

## Challenges Confronting the Management of Inventory in the Hospital

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### **Abstract**

*Every organization must have some inputs and raw materials of some kind in order to serve its customers. Organizations exist for the purpose of serving its customers. In fact no business organization can exist without input which refers to anything that is put in, taken in or operated upon, and is transformed into something different and desirable by customers. All manufacturing organizations must have stock of raw materials, purchased components and sub-assemblies before it can produce finished goods. In today's competitive corporate world where the customer is king and every product or service has alternative, businesses is faced with a lot of challenges including retaining its customers. In the process of finding solution to sustenance of customers to maintain competitive market, all organizations including the New Edubiase Government Hospital (NEGH) lay emphasis on areas such as marketing, accounting, auditing, customer care and public relation and relegate inventory management to the background. Lowe (2002) states that 'inventory is a detailed list of goods'. It is impossible to offer any meaningful health service to the satisfaction of patients and clients without the availability of inventory. Quality health care essentially is dependent on the availability of quality inventory at the right time. In the absence of inventory, health service delivery is severally affected. People dying at the various hospitals in Ghana could be prevented and the pace of sick patients getting healed can be faster if inventory management is given the attention it needed in the various health facilities. The very recent accident that occurred on the Kintampo road involving a Metro Mass Transit bus that claimed the lives of over 60 people was partly due to non-availability of inventory. Sallah (2006) reported on GhOnetv that 'the accident killed over 60 people because of lack of medical supplies and other essential first aid deliveries'. She went on further to report that 'there was no oxygen and even common emergency drugs were not available, and the ambulance can carry only two people at a time'. The irony is that while there is shortage of basic essential medications and other basic inputs at almost all public health facilities, a large number of varieties of some expensive drugs go waste as a result of lack of best practices of inventory management techniques. This leads to a reduced customer service. Martin, (2001), noted that customer relationships value is present especially in the service sector, because services are intangible, and the time customers have to evaluate services before deciding to make a purchase commitment is non-existent. Service providers are the most tangible aspect of service and, the customers see them as the service itself. Customers' view of quality of the relationship with the service provider goes hand in hand with the quality of the service itself because the evaluating services first before to making purchase commitments is difficult and cannot be quantified.*

### **I. INTRODUCTION**

Medicines and drug consumables comes with instructions that must be followed if a patient is to benefit from the full effect of its efficacy. Any drug that you pick from the pharmacy shelf have instructions such as 'store well in a close container, keep in a cool dry place, protect from light, this side up, temperature must be within a stated range'. The potency of any drug will be greatly compromised when it is stored in structures with poor ventilation, dust, heat, rickety shelves, and lack of inventory handling equipment. Ghana health service has a policy that all public hospitals sourced all drugs and non-drugs consumable from the Regional Medical Stores as a first step to replenish stock, however most hospitals do not get their required inventories at the RMS translating into no supplies in the hospitals and the result is needless deaths of patients, prolonged ailments and poor healthcare delivery. Poor inventory management in healthcare delivery raises a lot of concern that cannot be swept under the carpet as health is wealth. According to Brotherton, (2000), organizational wealth translates into organizational health financially. He further states that 'whether someone of sick or healthy is as a result of the attention given to ensure a fit between the person and the environment that encompasses a mix of demand, support and constraints that comes with the work, and the self-esteem of the individual which boost lower level of stress and a greater level of physiological wellbeing. It is an established fact that the growth of any economy hugely depends on the health of its citizens as increased productivity depends on the health status of workers. The impact of inventory cannot be brushed aside in an effort to seek good

health and thus its management is very vital. It is for this reason that the Ghana Health Service has a motto that states ‘your health is our concern’. Again the team for the national health policy in the year 2007 was ‘creating wealth through health’ (National Health Policy, 2007). It is becoming imperative for managers of inventories in the health sector to design and implement a flawless system of managing their stock of raw materials to assure quality of supply to the operating points to improve health care delivery in hospitals. It is against these backgrounds that the researcher developed interest in investigating inventory management to try to identify inventory practices that ensures efficient delivery and based on the above factors, the New Edubiase Government Hospital was chosen as a case study.

