

Professional Research Thesis

Titled

**Impact of hospital information system on physician work flow
in the intensive care units**

Researcher

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Abstract

There is great need for conversing the present manual hospital information system with all its deficiencies and problems into full automated flexible integrated system to enhance the work flow in intensive care unit from the moment a patient is admitted until the discharge and help clinicians respond more quickly to patient's medical event at any time and from any physical location.

Research problem:

Manual systems as compared to computer-Based information system are time consuming, laborious, costly, reduce speed and efficiency of care, certain clinical errors and communication problems.

Research importance:

Using technology to improve work flow ,help physicians to evaluate patient status, facilitate effective decisions ,increase efficiency ,increase quality care ,time saving and facilitate improve patient outcome.

Place of study:

Intensive care unit at one of Giza hospitals is a big governmental hospital owned by Ministry Of Health.

Study time limits:

This research was made at the time period of 2021 to the time period of 2022.

Research objective:

To implement full automated data delivery system for the intensive care units to improve work flow, increase efficiency of care and to improve patients out comes in hospital place of study.

Hypothesis:

Hospital information system gives positive impact on physician workflow in the intensive care units.

Research design:

Descriptive study

Introduction

Information system plays an important role in various sectors, including health care sector such as hospital today are recognizing IT as a supportive arm to control all the system required in the hospital to serve patients in an efficient way and to enhance revenue and also to improve operational efficiency (*Snyder et al., 2011*).

Computer used is the one that introduced in the hospital in order to:

- Increase organizational efficiency
- Store, exchange useful, accurate and timely information
- Improve medical care to high quality services at reasonable cost.
- Improved Management Information System; and reduce clerical error
- Administrative workload by automating processes.

(Essays, UK, 2018)

From that it was realized to create one system that is health information system specifically for hospital called Hospital Information System or HIS. This system streamlines the essential function in the hospital by computerizing the process of retrieved patient information, collating and collecting data (*Saluvan and Ozonoff, 2018*).

Hospital Information Systems provide a common source of information about a patient's health history. The systems have to keep data in secure place and controls who can reach the data in certain circumstances. These systems enhance the ability of health care professionals to coordinate care by providing a patient's health information and visit history at the place and time that it is needed. Patient's laboratory test information also visual results such as X-ray may reachable from professionals. HIS provide internal and external communication among health care providers. The HIS may control organizations, which is Hospital in these case, official documentations,

financial situation reports, personal data, utilities and stock amounts, also keeps in secure place patients information, patients medical history, prescriptions, operations and laboratory test results. The HIS may protect organizations, handwriting error, overstock problems, conflict of scheduling personnel, official documentation errors like tax preparations errors (*Reid et al., 2005*).

There is a broad consensus that health care in the 21st century will require the intensive use of information technology and clinical informatics to acquire and manage data, transform the data to actionable information, and then disseminate this information so that it can be effectively used to improve patient care. Nowhere is this more evident and more important to patient outcomes than in the intensive care unit (ICU) (*De Georgia et al., 2015*).

Results

A positive impact hospital information system on physician work flow in the intensive care unit by using descriptive analysis of current status in hospital place of study leading to improvement of work flow, increase efficiency of care, accuracy of data collection, time saving, enhanced ability to track patient's record, reduce health care costs and errors, improve communication, increase quality of health care and improve patient's outcome.

Recommendation

- To apply this system for most of the hospital and monitoring quality of patient outcomes.
- Organizational support of users, through providing more training to new and old users.
- Provide continuous training courses and to be accredited.
- Increase the awareness about the benefits of information system.
- Improve communication between expertise via information system.
- Enhancing communication between all involved providers of care.
- More technical support is needed from the vendor

Conclusion

Hospital information system provide tremendous opportunities to reduce clinical errors such as medication error and diagnostic errors and to support health care professionals by offering up-to-date patient information. It promises to improve workflow, efficiency of care, reduce physician time spending on documentation and increase the time available for direct patient care, thus boosting the overall quality of health care.

TABLE OF CONTENTS

Acknowledgement	
Abstract.....	
List of Tables	
List of Figures.....	
List of Abbreviations.....	
Introduction.....	
CHAPTER 1	
Computer - Data and Information	
1. Introduction	
Data.....	
Information	
Types of information	
Data Processing Cycle	
These three steps constitute the data processing cycle.	
Difference between Data and Information.....	
2- Introduction to computer science basics and systems.....	
Information Systems	
Functions of an Information System.....	
Management Levels & information needs.....	
Most Common types of information Systems	
The benefits of using Information Systems.....	
Computer-Based Information Systems (CBIS).....	
CHAPTER 2	
Hospital Information System	
1- Introduction.....	
2. Goals of hospital information system (HIS).....	
3. Properties and characteristics of hospital information system (HIS)	
4. How to use his in country's electronic health net work	
5. Infrastrucion	
6-Benefits of hospital information system	
7-Who benefits from hospital information system.....	
8-Components of hospital information system	
9- Phases of implementation of hospital information system	
CHAPTER 3	
Intensive care unit.....	
1-Introduction.....	
2- Intensive care unit design and staffing.....	

