology share of each of the departments as discussed in the previous paragraph. One could also argue for keeping it as general overhead.

   Note that the total expenses are the same no matter how you slice them. That is, line-item, department, and program are all ways to look at the same expenses. However, they give a manager very different information. Depending on the decisions to be made, one may be much more appropriate than another. For example, how much would we save if we cut all salaries 5%? The line-item is most useful. Nursing is 25% of the budget of most hospitals. How about programs? We average $40,000 of revenue (before bad debts) from each oncology patient. How does that compare to the budgeted cost per oncology patient?

Section D

1. Flexible Budget.

   The key here is identification of fixed and variable items. Patient revenue varies with volume. Gift shop revenue also varies. Ask the students why they think this is true. Endowment income does not vary with patient volume.

   Salaries have been broken into fixed and variable. In the case, it is noted that all managers and administration staff are fixed. Other staff are variable. The case breaks salaries down by manager and staff.

   Supplies are variable. Although the case doesn't say so, it is a reasonable assumption, at least for the bulk of items used by radiology and nursing.

   Bad debts are variable—more revenue, more bad debts given the assumption in the case of 25% of self-pay revenue. Rent and depreciation are fixed.

   This budget does not include interest expense from the cash budget. Interest is dependent on available cash. If the budget is flexed up and down for volume of patients, that will change the cash flows. Thus, the interest will change. However, the arithmetic is complicated unless the problem has been solved using a spreadsheet program. A future edition of the book may provide the solution using a spreadsheet template and will include an update of the flex budget for interest expense changes.

Section E

1. Cash Budget.

Note that this should really be done on a monthly basis; it was only done quarterly to make the case simpler. In real life, different organizations use different time periods—banks, for example, budget cash **daily**, because they need more cash some days of the week than other days.

Hospitals develop a monthly cash budget. Some not-for-profits might only do quarterly budgeting, as in this case.

a. Revenue and Collections by Quarter: Patient revenue is the primary cash receipt. The patient flow is not constant throughout the year, so revenue is not constant. The first step is to determine revenue by quarter. The percentage for each quarter is given in the case. The calculation groups the patients by payer, because different payers have different payment histories.

b. Revenues for quarters in the prior year are the same as this year.

c. Once we have determined the total revenue by payer by quarter, we can determine the quarterly cash flow.

Private insurance pays with a one-quarter lag. Therefore, in the first quarter of this year we will collect revenue from patients for the last quarter of last year. We were told that patient volume and prices haven't changed, so we can simply look to the last quarter of this year to determine what was owed the last quarter of last year.

Medicare and Medicaid similarly are calculated in each quarter by taking half of the revenue from one quarter earlier and half of the revenue from two quarters earlier.

Self-pay receipts for each quarter are 25% of the revenue from each of the preceding three quarters. Only 75% of self-pay charges are ever collected.

No charity care results in receipts.

d. Cash budget

The case says to start each quarter with at least $50,000.

Cash receipts from patient revenue comes from the previous calculation. It will be important to stress the difference between the revenue for a given quarter and the cash receipts generated by patient revenue.

It was assumed that the gift shop revenue is spread evenly throughout the year. One could make a good argument for varying this revenue with the flow of patients, but without any lag.

We are told in the case that endowment income is received at the start of the third quarter.

Salaries are paid monthly, so they have been spread evenly. Again, this is a simplification. Because there are busy and slow periods for patients, there might be some variation in salary. It is worth prodding the students on this point.

Supplies were given in the case. Be sure to account for the one-quarter lag in payment. The capital equipment is paid for as soon as purchased, at the start of the year.

Avoid discussing interest just yet. It is better to explain a cash budget by going down the first column, rather than across.

Because cash available is $565,000 less than cash needed in the first quarter, and because we desire to start the next quarter with a $50,000 balance, we will need to borrow $615,000.

The second quarter is similar, except there is now 12% × 1/4 year × $615,000 = $18,450 of interest. Note that we can't prepare a cash budget without revenue and expense information. However, now we must go back and fix the budgeted income statement because we have interest expense.

2. Revised Operating Budget

The revised operating budget takes interest into account. Note that the organization ends the year with a loan of only $509,353, even though it has purchased equipment for $500,000 and incurred a loss of $109,353 for the year. This is because it has a noncash expense of $100,000 for equipment depreciation expense.

It should be pointed out that if we eliminate the equipment purchase to reduce the deficit, the operating budget, cash budget, and flexible budgets will all change. Budgets are interrelated. A change in one budget has ripple effects through all the budgets.

3. As far as the loss goes, we can cut salaries, reduce staff levels, not buy new equipment, raise prices, and market more aggressively for more volume. A key point is that a budget is rarely accepted as developed. Modifications and revision are often needed and usually require negotiation and compromise.