## II. THE PURPOSE

The main purpose for the study is to identify what inventory is and to come out with relevant criteria to improve upon inventory management practices in the public hospitals. Specific objectives will include:

- a. *To identify inventory management practices at the New Edubiase Government Hospital.*
- b. *To determine if the inventory management practices are efficient and effective.*
- c. *To investigate the challenges confronting the management of inventory in the Hospital*
- d. *To investigate the internal control systems employed to overcome the challenges confronting inventory management.*
- e. *To provide remedial measures to the improvement of inventory management practices in the hospital to improve health service delivery.*

## II. RESEARCH METHODOLOGY

This research employed a case study strategy with information gathered from primary and secondary sources. Primary data was collected through questionnaires from senior managers and inventory staff of New Edubiase Government Hospital. A self-administered questionnaire was sent out to respondents to collect data from management of the hospital and store staff. Existing documents on inventories in the hospital was reviewed as well as a review of published and unpublished journals, articles books, reports, and lecture notes.

## III. DISCUSSION

### *Challenges Confronting Inventory Management*

Inventory management practices as indicated in the problem statement are riddled with a lot of challenges. The researcher probed into the challenges faced by Hospital in this respect. The result is laid bare in the following questions posed in to staff hospitals in the Stores & Warehouse department. Once again In all the questions posed, respondents were instructed to indicate their preferred option for each statement by ticking (×) in the right column on the 5 Likert scale where 1= Strongly Agree, 2=Agree, 3=Neutral, 4= Disagree, and 5=strongly disagree. The table below is the result of respondents’ answers in percentages.

**Table 4.4.1 Distribution of Responses to determine if the Hospital has Official Inventory Policy**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	38	32.20
AGREE	62	52.54
NEUTRAL	8	6.78
DISAGREE	10	8.48
STRONGLY DISAGREE		
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

### *i. Distribution of Responses to determine if the Hospital has Official Inventory Policy*

Question 14 seeks to find out if the Hospital has official inventory policy to guide the operations of inventory management. Responses indicated 32.20% strongly agreed, 52.54% agree, 6.78% remain neutral and 8.48% disagreed. The head of the stores confirm to the existence of a policy document for inventory management and a copy was shown to the researcher

**Table 4.4.2 Distribution of Responses to determine if the Stores are informed on Usage rate, Service level, and Stock out Risk**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	40	33.90
AGREE	52	44.07
NEUTRAL	12	10.17
DISAGREE	14	11.86
STRONGLY DISAGREE		
<b>TOTAL</b>	<b>118</b>	<b>100</b>

Source: Field survey, July, 2016

**i. 4.4.2 Distribution of Responses to determine if the Stores are informed on usage rate, Service level, and Stock out Risk**

The next question to find out if the hospital have information on usage, service level and stock out risk and responses shows 33.90% strongly agreed, 44.07% agree, 10.17% remain neutral and 11.86% disagree. Stock out of inventory materials can lead to inefficient service delivery and even cause death of clients. It is only when the hospital is informed of the stock out risk that it can put in place measures to prevent it.

**Table 4.4.3 Distribution of Responses to determine if Orders are based on Quantity Discount and EOQ**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	2	1.70
AGREE	12	10.17
NEUTRAL	22	18.64
DISAGREE	34	28.81
STRONGLY DISAGREE	48	40.68
<b>TOTAL</b>	<b>118</b>	<b>100</b>

Source: Field survey, July, 2016

**ii. Distribution of Responses to determine if Orders are based on Quantity Discount and EOQ**

The next question asked respondents to respond to whether orders are based on quantity discount and EOQ. Quantity discount will allow the hospital to obtain more of an ordered item at a less cost and the EOQ will also give an optimal cost of ordering and holding inventory in stock. Responses shows 1.70% strongly agrees, 10.17% agree, 18.64% do not know, 28.81% disagree and 40.68% strongly disagree.

