Pricing Pharmaceutical Products and Services

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Learning Objectives

- Define service cost and explain why a manager needs to know this cost
- Define, differentiate and give examples of direct and indirect costs
- State and explain one method for calculating service costs and, given specific financial data for a pharmacy, use the method to calculate a pharmacy's cost of providing a given service

Learning Objectives

- Explain the importance of using pro forma information in calculating service costs
- Define and differentiate full and differential costs
- Estimate a pharmacy's differential cost of providing a service
- Discuss how demand, competition, pharmacy image, pharmacy goals, price signaling and non-monetary costs affect pricing decisions

Components of Price

- Ingredient cost
- Service cost
  - Prescriptions – cost to dispense
- Net income

Ingredient Cost

- What the pharmacy pays for the drug product it dispenses
- Several different measures

Actual Acquisition Cost (AAC)

- The price the pharmacy pays for the product it dispenses
- Varies according to:
  - Source: direct versus wholesaler
  - Volume of purchases
  - Incentives and special deals
  - Type of pharmacy

Average Wholesale Price (AWP)

- NOT the average price at which wholesalers sell the product
- The cost assigned to a product by its manufacturer and listed in a regularly published source
- Overstates actual acquisition cost

Estimated Acquisition Cost (EAC)

- Established by third-party payers to estimate actual acquisition cost
- AWP - defined percentage
- ex: AWP - 10%

Service Cost

- The average, or per unit, cost of providing a service
- Covers expenses such as salaries, rent and utilities, and depreciation
- For prescriptions, it’s called the cost to dispense

Types of Costs

- Direct Costs
  - Result directly from providing the service
  - If the service were not provided, there would be no direct costs
  - Dispensing-related direct costs include costs of labels and containers, patient education materials, and pharmacy licenses

Types of Costs

- Indirect costs
  - Do not result directly from a given service
  - Examples: rent, utilities, manager's salary
  - Costs shared by all services provided by the pharmacy

Allocating Indirect Costs

- The cost of providing a service includes all direct costs and a “fair share” of indirects
- Determining the “fair share” is called cost allocation
- What is a “fair share”?
  - No one right answer
  - Logical and reasonable
  - Causal relationship

Service Cost Example: Cost to Dispense

- Estimate Richmond Pharmacy's cost of dispensing a prescription (see Figure 1)
- The method presented is logical, reasonable, and reflects causal relationships
- Not necessarily the only correct method

Estimating the Cost to Dispense

- Gather information
- Classify expenses as direct or indirect
- Allocate indirect expenses
- Total dispensing-related expenses
- Calculate cost to dispense

Gather Information

- Pro forma income statement
- Other operating information:
  - Manager works 60 hours per week; spends 40 hours on dispensing-related duties
  - Employee pharmacist works 45 hours per week; all on dispensing-related duties
  - Other employees work 100 hours per week; of this, 56 hours in dispensing-related duties

Gather Information

- Other operating information:
  - Pharmacy occupies 2,787 sq. ft.
  - Prescription department occupies 680 sq. ft.
  - Pharmacy will dispense 47,428 Rx's next year
  - Prescription containers, delivery costs, and computer are direct expenses of the prescription department

Classify Expenses

- Direct costs
- Indirect costs
  - Indirect salary costs
  - Indirect housing costs
  - Other indirect costs

Direct Costs

- Result directly from dispensing prescriptions
- Richmond Pharmacy's direct costs:
  - Prescription containers $ 9,214
  - Delivery costs 4,009
  - Computer 5,409
  - **Total direct costs $18,632**

Indirect Salary Costs

- Salary costs include all salaries, fringe benefits, and payroll taxes paid by the pharmacy for the employee
- Allocated based on ratio of time spent on dispensing-related functions
- Calculation done separately for each employee

Indirect Salary Costs

Employee	Salary	Rx hrs	Total hrs	Rx-Salary
Manager	$95,482	40	60	$63,655
Employee				
Pharmacist	93,750	45	45	93,750
Technician	61,884	56	100	34,655
Total				**$192,060**

