"Improving pharmacist unit management performance in Port-Said Fever Hospital"

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Abstract:

**Background:** The pharmacy is the most important healthcare unit and important link between DRS, Hospital, and direct patients and insure dispensing the drug to the patients to make sure that they take the correct medication. Developed and updated pharmacy is the goal to ensure good health for all patients and ensure spreading awareness within talented pharmacists.

**Key words:** Pharmacist unit, Budgeting, Risk management, Study, Development.

**Aim of the study:**

1. First authorized pharmacy with hepatic drug support and 50% discount covered with ministry of health to be generalized to all fever hospitals pharmacies in Egypt.
2. Develop health care service
3. Avoid any medication error
4. Ensuring the five rights of patient while dealing with the drug: 1) Right drug 2) Right patient 3) Right time 4) Right dose
5. To serve all the patients without any distinction
6. To decrease the number of patients and mortality in our city
7. To provide all drugs alternatives to the patient with low cost and financial support from our health ministry
8. 24/7 delivery in all area with large delivery team members.

**Methodology:** SWOT analysis, TOWS study, Feasibility study, Budgeting of the project, Legal study, Environmental study, Political study, Social study, Catastrophe plan, methods of cost reduction and establishment of risk management plan, financing plan and development plan

**Conclusion:** To develop a pharmacy unit in a hospital you should have advantages and more services over your surrounded competitors. Study SWOT analysis is important to supply unique pharmacological services. It is mandatory to plan for the Budgeting of the project to include losses and maximize profits. Estimation of political study, legal study, environmental study and social study are essential establishment of new pharmacy. Catastrophe plan is procedures have been established to respond to any external emergency and the expected risks. Feasibility of the project important for project success

**Introduction**

The pharmacy is the most important healthcare unit and important link between DRS, Hospital, and direct patients and insure dispensing the drug to the patients to make sure that they take the correct
medication. Developed and updated pharmacy is the goal to ensure good health for all patient and ensure spreading awareness within talented pharmacists. For all customers they demand and follow things that satisfy their needs so we will satisfy all aspects that they faced and make them demand my service and this will be done through a lot of updates will be discussed late.

**Methodology:**

*It is the strategy of establishing our developmental project “Improving Pharmacist Unit Performance management in port said Fever Hospital ” to determine “S” Strength ,”W” Weakness ,”O” Opportunities &”T” Threats of our project .

<table>
<thead>
<tr>
<th>“Strength” :</th>
<th>“Weakness” :</th>
</tr>
</thead>
</table>
| *The total area of port said fever hospital allow to do this developmental project.  
*the Building of the hospital is already present that will save much cost.  
*The site of hospital at the center of the city & in two way large street.  
*Crowded area with peoples.  
*Well knowledge &up to date Clinical pharmacists .  
*working 24hrs /day.  
*Provide rapid prescription service times.  
*the pharmacy is large size with good ventilation  
*establish Online Website for the pharmacy.  
*provide rapid &free delivery service. | *poor funding or limited resources.  
*high wages of employees.  
*high turnover rate especially with new graduated pharmacists with less experience.  
*payment system with pharmaceutical companies.  
*shortage of drugs.  
*poor marketing.  
*need of training courses for pharmacists .  
*Need of high number of pharmacists to allow working24 hr./day. |

<table>
<thead>
<tr>
<th>“Opportunities” :</th>
<th>“Threats” :</th>
</tr>
</thead>
</table>
| *overpopulated area of the pharmacy.  
*pharmacy site in two way large street.  
*do contract with companies. | *The site of hospital in between three hospital put it in great competition with them.  
*increase marketing competitions.  
*unpredictable behavior of the customers.  
*shortage of qualified pharmacists.  
*high risk of infection with COVID19. |
AFTER this brainstorming we must convert Weakness to Strength & Threats to Opportunities as follow:

*large banners & Online Website for the pharmacy will overcome poor marketing.

*Alternatives providing of drugs to overcome shortage of drugs.

*High hygiene system especially Hand hygiene good surface sterilization-masks will protect our employees from risk of infection by COVID 19.