1-Staffing.....	.....
1.1 Medical Staff.....	.....
1.2 Nursing Staff.....	.....
1.3 Other Staff.....	.....
1.4 Educational.....	.....
2- Operational.....	.....
3- Structure of an ICU.....	.....
3-1 Siting.....	.....
3-2 Design.....	.....
4. Equipment.....	.....
5. Monitoring.....	.....
5.1 Personnel.....	.....
5.2 Patient Monitoring.....	.....
5.3 Equipment for Monitoring the Patient.....	.....
5.4 Monitoring of Equipment.....	.....
3- Guidelines on Admission to and Discharge from Intensive Care and High Dependency Units.....	.....
4-Quality of care.....	.....
5- Intensive Care Unit in Hospital (X) in Giza.....	.....
1-Medical care services in hospital (x).....	.....
2- Intensive Care Unit Mission:.....	.....
3-Intensive Care Unit Vision:.....	.....
4- Intensive Care Unit Objectives:.....	.....
5-Intensive Care Unit (STRATEGIC BUSINESS UNIT).....	.....
5.1 -Intensive Care Unit as a strategic business unit consists of:.....	.....
5.2. The Intensive Care Unit consists of 11 elements.....	.....
CHAPTER 4.....	.....
Clinical information system.....	.....
1-Introduction.....	.....
2-What Is A Clinical Information System (CIS)?.....	.....
3- Infrastructure and Information Flows of Clinical Information Systems.....	.....
1-Ambulatory and Inpatient Clinical Information Systems.....	.....
1-1 Electronic Medical Record.....	.....
1-2 Computerized Provider Order Entry.....	.....
2- Specialty Information Systems.....	.....

2-1 Intensive Care Unit Information Systems	
2-2 Cardiology Information Systems	
2-3 Oncology Information Systems	
3- Ancillary Information Systems	
3-1 Radiology Information Systems	
3-2 Laboratory Information Systems	
3-3 Pharmacy Information Systems	
4- Clinical information systems opportunities and challenges:.....	
CHAPTER 5	
Electronic Medical Record and Electronic Health Records.....	
1- Electronic Medical Record (EMR)	
1- Introduction.....	
2-Purpose of the Medical Record.....	
3-The Paper-Based Medical Record.....	
4-Electronic Medical Record:	
5-Main functions that describe the workflow of EMR.....	
6-How do electronic medical record systems work?.....	
7-Implementation of electronic medical record	
8-Potential benefits of the electronic medical record	
9-Challenges in using an electronic medical record.....	
10-Potential problems with the electronic medical record	
11-Future directions	
2- Electronic Health Records (EHR).....	
1- Introduction.....	
2-Definition of an electronic health record	
3-History of electronic health records	
4-Benefits of EHR.....	
5-EHR Challenges.....	
6-Future of EHR technologies.....	
3- Difference between EMR and EHR.....	
4- Electronic Records Offer Big Benefits	
 RESULTS.....	

RECOMMENDATION.....

CONCLUSION.....

REFERENCES.....

List of Tables

Table (1): Difference between Data and Information

Table (2): Comparison of the features offered in EHR VS.EMR.....

List of Figures

- Figure (1):** Data processing cycle.....
- Figure (2):** Pyramid Diagram of Organizational levels and information requirements
- Figure (3):** Computer-Based Information Systems (CBIS).....
- Figure (4):** HIS components
- Figure (5):** Healthcare Information Systems
- Figure (6):** Intensive care unit
- Figure (7):** Clinical Information System (CIS)
- Figure (8):** Infrastructure and flows in clinical information systems.
- Figure (9):** Data Management Steps.....
- Figure (10):** Data Flow between Components of Patient Care Information System and the EMR.....
- Figure (11):** Views of Results and Access to Applications Immediately After Reception/Triage
- Figure (12):** Views of Results and Access to Applications after Initial Assessment, Monitoring and Investigation
- Figure (13):** Fundamental Structure of a Data Collection Form
- Figure (14):** Results Presented as a Chart and Graph.....
- Figure (15):** Direct Charting Method.....
- Figure (16):** Sample view of an electronic health record