**Table 4.4.4 Distribution of Responses to determine if Reorder Point is based on Safety, Maximum, and Minimum Stock Level**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	8	6.78
AGREE	44	37.30
NEUTRAL	24	20.33
DISAGREE	32	27.12
STRONGLY DISAGREE	10	8.47
<b>TOTAL</b>	<b>118</b>	<b>100</b>

Source: Field survey, July, 2016

**iii. Distribution of Responses to determine if Reorder Point is based on Safety, Maximum and Minimum Stock Level**

Stock levels are vital in inventory management. while the maximum stock level is a point beyond which stock must not be allowed to exceed because it tie up working capital and also encourage pilfering, the minimum stock level is the level is the point below which stock should not fall because it has the potential to bring operations to a halt. Respondents were asked to answer whether reorder point is based on these stock levels. 6.78% strongly agree,37.30% agreed, 20.33% remain neutral, 27.12% disagree, and 8.47 strongly disagree that orders are based on safety, minimum and maximum stock levels.

**Table 4.4.5 Distribution of Responses to determine if Orders Sometimes Arrive Late**

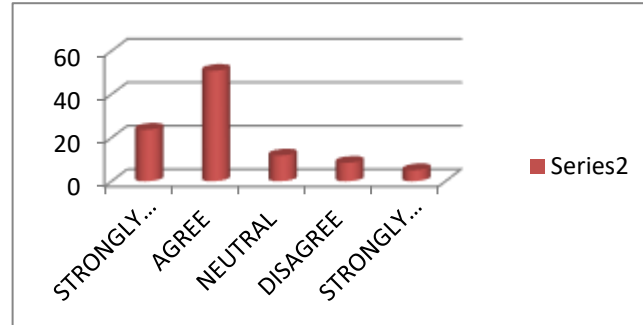
RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	6	23.73
AGREE	10	50.85
NEUTRAL	14	11.86
DISAGREE	60	8.48
STRONGLY DISAGREE	28	5.08
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

*iv. Distribution of Responses to determine if Orders sometimes Arrive Late*

Question 18 asked respondents if orders sometimes arrive late. Responses show that late arrival of orders is the orders of the day with 23.73% strongly agree, 50.85% agreed, 11.86% neutral, 8.48% disagree and 5.08% strongly disagree. The Administrator explained that follow up on suppliers to supply orders is mostly not done because of the inability of the hospital to pay its suppliers on time, so at times, they are at the mercy of the suppliers to supply and that explain why orders mostly arrive late.

**Fig 4.6 a bar chart showing responses to determine if Orders sometimes Arrive Late**



**Table 4.4.6 Distribution of Responses to determine if Inventory Policy allow for Periodic or Continuous Inventory review**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	12	10.17
AGREE	66	55.93
NEUTRAL	36	30.51
DISAGREE	4	3.39
STRONGLY DISAGREE		
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

v. **Distribution of Responses to determine if Inventory Policy allow for Periodic or Continuous Inventory review**

The hospital has an inventory policy that allows for continuous or periodic review of inventory according to the responses received for this question. 10.17% of respondents strongly agreed, 55.93% agree, 30.15 remain neutral, and 3.39% disagree.

**Table 4.4.7 Distribution of Responses to determine if the Stores have Receipt and Dispatch Dock**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	2	1.70
AGREE	18	15.25
NEUTRAL	14	11.86
DISAGREE	26	22.04
STRONGLY DISAGREE	58	49.15
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

vi. **Distribution of Responses to determine if the Stores have Receipt and Dispatch Dock**

Question 20 asked respondents to answer if the stores have a receipt and dispatch dock. Responses shows that 1.70 strongly agree, 15.25% agree, 11.86 are neutral, 22.04 disagree and 49.15 strongly disagree. Observations reveal that the stores do not have a dispatch bay. The store room serve as both the receipt and dispatch bay. This can encourage pilfering as requisitioners always have access to the store room.

**Table 4.4.8 Distribution of Responses to determine if Unauthorized Personnel are not allowed into the Stores**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	10	8.47
AGREE	12	10.17
NEUTRAL	16	13.56
DISAGREE	38	32.20
STRONGLY DISAGREE	42	35.59
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

vii. **Distribution of Responses to determine if Unauthorized Personnel are not allowed into the Stores**

Question 21 ask seek to elicit responses as to whether unauthorized personnel are not allowed into the stores and answers provided shows that unauthorized personnel are allowed into the stores. 8.47%strongly agree, 10.17% agree, 13.56 remain neutral, 32.20% disagree and 35.59% strongly disagree that unauthorized personnel are not allowed into the stores.

