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Cost Accounting in the health Care facilities: theory and practical implementation in Albania

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Seminar Agenda

1. Managerial Accounting Basics
2. Cost Allocation
3. Lessons learned from CA study in Albania

1. Managerial Accounting Basics

- Introduction to managerial accounting
- Cost classifications
- Impact of cost structure on risk

Managerial Accounting

***Financial accounting*:**

- Uses organizational (aggregate) data
- Designed for use by external parties
- Primarily historical
- Must adhere to external standards

***Managerial accounting*:**

- Uses organizational *and subunit* data.
- Designed for use by *managers*.
- Primarily *forward looking*.
- Does *not* adhere to external standards.

Cost Classifications

- **Cost measurement is a critical part of managerial accounting.**
  - In fact, there is an entire field of accounting called cost accounting.
  - Unfortunately, there is no single definition of the term *cost*. Different costs are used for different purposes.
- **Costs are classified in two major ways.**
  - Classification by inputs
  - Classification by activities (volume)

Cost Classifications (Cont)

- **The relationship between costs and the volume of services provided is called cost behavior or underlying cost structure.**
- **If the underlying cost structure is known, managers can forecast costs at different levels of patient volume.**
- **In this context, costs may be:**
  - Fixed, which are independent of volume
  - Variable, which depend on volume
  - Semi-fixed, which partially depend on volume

Cost Classifications (Cont)

- **In the *long run*, all costs are variable, and hence these cost classifications hold only in the *short run*, say, for one year.**

- **Also, no costs are fixed throughout an infinite range of volumes. Thus, the concept of cost classifications according to volume must be applied within some *relevant range* of patient volume.**

Variable cost by Albanian' budget structure

Code	Specific Name
6021003	MEDICINES AND MEDICAL MATERIAL
6021004	FOOD SUPPLIES AND SERVICES FOR MEALS
6021001	UNIFORM AND OTHER SPECIAL CLOTHING
6021099	OTHER SPECIAL MATERIALS AND SERVICES

Fixed cost by Albanian' budget structure

Code	Specific Name
600	Salary + Taxes
6020	MATERIALS AND SERVICES AND GENERAL OFFICE
6021007	PROFESSIONAL BOOKS AND PUBLICATIONS
6021009	MATERIALS AND EQUIPMENT LABORATORY OF PUBLIC SERVICE
6021010	SPECIFIC DOCUMENTATION FOR PRODUCTION COSTS
6021099	OTHER SPECIAL MATERIALS AND SERVICES
6022	SERVICES FROM THIRD
6023	TRANSPORTATION SERVICES
6024	TRAVEL COSTS
6025	COSTS FOR MAINTENANCE OF THE ORDINARY
6026	COSTS FOR Lease
6027	COSTS FOR LIABILITIES AND LEGAL Compensation
6027	OTHER OPERATING EXPENSES

Cost Structure Example: Korce Hospital

Fixed Costs Per Year	Lek
SALARY+TAX	357709091
MATERIALS AND SERVICES AND GENERAL OFFICE	6469028
UNIFORM AND OTHER SPECIAL CLOTHING	3130200
SERVICES FROM THIRD	83088697
TRANSPORTATION SERVICES	16854812
TRAVEL COSTS	3446536
COSTS FOR MAINTENANCE OF THE ORDINARY	9473060
OTHER OPERATING EXPENSES	444000
TOTAL	**480615424**

Variable Costs	Lek
MEDICINES AND MEDICAL MATERIAL	80073495
FOOD SUPPLIES AND SERVICES FOR MEALS	9205603
OTHER SPECIAL MATERIALS AND SERVICES	3813202
TOTAL	**93092300**
CASES:	**5704**
Variable Costs Per Case	**16320.5**

Volume (csases)	Fixed Costs	Total Variable Costs	Total Costs	Average Cost
1	480615424	16320.5	480631744.5	480631744.5
100	480615424	1632052.9	482247476.9	4822474.8
1000	480615424	16320529.5	496935953.5	496936.0
5000	**480615424**	**81602647.3**	**562218071.3**	**112443.6**
10000	480615424	163205294.5	643820718.5	64382.1

Cost Structure Example (Cont.)

