Understanding Budgets and Instituting new Tests

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Contents

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History of Budgets
Earliest financial records date to over 5000 years in Babylonian times:

Merchants of ancient kingdom between the Tigris and the Euphrates Rivers meticulously recorded sales, expenses and inventory on clay tablets.
Origins of modern-day financial record-keeping:

Development of commerce during the Renaissance with the accounting ledgers of the famous Italian merchant banks and trading houses of that time providing a record of business in those days.
What is a budget?

- Formalized plan which quantified
- Overall operating + financial plan
- Mx’s intentions or expectations
- Compares expected revenues with expected expenses
- Enables quantification of profit or loss
Why is a budget important?

• Force planning + goals

• Forecast future in light of changes in external environment

• Force Mx’s to be as cost-effective as possible

• Motivate Mx’s + staff to work positively for organization
Operating Budget

- Plan for daily operating revenues + expenses
- 1 year period (fiscal year)
- Necessary to make a profit to replace old equipment or improve quality +/or expand services
Capital Budgeting

- Acquisition of long term investments
- Equipment has lifetime beyond yr of purchase
- Separate from operating budget d/t multi-year nature
- Returns long term
- Very expensive
- To improve quality or safety
Capital Budgeting (2)

- Motivation + justification needed with clear long term benefits

- Impact on other budgets, e.g. personnel + operating costs

- Usually pay back method used to assess investment's return on investment + viability
Budgeting process (1)

- Requires completion of a number complicated documents
- Timetable developed with deadlines

NB: all employees must participate
Budgeting process (2)

- **1st step:** establish foundation for budget preparation
- **Environmental scan:** disease profile, demographics, competition, potential customers, changes taking place in external environment
- **Statement of general goals, objectives + policies**
- **In line with strategic plan**
- **Reassessed in line with strengths + weaknesses**
Budgeting process (3)

- List of organization’s assumptions.
- Prioritization NB: resources allocated to areas that promote long term goals.
- Specification of programme priorities.
- Set of specific, measurable operating objectives: set out clearly so that budget can achieve this.
- Analysis of strategic plans + programmes provides further direction.
Budget negotiation + revision: necessary due to limitations in resources

- Some needs may be more critical, e.g. more capital expenditure may be required due to new programmes

- This may cut into other budgets
Budgeting process (5)

- **Last steps:** control + feedback

- **Control process:** variance analysis

- Variances compare actual results with budget – underlying causes determined + eliminated if causes can be controlled

- **Feedback:** actual results used to improve future plans + must be given more weighting for next budget
Budgeting Timetable

• NB to have a PLAN for the PLANNING PROCESS

• Managers should have a road map that details steps in the planning process

• Length of time varies: usually 3-6 months
Direct vs Indirect costs

Indirect (fixed) costs
- Building depreciation
- Hospital overhead
- Laboratory overhead
- Accounting expenses
- Regulatory expenses
- Management labour
- LIS expenses

Direct (variable) costs
- Reagents
- Labour (techs and all other staff)
- Equipment costs
- Service costs
- Collection supplies
- Testing supplies
- Quality control material
- Depreciation
Budget variance

• Budget:
  a) Projected budget – how much the laboratory plans to spend during the period selected
  b) Actual budget – amount of money the laboratory actually spent during the selected period
  c) Budget variance – difference between (a) and (b)
Budget variance (2)

Acceptable

• Discount rate changes
• Patient workload increases
• Vendor price increases
Unacceptable

- Increases in reagent use to double-check
- Increase in reagent wasting
- Vendors sending double shipments
Basic Structure of a Laboratory Expense Budget

Salaries
-Technical labour

Professional gees

-Nontechnical labour
- Clerical + reception
- Administrative
- Couriers
Basic Structure of a Laboratory Expense Budget

• Reagents + supplies
Basic Structure of a Laboratory Expense Budget (3)

Equipment
- Depreciation
- Service contracts
- Repairs
Basic Structure of a Laboratory Expense Budget (4)

Other

- Insurance, fees, books, etc
Budget implementation

- Must convert approved resources into a working document that can guide specific staffing decisions throughout the year
- Keep as close to approved plan as possible
- Constant monitoring
Acquisition of new instruments

- Old inefficient tests lead to increase in critical variable costs, e.g. labour, reagents, QC, calibrators and standards

- Do the following before acquiring new analytical equipment:
  - Cost analysis
  - Capitol budgeting and financing
  - Strategic planning

- Need a written plan showing a clear need and a planned strategy to support the request
New tests

• Comprehensive cost analysis important in today's restricted economic environment

• 1st step: organize a strategy and define whether lab should acquire the additional test, replace equipment or introduce new technology – must have a strong argument / must be transparent

• Is recurring maintenance and labour more expensive over relatively short term than the purchase of new automated equipment?
Choosing equipment:

• Establish need !!