**Table 4.4.9 Distribution of Responses to determine if Stores Keys are always in the Custody of Store Staff**

RESPONSES	FREQUENCY	PERCENTAGE (%)
STRONGLY AGREE	2	1.69
AGREE	22	18.64
NEUTRAL	14	11.86
DISAGREE	44	37.30
STRONGLY DISAGREE	36	30.51
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

viii. **Distribution of Responses to determine if Stores Keys are always in the Custody of Store Staff**

Question 22 asked respondents if the stores keys are always in the custody of store staff.1.69% strongly agree, 18.64% agree, 11.86% are neutral, 37.30% disagree and 30.51% strongly disagree that store key are always in the custody of

store staff. The head of stores explained that the keys are left at the gate to the security personnel upon closure of work. That explains why unauthorized personnel always have access to the stores as upon the instructions of the Administrator; anyone can go for the keys from security and have access to the stores in the absence of store staff.

**Table 4.4.10 Distribution of Responses to determine how often Stock taking is done**

<b>RESPONSES</b>	<b>FREQUENCY</b>	<b>PERCENTAGE (%)</b>
QUARTERLY	90	76.27
MONTHLY	10	8.47
YEARLY	2	1.70
NO IDEA	12	10.17
WEEKLY	4	3.39
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

**ix. Distribution of Responses to determine how often Stock-taking is done**

Respondents answer to question 23 shows that stock-taking is done at the stores, however respondents seems to disagree on how often stocking is done. While 76.27% says that stocking is done once every quarter, 8.47% settled on monthly, 1.70% chooses yearly, 10.17% have no idea as to when stocktaking is done and 3.39% says that stocktaking is done weekly.

**Table 4.4.11 Distribution of Responses to determine Stock-taking method employed**

<b>RESPONSES</b>	<b>FREQUENCY</b>	<b>PERCENTAGE (%)</b>
PERIODIC	52	44.07
PERIODIC/CONTINUOUS	28	23.73
NO IDEA	18	15.25
CONTINUOUS	20	16.95
<b>TOTAL</b>	<b>118</b>	<b>100</b>

*Source: Field survey, July, 2016*

**x. Distribution of Responses to determine Stock-taking method employed**

Question 24 asked respondents to state the method employed in during stocktaking. 44.07% of respondents wrote periodic method, 23.73% wrote periodic and continuous, 15.25% have no idea, and 16.95% choose the continuous method of stocktaking as the method during stocktaking.

**xi. Coding of Materials in Stock**

Question 25 asked respondents if materials in stock are coded. Question 26 asked respondents how the coding is done and question 27 was on the method of coding. Answers suggested that materials in the stores are not coded.

**IV. CONCLUSION**

After a thorough research to examine *Challenges Confronting the Management of Inventory in the Hospital* to improve service delivery, it has come to light that most health service institutions depend on outside suppliers for their supplies, however such supplies always arrive late due to lack of commitment on the part of the supplier chosen, store ledgers are not updated promptly which can lead to discrepancies between physical balance and book balance. Emergency orders are treated as normal orders, unauthorized entry into the stores leading to pilfering and theft, and delays in serving requisitions presented to the stores. These have the potential to derail the goal of effective service delivery. Effective inventory management practices impacts greatly on health care delivery in health institutions. A decline in inventory management leads to a decline in increased patients dissatisfaction, and prolonged ailments, and even death. The good news is that, there is a better approach to inventory management as researched in the study. Hospital system of inventory management is working; nevertheless, there is more room for improvement. Managers of Public Health

Institutions must ensure that best practice of inventory management in this research and others are implemented to help ease the challenges of inventory management practices in Public Health Institutions.

#### **A. Recommendations**

Looking at the problems faced in the stores department, the following recommendations were made for implementation to enhance inventory management practices in the Hospital. There should be coordination between store and suppliers to ensure that materials ordered are received on time. Ledgers and other records must be updated on time to ensure that ledger and physical balance tally to help detect theft early. Emergency orders are to be given the due attention it deserves to prevent needless suffering and death of clients. Dispatch dock, and receipt dock should be decouple from within the storeroom to reduce incidence of pilfering. Orders are to be based on quantity discount and EOQ to ensure the best value for money spent is achieved.

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