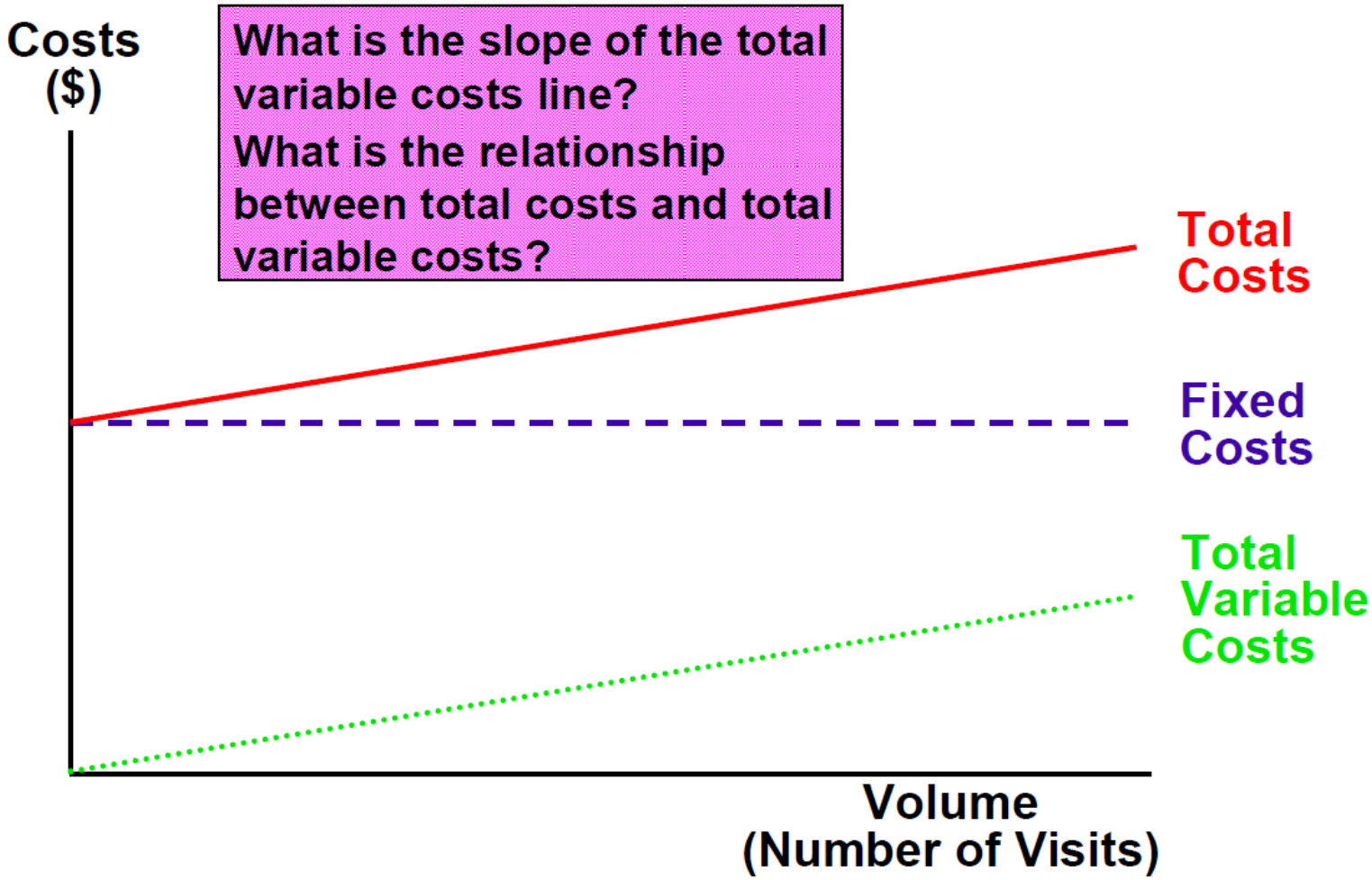
Consider a volume of 5,000:

- Fixed costs = 480615424 lek
- Variable cost rate = 16320.5 lek
- Total variable costs = 81602647.3 lek
- Average cost per case= 112443.6 lek

Now consider a volume of 10,000:

- Fixed costs = 480615424 lek
- Variable cost rate = 16320.5 lek
- Total variable costs = 163205294.5 lek
- Average cost per case= 64382.1 lek

Graphical Cost Structure



Profit (CVP) Analysis

- **Profit analysis, also called cost- volume-profit (CVP) analysis, is a technique used to assess the effects of alternative volume assumptions on costs and profits.**

- **Why is such information valuable to health services managers?**

Profit Analysis Example

Queen Geraldine Maternity Hospital (Tirana) has forecasted the following cost data on the basis of 18000 cases (2011):

Fixed cost	298888122
Total variable costs	110415000
Total costs	409303122 lek

Profit Analysis Example (cont)

What is the variable cost rate?

$$\text{Variable cost rate} = \frac{\text{Total variable costs}}{\text{Volume}}$$

$$= \frac{110415000}{18000}$$

$$= 6132 \text{ per case}$$

Profit Analysis Example (cont)

What is Maternity Hospital 's cost behavior model? (in thousands lek)

Total costs = Fixed costs + Total variable costs
= 300000 + (6 x Volume)

For example, at 15 000 cases:

Total costs = 300000 + (6 x 15000)
= 300000+ 90000= 120000 th. lek

Profit Analysis Example (cont)

Cost/Volume Summary:

Volume = 13000

TC = 300000+ 78000= 378000 th. lek

Volume = 15000 (Base Case)

TC = 300000+ 90000= 390000 th. lek

Volume = 17000

TC = 300000 + 102000 = 402000 th. lek

Profit Analysis Example (cont)

- What do hospital's managers learn from the data on the previous slide?

- Now, suppose that the average revenue per case is expected to be 25000 lek. What does the clinic's cost and revenue structure look like graphically?