*Training staff plan will increase the pharmacists skills.

*Store excess stock of medications will solve the problem of drug shortage.

*Employ qualified pharmacy manager make good control of all obstacles.

Legal study

1. The pharmacist must be Egyptian and his name is registered in the Egyptian Ministry of Health and in the Pharmacists Syndicate Schedule (Article 1 in law)

2. No pharmacist may be working as the director of a private pharmacies during his work at the governmental hospital

3. The pharmacy place are created from building with rubble, red bricks, or concrete, and the roof must be of reinforced concrete or any other material approved by the competent health department and be non-combustible with a height of not less than 2.70 meters.

4. The windows are sufficient for ventilation and light

5. Availability of a source of water

6. It is not permissible for the pharmaceutical establishment to have direct contact with a private residence or another department of the hospital

The political study

The political leadership of the state supports such projects, especially in light of the Corona pandemic that the country is going through and that in order to improve the level of medical service for the hospital, which leads to improving the health of citizens as it directly affects the productivity of individuals and
thus increases the economic powers of the country

**Environmental study**

This project does not negatively affect the environment and we have been following the laws established by EPA

- The pharmacy does not produce any of the air pollutants that harm people's health and the environment
- Choose safer products such as using self-degrading plastics
- Reducing the possibility of airborne virus transmission
- And that is through social distancing, wearing face masks, cleaning and disinfecting surfaces, and washing hands frequently and other precautions
- disposal of medical waste through a Waste management company
- The hospital site is characterized by its calmness and distance from crowds, industrial areas and annoying sounds

**Social study**

Society urgently needs this project to raise the efficiency of the medical service that the community needs to limit the spread of some diseases that the hospital specializes in treating such as liver diseases, fevers and AIDS

And recently The hospital has also become one of the most important medical places that specialize in isolating and treating corona patients

**Results:**

*Budgeting the project of Improving Pharmacist Unit Performance management in PORT SAIDFever Hospital.*
<table>
<thead>
<tr>
<th>The Capital</th>
<th>Fixed Assets</th>
<th>Current Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building &amp; land</td>
<td>0</td>
<td>Money source 300000LE</td>
</tr>
<tr>
<td>Machines :Computers</td>
<td>12000LE</td>
<td>Stocks of drugs 150000LE</td>
</tr>
<tr>
<td>refrigerators</td>
<td>12000LE</td>
<td>Stored material total 45000LE</td>
</tr>
<tr>
<td>Laminar cabine</td>
<td>50000LE</td>
<td>Tables&amp;chairs 6500LE</td>
</tr>
<tr>
<td>conditioners</td>
<td>24000LE</td>
<td>Chanons&amp;stands 22500LE</td>
</tr>
<tr>
<td>termometers</td>
<td>750LE</td>
<td>refrigerators 6500LE</td>
</tr>
<tr>
<td>Medication &amp;crash carts</td>
<td>6000LE</td>
<td>Tables&amp;chairs 6500LE</td>
</tr>
<tr>
<td></td>
<td>105000LE</td>
<td>Chanons&amp;stands 22500LE</td>
</tr>
<tr>
<td></td>
<td>495000LE</td>
<td>refrigerators 6500LE</td>
</tr>
<tr>
<td></td>
<td>6000000LE</td>
<td></td>
</tr>
</tbody>
</table>

THE Budget of our project =current assets/capital =495000/6000000

THE Budget of our project=Money/capital =300000/6000000

**THE EXPENSES(COST)**

The actual unit service =300LE but to increase no. of customers make 30% discount for each service so service unit =200LE

Total cost/unit service =345000/200

Fixed cost/unit =88500/200  current cost/unit service =256500/200

<table>
<thead>
<tr>
<th>Total cost</th>
<th>Fixed cost</th>
<th>LE</th>
<th>Current cost</th>
<th>LE /month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent</td>
<td>0</td>
<td></td>
<td>electricity</td>
<td>2000</td>
</tr>
<tr>
<td>Salarie s</td>
<td>88500/mo n th</td>
<td></td>
<td>water</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Maintainance work</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>marketing</td>
<td>3000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>sales</td>
<td>150000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bank installm ent</td>
<td>50000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Obligations to others(companies,loans,che cks)</td>
<td>50000</td>
</tr>
<tr>
<td>345000LE for first month&amp;192000 LE for second month</td>
<td>Total=885000</td>
<td>Total=2565000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6
Methods to reduce current cost:

The electricity: by using saving bulbs, don't light all the bulbs together, use UPS SYSTEM.