• Will it improve work flow?

• Will it improve TAT?

• Will it increase efficiency?

• Will it reduce overall costs?
Ideal new instrument:

- Consolidate workstations
- Replace existing equipment
- Reduce staff
- Reduce costs
Do not but beyond requirements:

- Wasted reagents
- Higher staff costs for maintenance and calibration
- Expensive service contracts
Factors affecting acquisition of new instrument:

• Break-even analysis

• Sample and test volume - ?throughput / ? Number of personnel

• Cost-effectiveness of analyzer – cost of reagents, supplies, maintenance and capital expenditure

• Consider strategic plan / budget / future costs (fixed and variable)
Steps in the budgeting process for capitol equipment:

1. Define goals
2. Identify alternatives
3. Evaluate alternatives
4. Select best alternatives
5. Actual performance
6. Evaluate performance

Capitol budgeting loop
Capitol budgeting process:

• Capitol requests prepared and submitted

• Requests reviewed and assessed

• Final priority list developed and capitol budget completed

• Manager approves capitol budget
Consider

• Laboratory’s equipment need – role of lab, type of tests performed, hours of operation, productivity problems

• Abilities of current equipment – condition, operation, repair record, current age

• Abilities of new / replacement equipment
1. Purchase
2. Lease
3. Rent
4. Special contractual agreements
5. Refurbishing existing equipment

5 WAYS TO ACQUIRE LABORATORY EQUIPMENT
1. Purchase

- Financial burden – merits / payback period
- Depreciation – useful life of instrument
- Annual operating expenses
- Average annual savings / net earnings
Purchase (2)

- ROI = amount of money earned per unit investment – want highest return
- Payback period
- Number of tests
- Lifetime of instrument
2. Lease

- Purchasing not always best – large capital investment and may be obsolete in few years – financial losses

- Form of debt financing – requires lessee to make series of payments over a future period of time – fixed obligations

- Lease rental payments reflect financing costs as well as a return of principal to lender

- Interest rate varies
Advantages of lease

- Hedging risk of obsolescence
- Avoiding maintenance, service + administrative problems
- Greater negotiating flexibility
- Tax benefits
- Can be structured
Disadvantages of lease

• Nonownership

• Interest cost component – plan carefully how long intend to use
3. Rent

**Lease:**
- Option to purchase
- Specific time period
- Lab responsible for certain repairs and maintenance

**Rent:**
- No option to purchase
- Can be terminated at any time
- Repairs and maintenance sole responsibility of manufacturer
Advantages of rent over lease:

- If only need equipment for short time
- If equipment may soon be obsolete
- If reliability of equipment questionable

- Rental includes reagent costs and QC material, calibrators and standards
- Rental reagent part of operating budget
- Costs include initial training of personnel and maintenance visits
4. Special contractual agreements with vendors

- **Cost per test – reagent rental**
- **Vendor provides all reagents, supplies disposables, automatic data processing, training, installation, and all other needs except maintenance**
- **Vendor charges a set cost per test + provides QC, standards and calibrators**
- **Encourages lab to perform tests efficiently, avoid unnecessary testing, repeats, duplicates and wastage**
- **Vendor ownership – avoids depreciation, maintenance costs, shipping costs + training costs**
- **Reagents and supplies at lowest possible costs**
5. Refurbishing existing equipment

- Low volume applications
- Reliable and proven technology
- Reduced financial risk
Questions to ask

- How long is start-up time?
- Can work be batched?
- What are STAT capabilities?
- How fast are results produced?
- How much space is needed?
- Will changes in plumbing / electrics be needed?
- Will renovation be needed?
- What sample size needed?
- Where are reagents purchased? What is price? What amounts needed?
- How are results presented?
- What are operational characteristics?
- What is TAT?
- How many methodologies?
- Computer interfacing?
- Where is vendor service located?
- Can personnel do maintenance?
- Specifics for installation?
- How are technologists trained?
- Cost of equipment? Terms?
- Will it be obsolete in 1-2 years?
- Warranty terms?
- Maintenance and service costs?
- Risk of vendor instability?
- Other users experience
Conclusion

- Budget lengthy process
- Provides direction + fiscal management
- Effective management tool
- Decide carefully before new tests implemented
- Needs attention of all staff