

1. Introduction

Big Data is the massive collection of various types of information that a company collects throughout its operations. Trinity Health’s digital platform collects data throughout all the hospitals and facilities that are connected to the digital platform. Common types of data that are collected and stored is patient data (age, medical history, surgeries, and allergies), resources data (doctors, nurses, tools, and technologies), and medicine data (drugs and vaccines). All this information could be used to Improve Trinity Health’s quality of care and operational performance.

2. Suggestions

1. Using mobile devices at the point of care to provide immediate and accurate care to patients in need using patient data and recording new data immediately for future use.

2. Constantly collecting resource and medicine data to understand the usage of tools, technologies and medicines by each hospital and facility, and allocate unused resources to facilities that need them more.

3. Deploying predictive analytics that analyzes and recommends what steps to take on a patient based on key criteria such as (Age, Weight, Health Condition, Allergies) that is collected from all health care facilities to ensure that patients get the best treatment based on their situation.

3. Evaluation of Proposed Suggestions

	Mobile Device Usage By Doctors and Nurses	Balancing Resource and Medicine Inventory	Predictive Analytics to Provide Accurate Care
Pros	<ul style="list-style-type: none"> • Easy and Quick Access for Doctors • Easy to update patient information through text and speech • Allows for immediate care for patients in emergency situations • Ability to record notes for future reference • Patient information will flow to whichever facility they visit to ensure a quicker delivery of care 	<ul style="list-style-type: none"> • Prevents excess inventory of medicine by allocating to other hospitals as needed • Prevent excess expired medicine by tracking how much is needed and ordering necessary amount • Allocating tools and resources to facilities that need them more instead of buying new ones to reduce costs 	<ul style="list-style-type: none"> • Ability to meet the exact needs of patients to reduce costs of unnecessary examinations and prescriptions • Consolidated Data allows for multiple variations based on past experience • Ability to make health recommendations post-care to prevent future illnesses and visits
Cons	<ul style="list-style-type: none"> • Will require minor expenditures to develop a user-friendly application • Security issues for mobile devices being stolen or hacked 	<ul style="list-style-type: none"> • May result in shortage of medicine in unique cases • Cost of transporting may exceed inventory costs 	<ul style="list-style-type: none"> • Investment to code algorithms • May not be compatible with all patients

4. Implementation and Cost

	Mobile Device Usage by doctors and nurses	Balancing resource and medicine inventory	Predictive Analytics to provide proven care
Implementation Steps	<ol style="list-style-type: none"> 1. Improve data quality of the digital platform 2. Develop an application with integrated data 3. Install application on mobile devices and tablets of doctors and nurses 	<ol style="list-style-type: none"> 2. Understand how much of each resource was used in each hospital and care facility 3. Transport medicines and resources from facilities that don't need them to those that do 3. Continue to track usage of resources and medicines by each facility in the digital platform 	<ol style="list-style-type: none"> 1. Build technology to provide predictive analytics 2. Install on systems used by hospitals and facilities 3. Teach care givers to use the new system 4. Track key criteria and the process to treat patient and outcome to understand best practices
Relative Costs	<ol style="list-style-type: none"> 1. Build an Application 2. Improve data quality 	<ol style="list-style-type: none"> 1. Transport resources and medicines 2. Order medicines more frequently due to on-demand structure 	<ol style="list-style-type: none"> 1. Build technology 2. Implement systems 3. Enter data into system for analysis

5. Conclusion

By building a mobile application for doctors and care givers to use with real-time and accurate information, Trinity Health has the ability to provide high quality and fast care to patients in need. This will eliminate time wasted searching through computers and paperwork and allow doctors to care for their patients immediately and effectively.

Additionally, by allocating tools, technologies, and medicines within the hospitals and facilities in the digital platform, we can reduce costs of expired medicines by ordering only the amount we need. Furthermore, we can allocate excess medicines and resources to other facilities that need them instead of ordering them from suppliers.

Finally, we can provide revolutionary care by using predictive analytics based on the data that we collect from all of our facilities and provide individualized and precise care to patients with specific criteria of conditions and needs. For example, if there is a 50-year old female who is a diabetic and has a peanut allergy, we can use our data to provide a precise treatment option based on the data we have from all of our facilities. Using big data to provide revolutionary care will allow us to eliminate inefficient processes, procedures, and prescriptions that add costs to the care givers, as well as the patients.

References

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