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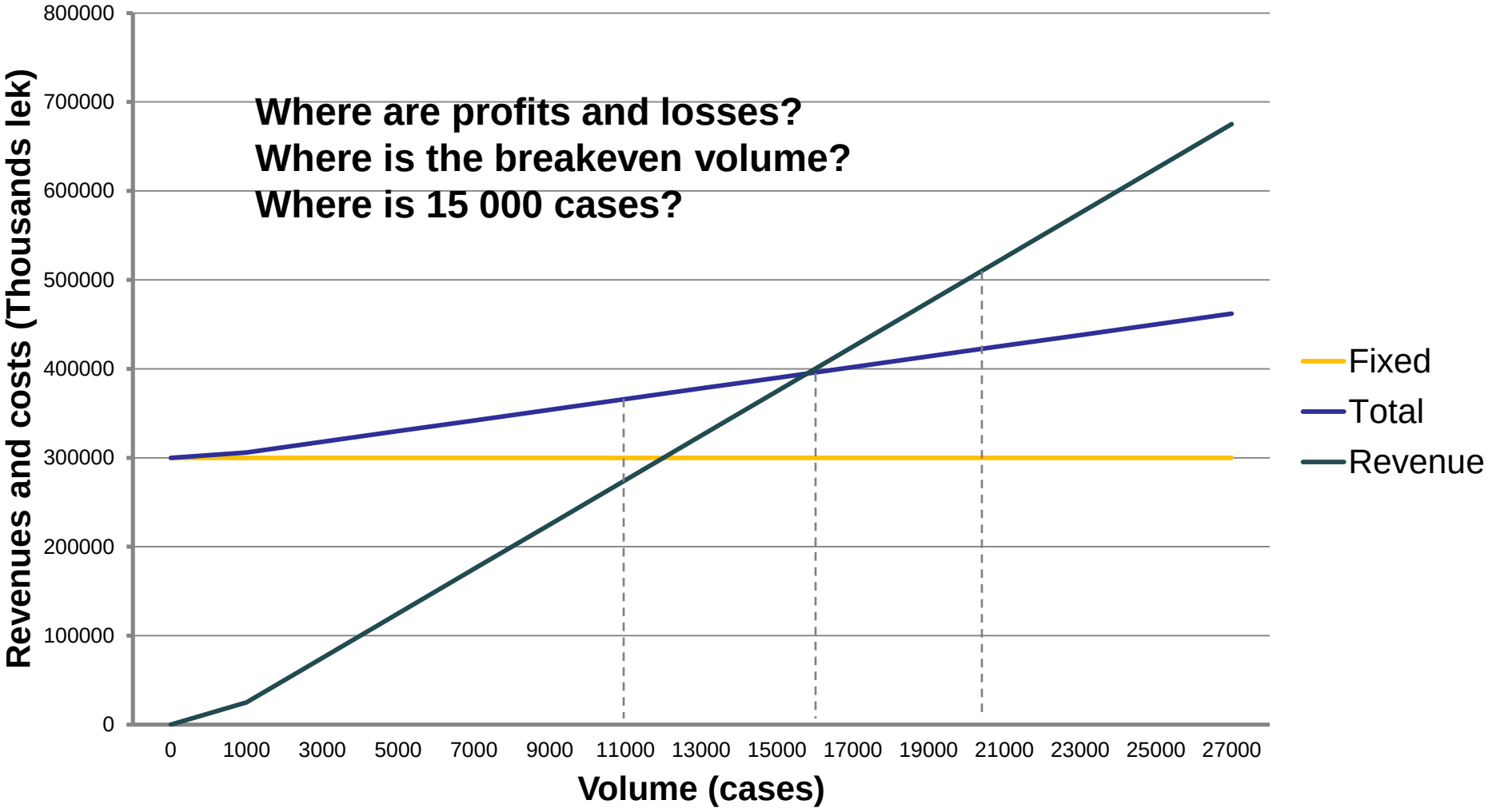
Graphical Profit Analysis



Forecasted (Projected) Profit and Loss Statement

- The *projected* P&L statement uses cost structure information along with the revenue forecast and projected volume to forecast profitability.
- Although it looks like an income statement, it does not have to follow GAAP.
- Because it is a *forecast*, it can be influenced by managerial actions.

Forecasted (Projected) Profit and Loss Statement (cont)

Total revenues (25000 x 15000) =	375000
Total VC (6 x 15000)	90000
Total CM (19x 15000)	285000
Fixed costs	300000
Profit	- 15000

VC = Variable costs.

CM = Contribution margin.

Forecasted (Projected) Profit and Loss Statement (cont)

- **Note that *base case* total costs equal fixed costs plus total variable costs or 300000+ 90000= 390000**
- **Thus, hospital's *average per visit cost* is 390000/15000= 26**
- **What happens to the average cost per visit as volume increases?**
- **Why?**

Contribution Margin

- **The contribution margin is defined as the difference between *per visit (unit) revenue* and the *variable cost rate*.**
- **It is the amount of each visit's revenue that is available to:**
  - First cover fixed costs.
  - Flow to profit when fixed costs are covered.
- **In this illustration, the contribution margin is 25-6=19 th. lek**
- **What is the total contribution margin?**

Breakeven Analysis

- **Breakeven analysis is performed in many different finance contexts.**
- **Here, it is used to determine the breakeven volume, defined as thatvolume needed for an organization (or service or program) to be financially self-sufficient.**
- **There are two types of breakeven:**
  - Accounting breakeven (zero profit)
  - Economic breakeven (with profit)

Breakeven Analysis (cont)

- **What is the *accounting breakeven* for Queen Geraldine Maternity Hospital?**
- **There are two approaches to answer this question:**
  - Projected P&L approach
  - Graphical approach

P&L Approach

Total revenues - Total VC - FC = Profit

(25 * V) - (6 *V) - 300000= 0

19 * V = 300000

V = 300000/ 19= 15789 cases

Breakeven Analysis (cont)

Note that the P&L approach can be recast in a *contribution margin format*.