The water: by making periodic maintenance of water and drainage pipes so no any leakage occurs.

Maintenance of building and machines by making contracts with companies with high quality and low cost and always remember and follow up the time of the periodic maintenance.

Cost of marketing by using internet sites and making official page for the pharmacy and the hospital.

Cost of sales by dealing with drug companies that allows pay on credit and use tender of the ministry of health and choosing alternative drugs with high quality and low cost and also dealing with drug companies that offers bonuses for the drugs.

*The Expected Revenues:

<table>
<thead>
<tr>
<th>Total Revenues</th>
<th>B2C revenues</th>
<th>200<em>50</em>30= 300000LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2B revenues</td>
<td>200<em>5</em>30=</td>
<td>30000LE</td>
</tr>
<tr>
<td>Revenues from</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bank saving</td>
<td>300000*7%=</td>
<td>21000LE</td>
</tr>
<tr>
<td>Revenues from</td>
<td>150000*15%=</td>
<td>22500LE</td>
</tr>
<tr>
<td>stock bouns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenues from</td>
<td>50000LE</td>
<td></td>
</tr>
<tr>
<td>charities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total revenues</td>
<td>For first month</td>
<td>423500LE</td>
</tr>
<tr>
<td>Revenue/month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From second</td>
<td>373500LE</td>
<td></td>
</tr>
<tr>
<td>month</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### The Expected profit

* The profit before tax = Revenues – Cost = 423500 - 345000 = 78500 LE for the first month

* From the second month = 373500 - 192000 = 181500 LE

<table>
<thead>
<tr>
<th>Month</th>
<th>Revenues (credit)</th>
<th>Obligations (Debit)</th>
<th>Balance(+or-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st month</td>
<td>423500</td>
<td>345000</td>
<td>78500(positive)</td>
</tr>
<tr>
<td>2nd month</td>
<td>352500 + 78500 = 431000</td>
<td>192000</td>
<td>239000(positive)</td>
</tr>
<tr>
<td>3rd month</td>
<td>348000 + 239000 = 587000</td>
<td>192000</td>
<td>395000(positive)</td>
</tr>
<tr>
<td>4th month</td>
<td>350000 + 395000 = 745000</td>
<td>192000</td>
<td>553000(positive)</td>
</tr>
<tr>
<td>5th month</td>
<td>300000 + 553000 = 853000</td>
<td>192000</td>
<td>661000(positive)</td>
</tr>
<tr>
<td>6th month</td>
<td>324000 + 661000 = 985000</td>
<td>192000</td>
<td>793000(positive)</td>
</tr>
<tr>
<td>7th month</td>
<td>360000 + 793000 = 1153000</td>
<td>192000</td>
<td>961000(positive)</td>
</tr>
<tr>
<td>8th month</td>
<td>320000 + 961000 = 1281000</td>
<td>192000</td>
<td>1089000(positive)</td>
</tr>
<tr>
<td>9th month</td>
<td>305000 + 1089000 = 1394000</td>
<td>192000</td>
<td>1202000(positive)</td>
</tr>
<tr>
<td>10th month</td>
<td>310000 + 1202000 = 1512000</td>
<td>192000</td>
<td>1320000(positive)</td>
</tr>
<tr>
<td>11th month</td>
<td>330000 + 1320000 = 1650000</td>
<td>192000</td>
<td>1458000(positive)</td>
</tr>
<tr>
<td>12th month</td>
<td>344000 + 1458000 = 1802000</td>
<td>192000</td>
<td>1610000(positive)</td>
</tr>
</tbody>
</table>
* The profit after tax = 80% of the profit before tax = 80% * 181500 = 145200 L