Housing-Related Indirect Costs

- $38,395 rent and utilities expenses
- Prescription department occupies 680 sq. ft.
- Pharmacy occupies 2787 sq. ft.
- Allocated housing-related indirect costs = $38,395 x 680 / 2787 = $9,368

Other Indirect Costs

- Advertising $11,617
- “All other expenses” $82,335
- **Total other indirect costs $93,952**

Other Indirect Costs

- Prescription sales = $1,633,266
- Total sales = 1,967,787

- Allocated other expenses =
  $93,952 x 1,633,266 / 1,967,787 =
  $77,980

Total Dispensing-Related Expenses

• Direct costs	$ 18,362
• Indirect salary	192,060
• Indirect housing	9,368
• Indirect other	77,980
• **Total**	**$ 298,040**

Calculate Cost to Dispense (CTD)

- CTD = $\frac{\text{Total dispensing-related expenses}}{\text{Expected prescription volume}}$
- CTD = $\frac{\$298{,}040}{47{,}428}$
- CTD = $6.28

Calculating Cost to Dispense

$$CTD = \frac{DC + \Sigma(RXS \times HW/TH) + IFC \times \frac{RXSF}{TSF} + IVC \times \frac{RXSA}{TSA}}{RXV}$$

- CTD = Cost to dispense a prescription
- DC = Direct costs
- RXS = Each employee's salary expense
- HW = # hours the employee works in prescription-related functions
- TH = Total hours the employee works in pharmacy
- IFC = Indirect fixed costs
- RXSF= Prescription department area, in square feet
- TSF = Pharmacy total area, in square feet
- IVC = Indirect variable costs
- RXSA= Prescription department sales
- TSA = Total sales of pharmacy

Cost to Dispense

- Average cost of dispensing a prescription
- Average amount to be added to ingredient cost if the pharmacy is to break-even
- Sensitive to prescription volume:
  - as volume increases, CTD decreases
  - as volume decreases, CTD increases

Service Cost Example: Osteoporosis Screening

- Richmond Pharmacy would like to start a service to screen for osteoporosis
- How much should the pharmacy charge?
- What is the cost of providing a screening session?

Gather Information

- Pro forma income statement
- Other operating information:
  - service will be open 5 hours per week
  - part-time pharmacist will be hired to operate service at $40 per hour
  - manager spends 2 hours of his 60 hours per week in duties related to the service
  - technicians spend 4 hours of their 100 hours per week in duties related to the service

Gather Information

- Other operating information:
  - Pharmacy will be renovated. Service will occupy 150 sq. ft. of pharmacy's 2787 sq. ft.
  - Renovation will increase depreciation expense by $2,000 per year
  - Equipment to measure bone mineral density will be leased for $5,000 per year
  - $2,000 per year for promotion
  - estimate 1,000 screening sessions for next year

Classify Expenses - Direct Costs

• Pharmacist salary:	
$40 / hr x 5 hrs / wk x 52 wks	$10,400
• Depreciation	2,000
• Machine lease	5,000
• Promotion	2,000
• **Total Direct Costs**	**$19,400**

Indirect Salary Costs

Employee	Salary	Rx hrs	Total hrs	Rx-Salary
Technician	61,884	4	100	$2,475
Manager	$95,482	2	60	$3,183
Total				**$ 5,658**

Housing-Related Indirect Costs

- $38,395 rent and utilities expenses
- Screening service will occupy 150 sq. ft.
- Pharmacy occupies 2787 sq. ft.
- Allocated housing-related indirect costs = $38,395 x 150 / 2787 = $2,066

Other Indirect Costs

- "All other expenses" = $82,335
- No causal method of allocation
  - Should use sales ratio
  - No estimate of screening sales because no price per screening
  - Use floor-space ratio for lack of a better alternative
- Allocated other expenses =

  $82,335 x 150 / 2787 = $4,431

Costs NOT Related to Osteoporosis Screening

- Prescription containers
- Delivery
- Computer
- All are direct costs of *dispensing*

Total Osteoporosis Screening-Related Expenses

• Direct costs	$ 19,400
• Indirect salary	5,658
• Indirect housing	2,066
• Indirect other	4,432
• Total	$ 31,556