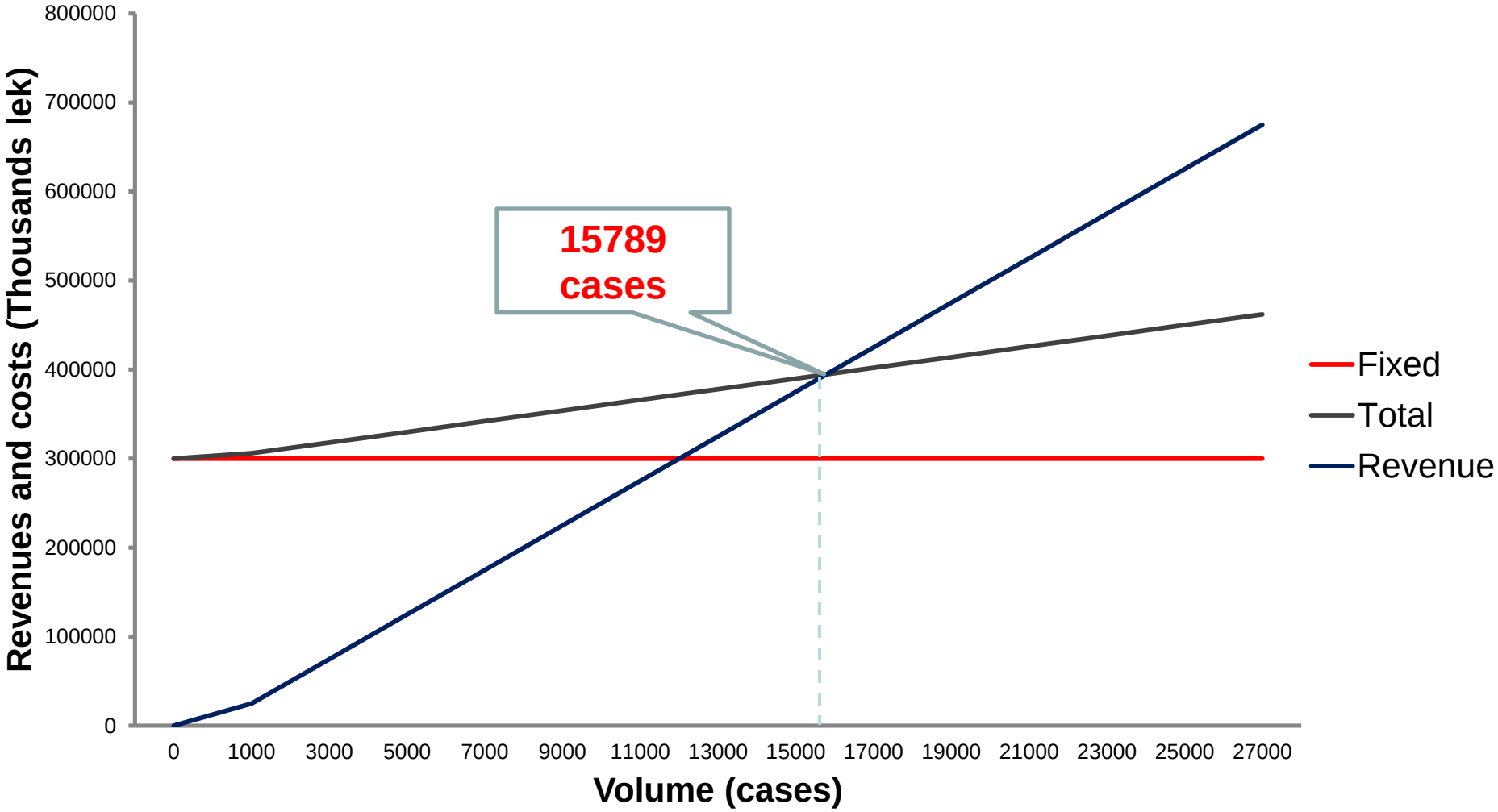
P&L Approach (Contribution Margin Format)

CM *V = Fixed costs

19*V = 300000

V = V = 300000/ 19= 15789 cases

Graphical Breakeven Analysis



Breakeven Analysis (Cont.)

What is the *economic breakeven* if the desired profit level is 10000?

CM * V = Fixed costs + Profit
19 * V = 300000 + 10000= 310 000
V = 310000/ 19 = 16315 cases

Note that the accounting breakeven is 15789 cases. The additional number of visits needed is 526.

Why do we need those skills?

- The work is going on in Albania on implementation of the Single Payer System with subsequent transition to new methods of financing.
- As a rule, the Single Payer sets a fixed rate for services which requires risk assessment and calculation of Profit and Loss Statement on the provider's side
- Usually Single Payer identify the fixed rate for health care services which requires the risk assessment and Forecasted (Projected)
- Using Managerial Accounting Basics health care managers can make economically justified decisions on restructuring hospitals and services.

2. Cost Allocation

- Direct versus indirect costs
- Cost allocation methods
- Direct and Step-Down Methods Illustration based on Albanian study

Introduction

- In the previous section we discussed the analysis of financial risks
- A hospital can be compared to a factory that ‘produces’ treated patients from different departments with different costs
- As for any factory, the product cost includes ALL expenses
- There are several cost allocation methodologies that can be used for this purpose

Cost Allocation

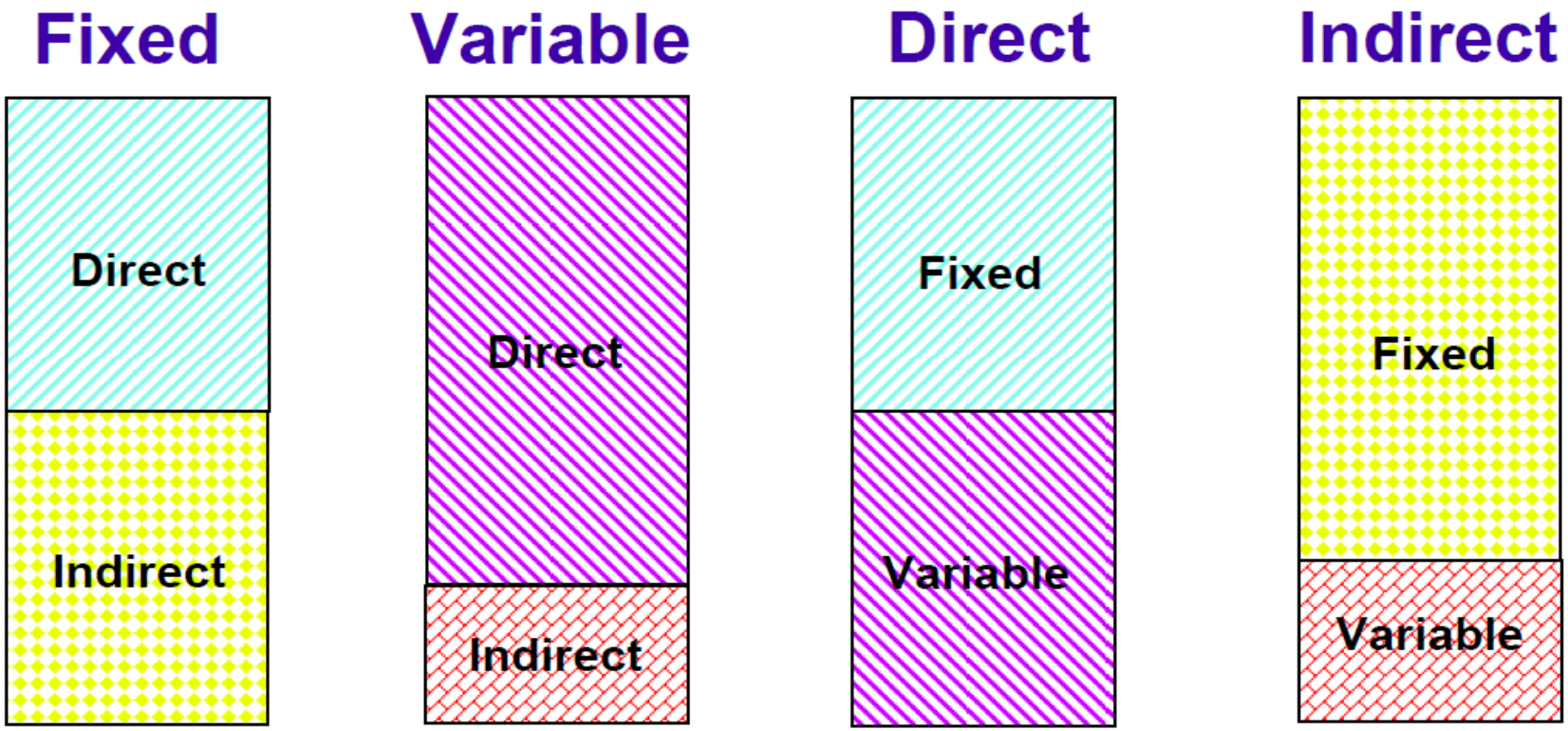
- **Direct versus indirect costs**
- **Cost allocation basics**
  - Cost centers
  - Cost driver
  - Allocation rate
- **Cost allocation methods**
  - Direct method
  - Step-down method
  - Reciprocal method
- **Direct and Step-Down Method Illustration**