* profit /revenues = 181500 / 423500 LE

* profit / capital = 181500 / 600000 LE

* profit /fixed assets = 181500 / 105000 LE

* profit /current assets = 181500 / 495000 LE

* profit /capital money = 181500 / 300000 LE

The cash flow:

Net profit distribution

The net profit for the first year is expected to be 2075000 LE

This profit can be distributed as follow: 1) 1000000 LE is deposited in the bank as a reserve

2) 1075000 LE will be used in investment so that we can open more than one pharmacy, increase the no. of pharmacists especially high qualified, provide all drug alternatives, provide the latest equipments and machines needed to prepare the drug with high infection control quality

FEASIBILITY OF THE PROJECT

We hope to make a pharmacy that provides not only the suitable drugs but updated and quick informations for these drugs and rapid answers for any questions about drugs and the diseases and the methods of prevention of these diseases through the pharmacy official page, medical flyers and prosures that can reach all the customers and through the call center that works 24 hours a day and is ready to receive any complaints from customers so that they can be solved as quickly as possible and not to be repeated again

We also hope to meet all market needs of drugs any related services
<table>
<thead>
<tr>
<th></th>
<th>1st year</th>
<th>2nd year</th>
<th>3rd year</th>
<th>sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>The capital</td>
<td>600000 LE</td>
<td>1600000 LE</td>
<td>2800000 LE</td>
<td>5000000 LE</td>
</tr>
<tr>
<td>The profit</td>
<td>2075000 LE</td>
<td>3500000 LE</td>
<td>5000000 LE</td>
<td>10575000 LE</td>
</tr>
</tbody>
</table>

**Risk management:**

-we should increase earning and profit forecasting to avoid pessimistic errors in all project so we recommend to make earning forecasting above 100% with 20% profit by increase stocking and deals with a lot of insurance company and make twinning hospitals for heavy operation exclusive with our hospital which reflect twinning with pharmacies and exclusive drugs and give money to get another reservoir for our machines and drugs store and spent money for highly Tanique it system, with strong assets base as we can sold from it in future.

- we should take in consideration the inflation rate in rising in cost of raw material and cost of living which reflect in high salaries needed, increase of demand so low stability but with our precautions in stocking raw materials and a lot of exclusive operation through our hospitals with high efficiency IT programs we can face all the issues and crisis.

- as we talk before we can do a multiple investment through insurance contracts.- also we can do long term contracts with hospitals pharmacies and IT companies also with insurance company.

-finally we can deal with sudden crisis with soling assets or program or leading the markets with exclusive operation and talented staff with high program to reach to all customers so we save money to save all profits and also increase earning with our contracts sold and asset and raw material.

**Crisis and catastrophe prediction**

We can predict crisis as we talk before like inflation rate but if we let it without solving will reflect on cost of material and living salaries so being catastrophe.

As we talk in above sentences we can face all crisis and catastrophe with highly precautions in forecasting in profits and make stock from raw materials with highly stock drugs and all of that in another where house as extra assets as
we can sold it in the future and all of that with highly talented employees with highly exclusive twinning programs with pharmacies in the same hospitals in another cities with IT programs to sold in the future to another pharmacy or customers.

We can spent above our forecasting with 20% above our planning to - make us saved with any crisis. So if we plan with 600,000 EGP we can spend another 120,000 EGP.

To make a clear plan in financing crisis management we should firstly - define a problem then the losses did from it and how to face it with a simple way like stocks or talented employees or catastrophe so we need to sell assets .

**Development plan**

**Expansion:**

*Vertical expansion by conjoining 2 or 3 rooms from the hospital to the outdoor pharmacy for counseling services section and IT unite with call center to serve storage of all information about patients and drugs and make delivery section for online orders*

**EXTENSIONS:**

*After covering the loans and achieving some profits we can make a plan for holding an outdoor pharmacy as an extension for our pharmacy providing all our services as well as cosmetics to make more profit to the project*

**Upgrading machines**

- We will seek in our hospital pharmacy for more development to keep in touch with the latest technological machines like( ADS)
- Automated dispensing system (ADS) primarily affects nursing ,pharmacy and information system personnel .
- ADS are drug storage devices or cabinets that electronically dispense medication in a controlled fashion track medication use .their principle advantage lies in permitting nurse to obtain medications for impatient at the point of use
• The Electronic Medical Record (EMR) is becoming increasingly common in health care settings. Research shows that EMRs have the potential to reduce instances of medication errors and improve communication between pharmacists and prescribers.