Service Cost (SC) for Osteoporosis Screening

- SC = $\frac{\text{Total service-related expenses}}{\text{Expected volume of service}}$
- CTD = $\frac{\$31{,}556}{1{,}000}$
- CTD = $31.56

Service Cost (SC) for Osteoporosis Screening

- Average cost of screening a patient for osteoporosis
- Sensitive to prescription volume:
  - If volume is 500, SC is $63.12
  - If volume is 1,000, SC is $31.56
  - If volume is 2,000, SC is $15.78

Differential Costs

- To this point, we have considered the full costs of providing a service
- Full costs cover all direct costs and a fair share of indirect costs
- Differential costs are those that differ among alternative courses of action

Differential Costs

- Differential costs of osteoporosis screening are the additional costs the pharmacy incurs if it provides the service
- In this case, differential costs are equal to the direct costs

Differential Costs of Osteoporosis Screening Service

• Pharmacist salary:	
$40 / hr x 5 hrs / wk x 52 wks	$10,400
• Depreciation	2,000
• Machine lease	5,000
• Promotion	2,000
• **Total Direct Costs**	**$19,400**

Average Differential Cost

- Differential costs = $19,400
- Expected volume = 1,000 sessions

- Average Differential cost = $\frac{\$19,400}{1,000}$

= **$19.40 per session**

How Much To Charge?

- Full cost = $31.56 per session
- Differential cost = $19.40 per session
- Represent range of prices
- Charging less than average differential cost results in a loss
- Over long-run, must charge more than service cost to make a profit
- Non-cost factors

Non-Cost Factors

- As important as cost factors
- To be discussed:
  - Demand
  - Competition
  - Image
  - Quality Signaling
  - Goals
  - Non-monetary costs

Demand

- Quantity which consumers will buy at a given price
- Different from need
  - Need – objective
  - Demand - perceptions
- Can be affected by marketer