Cost Allocation Basics

- **In addition to their *relationship to volume,* costs can be classified by their relationship to the unit of activity:**
  - **Direct, which are those costs unique and exclusive to a subunit.**
  - **Indirect, or overhead, which are those costs associated with shared resources used by the entire organization.**
- **The *purpose* of cost allocation is to assign indirect costs to subunits.**

Cost Allocation Basics

Note that the two cost allocation categories overlap one another. (The proportions shown are for illustration only.)



Direct costs by Albanian' budget structure

Code	Specific Name
600	SALARY+TAX
6021003	MEDICINES AND MEDICAL MATERIAL
6021004	FOOD SUPPLIES AND SERVICES FOR MEALS
6021001	UNIFORM AND OTHER SPECIAL CLOTHING

Indirect costs by Albanian' budget structure

Code	Specific Name
6020	MATERIALS AND SERVICES AND GENERAL OFFICE
6021007	PROFESSIONAL BOOKS AND PUBLICATIONS
6021009	MATERIALS AND EQUIPMENT LABORATORY OF PUBLIC SERVICE
6021010	SPECIFIC DOCUMENTATION FOR PRODUCTION COSTS
6021099	OTHER SPECIAL MATERIALS AND SERVICES
6022	SERVICES FROM THIRD
6023	TRANSPORTATION SERVICES
6024	TRAVEL COSTS
6025	COSTS FOR MAINTENANCE OF THE ORDINARY
6026	COSTS FOR Lease
6027	COSTS FOR LIABILITIES AND LEGAL Compensation
6027	OTHER OPERATING EXPENSES

Cost Allocation

- **The purpose of cost allocation is to assign all overhead costs to the departments that create the need for such costs, typically the *patient service departments***

- **To begin, we must define two terms used in cost allocation. Then, we will illustrate two methods of cost allocation**

Cost Pool and Cost Center

- **A cost pool is the *overhead amount* to be allocated. In general, a cost pool consists of the *direct costs* of one overhead departments (cost centers)**
- **If the costs of a single overhead department *differ substantially* in nature and are *used in different proportions*, multiple cost pools should be used**
- **Cost Center (CC) is:**
  - either a hospital unit
  - existing hospital units with consolidated functions, technologies, and organizational structures
  - combination of elements of the existing hospital units.

Cost Pool and Cost Center (cont)

- **CC can be based on one of the existing units.**
  - Clinic and intermediate clinic CCs are established by this way.

- **Several units can merge into one CC.**
  - Several units can merge into one CC, thus total costs and total statistical data accounted for all units within the CC's framework.

Cost Pool and Cost Center (cont)

- **A unit can be divided into several CCs.**
  - Part of costs and statistics of the unit shall be accounted in one CC, and another part – in the other CC.

- **Existing units can be regrouped.**
  - Several CCs shall be formed by parts of several units.

Cost Center categories

- **Administrative and management CCs**
  - A main feature is non-medical nature of activities.
- **Para clinic CCs**
  - include units and services, their activities being of medical nature, thus ensuring curative and diagnostic process for patients
- **Intermediate clinic CCs**
  - includes units, which carry out **a)** ancillary functions by supporting curative process in clinic units, **b)** conduct major curative process

Cost Center categories (cont)

- **Policlinic CCs**
  - include units and services, which provide various health services mainly for outpatients.
- **Clinic CCs**
  - units, providing health services, which a health facility is paid for within a finished case item. The structure of clinic CCs should be completely similar to that of clinic units of a health facility.

Example: CC structure Lezhe Hospital: Microsoft Office Word Document

Cost Driver (Criteria for Cost Allocation)

- **A cost driver is the *basis* on which the cost pool will be allocated.**

- **For example, the cost driver for facilities overhead (building space depreciation, maintenance, utilities, and so on) might be the *amount of space* used by each patient service department.**

Cost Driver (cont.)

- **The selection of cost drivers is *critical* to the cost allocation process.**
- **Cost drivers should create an allocation that is *highly correlated* with the actual amount of overhead services consumed.**
- **Good cost drivers will have these two important attributes:**
  - They should be perceived as being *fair*.
  - They should promote *organizational cost reduction*.

Recommended cost drivers:

Microsoft Office Word Document

Traditional Allocation Process

1. Identify the cost pool

- Identify the cost pool, which is the cost of the overhead activity to be allocated.
- To illustrate, assume that a hospital's *Housekeeping Department* has direct costs of 100,000.