**Updating methods**

Several methods can be applied to keep our hospital pharmacy better like:

• Get more physician referrals.
• Gain more patient referrals.
• Increase prescription transfers.
• Step up your pharmacy marketing
• Differentiate your products and services.
• Improve your customer service.
• Check prescription expiration dates.

**Training staff**

Training manager is responsible for providing all pharmacist and other employers with the latest updates about medical education and how to use new upgrading machines.

**Employing new staff**

It is the responsibility of human resource manager, in co-operation with chief pharmacist, by making interviews to the new job candidates ensuring efficient performance.

**Conclusion**

From the current research it is concluded the following:

• Pharmacists are the link between doctors and patients who give medical instructions to the patient to increase the desired value of the drug and decrease the side effects of it.
• To develop hospital pharmacy you should have advantages and more services over your surrounded competitors.
• The pharmacy was funded by a loan with capital 600000EGP.
• Study SWOT analysis for pharmacy is very important to supply unique pharmacological services.
• It is mandatory to plan for the Budgeting of The Project to include losses and maximize profits.
• Estimation of political study, legal study, environmental study and social study are essential establishment of new pharmacy.
• Catastrophe plan have been established to respond to any external emergency and the expected risks and also was developed for the fire plan, earthquakes, surface collapse, and pathogenic microorganisms (Covid-19). It is essential to establish the capital and the expanses of the pharmacy.
• Methods to cover the negative cash flow balance: Recognizing obligation by increasing the amount of cash that we are bringing in by offering cash discounts to customers in case of paying cash especially in case of B2B with other partners as a bit of money in short time is better than more money in longer time.
• From previous positive months of cash flow as maintaining positive cash flow is important to maintain success for long period of time.
• Positive cash flow is a suitable indication of present financial situation.
• Feasibility of the project is from providing all types of medications needed in patients and outpatient pharmacies.

Recommendation

• As we agreed before and based on our role in healthcare improvement we believe that the pharmacy is the most important Healthcare unit and important link between DRS, Hospital and direct patients and insure dispensing the drug to the patients to make sure that they take the correct medication. Developed and updated pharmacy is the goal to ensure good health for all patients and ensure spreading awareness within talented pharmacist.
• Job description is essential among employed pharmacist that it can facilitate work between each other.
• Training programs are applied to keep pharmacist in touch with latest updates in medicine and how to use new machines.
• We can make good marketing strategy by:

Offering our customers an exclusive preview

a. Writing a blog post to tell our history and achievements
b. Make surveys to help in customer analysis
c. Host a health event and awareness campaigns
d. Make banners to inform the patients their rights
e. Use our old customers good reviews
• Sales strategy aims to increase the profits by simple steps such as:
  a. Identifying the targeted patients
  b. Identify patients complains and problems and solve it
  c. Develop our competitive advantage like having the covid-19 protocol medicines and the vaccine available
  d. Make a good marketing strategy
  e. Learn negotiation techniques to make win-win situation with patients.

Reference

https://www.researchgate.net/publication/46673815_Clinical_risk_management_in_community_pharmacy

https://accesspharmacy.mhmedical.com/content.aspx?bookid=452&sectionid=40698449

Chapter 11. Risk Management

https://www.who.int/hac/techguidance/preparedness/risk_management_overview_17may2013.pdf

https://www.fip.org/file/1593


https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1852869/

This article has been cited by other articles in PMC. In an era of rapid change in health care delivery, the pharmacy profession is experiencing significant growth and development. Although pharmacists represent a traditional health profession with ancient roots, they are often viewed with considerable ambiguity and uncertainty by those outside of the profession.

https://www.epa.gov/environmental-topics

https://lawyeregypt.net/