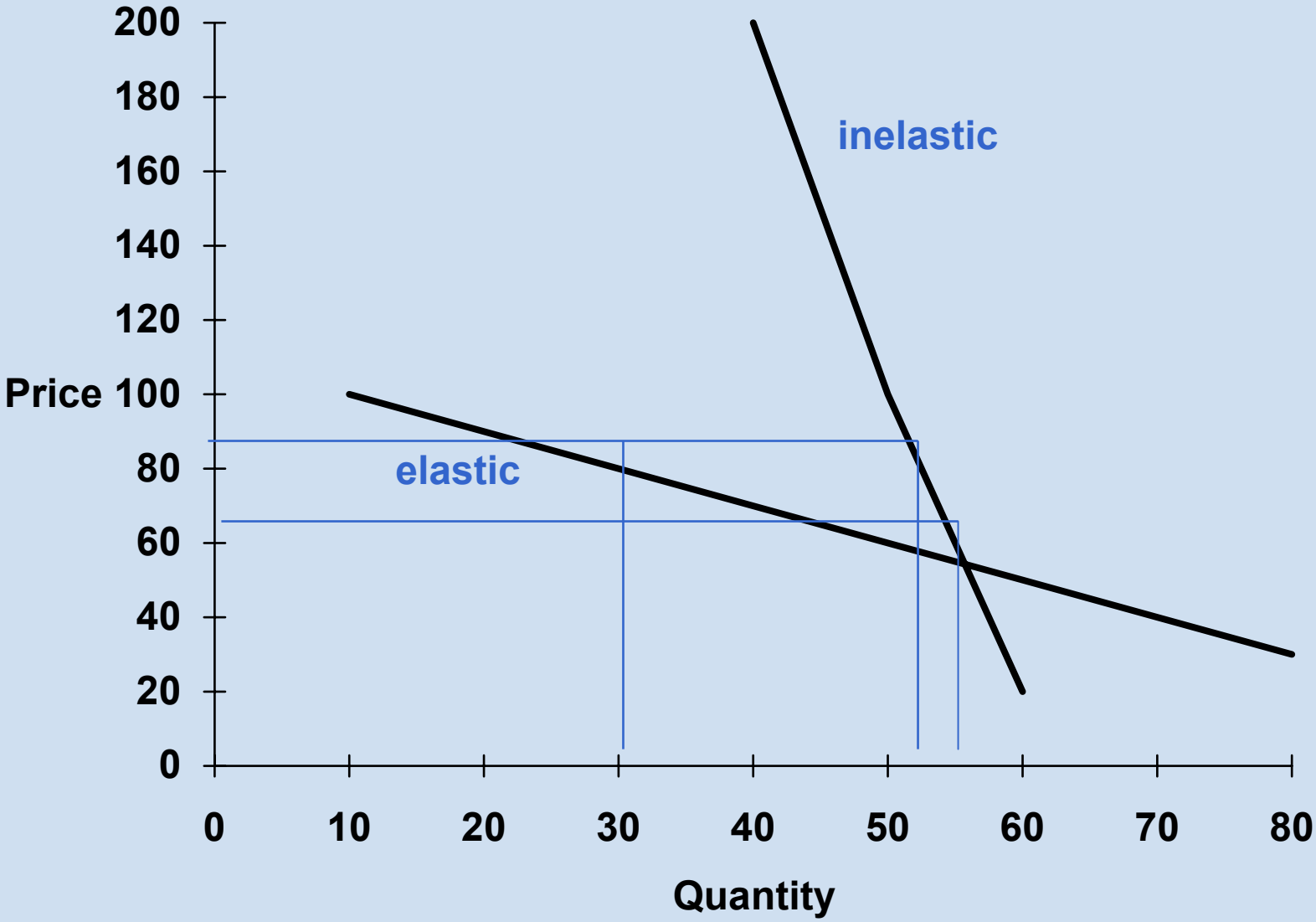
Demand

- Function of price
  - Higher price reduces quantity demanded
  - Lower price increases quantity demanded

Demand

- How much the quantity demanded rises or falls with a change in price is known as the price elasticity of demand
- Price elasticity of demand measures how sensitive consumers are to price change

Demand Curves



Consumers More Sensitive to Price*

- Cost of product is large part of total cost
- Minimal differences among products:
  - Consumer can judge quality
  - Comparisons are easy to make
- Switching costs are small

*From Dolan R.J.: How do you know when the price is right? Harvard Business Review, 73:174, 1995.

Pricing a New Service at Differential Cost

- Service cost very sensitive to volume
- Consumers very sensitive to price
- Lower price → higher quantity purchased → lower service cost
- Caution: in the long-run the service's price must cover its full costs

Competition

- Must consider prices charged by competitors
- Pharmacy can charge higher prices only if it has a distinct advantage
- Consumers must understand and value the advantage

Image

- Consumers select based on perceptions
- Perceptions depend on pharmacy image
- Image based on many factors
  - Actual prices - Size and location
  - OTC merchandise - Services offered
  - Personnel - Promotion
- Prices should be consistent with image

Price as a Signal of Quality*

- Price may signal quality to consumers
- More likely when consumers unable to judge quality
  - Great variability in quality
  - Product or service perceived as high risk
- More likely for services than for products

* From Zeithaml VA, Bitner MJ: Pricing of Services. In Services Marketing. New York: McGraw-Hill, 1996

Goals

- Prices should be consistent with goals
- Goal of most pharmacies is to maximize long-term profit
- Requires setting prices high enough to generate a profit and low enough to attract sales

Goals

- Goal: build sales volume
- Strategy: low prices to attract sales
- Penetration pricing

Goals

- Loss leader pricing
- Goal: attract consumers to buy non-prescription merchandise
- Strategy: offer low prices on prescriptions
- Must have large volume of non-prescription sales

Goals

- Goal: target consumers willing to pay higher prices for superior service
- Strategy: charge higher prices, provide superior service
- Price skimming

Non-Monetary Costs*

- Time costs
- Search costs
- Psychic costs

* From Zeithaml VA, Bitner MJ: Pricing of Services. In Services Marketing. New York: McGraw-Hill, 1996

Conclusions

- Pricing is a basic management function
- Requires consideration of both cost and non-cost factors