Traditional Allocation Process (cont)

2. Determine the cost driver

- The cost driver is the *basis* on which the overhead costs will be allocated.

- Assume that the cost driver for Housekeeping services is the *amount of space occupied*. User departments in total occupy 200 square meters of space.

Traditional Allocation Process (cont)

3. Calculate the allocation rate

- **The allocation rate is the numerical value used to make the allocation:**

$$\text{Allocation rate} = \frac{\text{Amount in cost pool}}{\text{Total volume of cost driver}}$$

- **Here, the allocation rate is $100,000/200 = $500 per square meter of space occupied.**

Traditional Allocation Process (cont)

4. Determine the allocation amount

- **Each user department is then allocated some portion of Housekeeping overhead costs.**
- **Assume the Critical Care Department occupies 30 square meters of space. Its allocation would be $500 x 30 = $15,000.**

Allocation Methods

- **Mechanically, cost allocation can be accomplished in a variety of ways.**
- **Regardless of the method, all overhead costs must ultimately be allocated to the departments that create the need for such costs, which are the *patient service departments*.**
- **There are several allocation methods:**
  - Direct method
  - Step-down method
  - Reciprocal method

Allocation Methods (Cont.)

- **In the direct method, the costs of each support department are allocated *directly to*, and *only to*, the patient services departments.**

- **In the step-down method, *some (but not all)* of the intrasupport department relationships are recognized. This method is more complex than the direct method**

Allocation Methods (Cont.)

- **The reciprocal method recognizes *all* of the support department interrelationships, but it requires a system of simultaneous equations or a complex set of iterative calculations.**

- **Which method is used most commonly in practice?**

Characteristics of costing methods

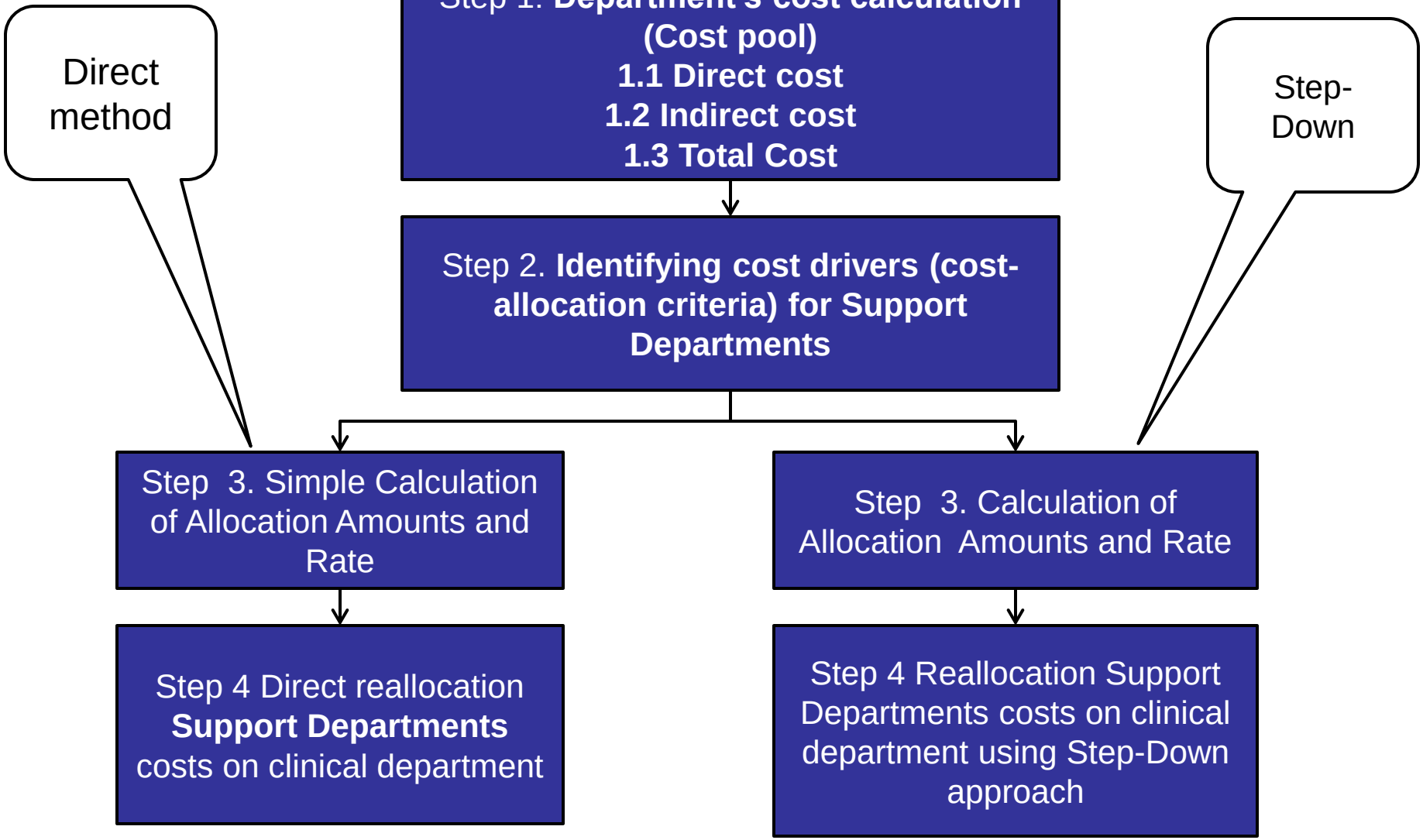
Source: EuroDRG project

	Number (share) of cost collecting hospitals	Overhead allocation	Indirect cost allocation	Direct cost allocation	Data checks on reported cost data
Austria	20 reference hospitals (about 8% of all hospitals)	varying by hospital (direct and SD)	varying by hospital	mainly grosscosting	regional authority, regularly
England	all hospitals	direct method	weighting statistics	top down microcosting	national authority, annually
Estonia	hospitals contracted with the national health insurance fund	direct method	mainly mark-up percentage	mainly top down microcosting	national authority, annually
Finland	5 reference hospitals meeting particular cost accounting standards (about 30% of specialised care)	direct method	weighting statistics	bottom up microcosting	no (responsibility of hospitals)
France	99 volunteering hospitals participating in the hospital cost database ENCC (about 13% of inpatient admissions)	step down method	weighting statistics	mainly top down microcosting	regional authority, annually
Germany	about 225 volunteering hospitals meeting InEK cost accounting standards (about 13% of all hospitals)	step down method	weighting statistics	bottom up microcosting	national authority, annually
Netherlands	resource use: all hospitals; unit costs: 15-25 volunteering general hospitals (about 24% of all hospitals)	direct method	weighting statistics	bottom up microcosting	national authority, annually
Sweden	hospitals with case costing systems (about 62% of inpatient admissions)	direct method	weighting statistics	bottom up microcosting	national and regional authority, annually

Direct and Step-Down Method Illustration

- **Consider the *direct cost allocation system* used at Maternity Hospital in Tirana**
- **This hospital was selected for simplicity, as it has the least number of departments**
- **These methods are similar and use the same approaches at first steps**

Direct and Step-Down Method Illustration



Department Structure

Support Departments

Administration
Supporting technical sector
Pharmacy
Clinical Laboratory - Biochemical
Prenatal diagnosis laboratory
Quote histopathological laboratory
Blood Bank
sterilization
Cabinet of Radiology
Intensive Therapy Services
Pathology for pregnancy
Women's Center

Patient Service (clinical) Departments

Service of Neonatology
Obstetrics service
Gynecology Service

Step 1:Department's cost calculation

1. **Direct Costs Calculation Direct costs of each CC calculated as total costs of the specifics enlisted.**
   - Total direct costs for Specifics 6021003 and 6021004 assessed for CC in proportion to patient's bed-days
   - Cost for Specific 6021001 assessed for CC in proportion to the total staff

Step 1: Department's cost calculation (cont)

2. **Indirect cost calculating.**
   - Total indirect costs for Specifics 6021007, 6021009, 6021010, 6021099 and 6027 assessed for CC in proportion to direct CC costs.
   - Total indirect costs for Specifics 6020, 6022, 6025, 6026 shall be assessed for CC in proportion to the area of CC premises
   - Total indirect costs for Specifics 6023, 6024, shall be assessed for CC in proportion to the total staff.
3. **Total cost (Direct+ indirect)**

Illustration:

Step 1:Department's cost calculation: the final table

	Direct	Indirect	Total costs
Support Departments			
Administration	17122432	4236847.8	21359279.5
Supporting technical sector	25501631	4145561.0	29647191.8
Pharmacy	1967400	748243.4	2715643.5
Clinical Laboratory - Biochemical	10248592	594619.7	10843211.7
Prenatal diagnosis laboratory	2281782	816678.0	3098459.8
Quote histopathological laboratory	2063746	556905.4	2620650.9
Blood Bank	593350	140012.1	733362.5
sterilization	1661685	200766.6	1862451.2
Cabinet of Radiology	1482221	519545.2	2001766.7
Intensive Therapy Services	17681873	1776865.1	19458738.2
Pathology for pregnancy	14422451	3888909.1	18311360.1
Women's Center	9099706	3038013.8	12137720.3
Patient Service Departments			
Service of Neonatology	84231682	4547377.0	88779059.1
Obstetrics service	120028563	17130731.2	137159293.8
Gynecology Service	42073008	12431924.7	54504932.8

Step 2. Identifying cost drivers for Support Departments

Departments	"Right" Cost Driver	Used Cost Driver
Administration	Full costs	Full costs
Supporting technical sector	Full costs	Full costs
Pharmacy	Cost of medicines and medical material	Number of patients
Clinical Laboratory - Biochemical	Number of analyses	Number of patients
Prenatal diagnosis laboratory	Number of analyses	Number of patients
Quote histopathological laboratory	Number of analyses	Number of patients
Blood Bank	Amount of stored blood	Number of patients
sterilization	Bed-days	Bed-days
Cabinet of Radiology	Number of X-rays	Number of patients
Intensive Therapy Services	Transferred patients	Number of patients

Step 3a. Identifying cost drivers for Support Departments

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$$\text{Allocation rate} = \frac{\text{Total cost of Department(cost pool)}}{\text{Total volume of cost driver}}$$

Departments	Used Cost Driver	Amount in the cost pool	Total volume of cost driver	Allocation rate
Administration	Full costs	21359279.5	310892366.1	0.07
Supporting technical sector	Full costs	29647191.8	310892366.1	0.10
Pharmacy	Number of patients	2715643.5	18113.00	149.93
Clinical Laboratory - Biochemical	Number of patients	10843211.7	18113.00	598.64
Prenatal diagnosis laboratory	Number of patients	3098459.8	18113.00	171.06
Histopathological laboratory	Number of patients	2620650.9	18113.00	144.68
Blood Bank	Number of patients	733362.5	18113.00	40.49
sterilization	Bed-days	1862451.2	50164	37.13
Cabinet of Radiology	Number of patients	2001766.7	18113.00	110.52
Intensive Therapy	Number of patients	19458738.2	18113.00	1074.30

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Step 4a. Direct reallocation Support Departments costs on clinical department

	Administration	Supporting technical sector	Pharmacy	Clinical Laboratory - Biochemical	Prenatal diagnosis laboratory	Quote histopathological laboratory	Blood Bank	sterilization	Cabinet of Radiology	Intensive Therapy Services
Pathology for pregnancy	1258047.8	1746200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Women's Center	833899.4	1157472	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Service of Neonatology	6099399.5	8466112	1020708.9	4075558.2	1164595.3	985004.8	275643.6	701296.6	752389.3	7313812
Obstetrics service	9423273.2	13079729	1185779.5	4734663.6	1352935.4	1144301.2	320221.1	891982.1	874066.8	8496613
Gynecology Service	3744659.6	5197677	509155.0	2032990.0	580929.1	491344.9	137497.9	269172.5	375310.5	3648312

Step 5a. Calculations of total department costs and case cost

Department	Cost of Department	Cases	Cost per Case
Pathology for pregnancy	21315608.4		
Women's Center	14129092.0		
Service of Neonatology	119633580.6	6808	17572.5
Obstetrics service	178662859.2	7909	22589.8
Gynecology Service	71491981.8	3396	21051.8

Step 3b. Identifying cost drivers for Support Departments (SD method)

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$$\text{Allocation rate} = \frac{\text{Total cost of Department+ Reallocated Ammount,}}{\text{Total volume of cost driver}}$$

Departments	Used Cost Driver	Amount in the cost pool	Total volume of cost driver	Allocation rate
Administration	Full costs	21359279.5	383873842.4	0.07
Supporting technical sector	Full costs	31296803	354226650.7	0.1
Pharmacy	Number of patients	3106680	18113	149.93
Clinical Laboratory - Biochemical	Number of patients	12404568	18113	598.64
Prenatal diagnosis laboratory	Number of patients	3544619	18113	171.06
Histopathological laboratory	Number of patients	2998009	18113	144.68
Blood Bank	Number of patients	838962	18113	40.49
sterilization	Bed-days	2130633	50164	37.13
Cabinet of Radiology	Number of patients	2290009	18113	110.52
Intensive Therapy	Number of patients	22260678	18113	1074.3

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Step 4b. SD reallocation Support Departments costs on clinical department

	Total costs	Administration	Supporting technical sector	Pharmacy	Clinical Laboratory - Biochemical	Prenatal diagnosis laboratory	Quote histopathological laboratory	Blood Bank	sterilization	Cabinet of Radiology	Intensive Therapy Services
Administration	21359279.5	383873842	31296803								
Supporting technical sector	29647191.8	1649611.4	354226651	3106680							
Pharmacy	2715643.5	151102.2	239933.8	90338000	12404568						
Clinical Laboratory - Biochemical	10843211.7	603331.5	958024.6	0.0	32158	3544619					
Prenatal diagnosis laboratory	3098459.8	172402.7	273756.6	0.0	0.0	100	2998009				
Quote histopathological laboratory	2620650.9	145816.7	231541.0	0.0	0.0	0.0	4249	838962			
Blood Bank	733362.5	40805.3	64794.4	0.0	0.0	0.0	0.0	18113	2130633		
sterilization	1862451.2	103629.4	164552.2	0.0	0.0	0.0	0.0	0.0	50164	2290009	
Cabinet of Radiology	2001766.7	111381.1	176861.1	0.0	0.0	0.0	0.0	0.0	0.0	18113	22260678
Intensive Therapy Services	19458738.2	1082711.5	1719227.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18113
Pathology for pregnancy	18311360.1	1018869.8	1617854.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Women's Center	12137720.3	675359.8	1072397.7	0.0	0.0	3190157.1	0.0	0.0	0.0	0.0	0.0
Service of Neonatology	88779059.1	4939791.5	7843850.1	1169804.5	2562844.4	354461.9	1126839.4	315334.6	802279.0	860728.8	8366957.0
Obstetrics service	137159293.8	7631735.7	12118363.8	1487879.3	7058236.9	0.0	1309073.6	366330.9	1020422.1	999927.1	9720073.9
Gynecology Service	54504932.8	3032731.0	4815646.0	448995.8	2783486.6	0.0	562095.6	157296.7	307931.7	429353.0	4173646.6

Step 5b. Calculations of total department costs and case cost

	Cost of Department	Cases	Cost per Case
Pathology for pregnancy	20948084.0		
Women's Center	17075634.9		
Service of Neonatology	117121950.2	6808	17203.6
Obstetrics service	178871337.1	7909	22616.2
Gynecology Service	71216115.8	3396	20970.6

Comparison case cost calculated by SD and direct methods

	Cost per Case SD method	Cost per Case Direct method	Difference
Service of Neonatology	17203.6	17572.50	-368.92
Obstetrics service	22616.2	22589.82	26.36
Gynecology Service	20970.6	21051.82	-81.23

Some conclusions

- **Both methods are similar and both can be used for cost accounting**
- **SD method is more complicated and requires more information; however, it allows to perform more reliable calculation of the costs of services**
- **SD method gives managers more options to model consequences of various managerial solutions**

3. Lessons learned from CA study in Albania

- Major issues in the process of data collection
- Cost-centers structures by hospital's
- Calculation tables
- Practical recommendations on using CA methodology for hospital management
- Recommendation on the data collection process improving

Major issues in the process of data collection

- Financial information on most budget specifics is only available in an aggregated format
- There is no data collection on the services provided by paraclilincal departments to clinical department, including drug utilization by departments
- These factors undermine reliability of calculations

Methodological aspects and limitations

- The pilot hospitals have very few departments; therefore most cost centers have only one structural subdivision
- Due to the lack of reliable statistical information, the criteria used as cost drivers were not objective enough
- This study looked at financial data from HII. According to hospitals, some budget specifics were not financed from HII. Probably, they were partially covered through out-of-pocket expenses.

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Presentation of results of study

- **Cost-centers structures by hospital's**
- **Calculation tables**

DEMONSTRATION EXCEL TABLES

Lezhe:

Korce:

Tirana:

Simulation modeling using cost accounting tables

- **How will the following actions impact the case cost:**
  - reduction of administrative expenses
  - improvement of bed turnover
  - reduction of space
- **How will the use of the right cost-drivers impact the case cost structure among the departments**

Recommendation on the data collection process improving

- **Collect data on support services provided for clinical departments**
  - It can be done through HII cost accounting system
- **Explore options to account for some direct costs of clinical departments (i.e. drugs, linen, hotel services)**

Conclusion