

Implementing a Census Tracking System to Improve the Real Time Reporting Capability in the Cleveland Clinic Informatics System

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Abstract and Objective

To improve the real-time census tracking capability in Cleveland Clinic Florida, the Census Tracking System (CTS) was developed and implemented. CTS provides not only the real-time bed usage/status in the hospital, but also data with historical trends, allowing administration to accurately predict demand and capacity on a daily basis, along with current patient flow statistics. CTS improves the overall workflow throughout the hospital by efficiently facilitating inter-departmental communication between physicians, nursing staff, and environmental services.

Keywords:

Census tracking, Real time reporting, Workflow

Introduction

According to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), a new standard was mandated in January 2005 called, "New Leadership Standard on Managing Patient Flow - LD.3.11", which directed hospital leadership to implement plans to identify and mitigate impediments to improve patient flow throughout the hospital. In relation to Cleveland Clinic Florida's processes today, hospital beds are not monitored electronically and neither administration nor nursing management has the capacity to know at any given moment the status of any one bed or unit. These unmanageable traditions can cause backlogs, especially during times of high census and activity, and can impact patient flow continuum throughout the entire hospital. The primary purpose of this project (Census Tracking System - CTS) was to develop and implement a real-time electronic hospital census tracking/monitoring system to increase efficiency and profitability by maximizing hospital's capacity and to monitor patient overflow events. The objectives for this project were (1) to develop and implement a real-time tracking system for hospital administration to accurately predict demand and capacity daily; (2) to provide data with historical trends and permit administration to accurately predict demand and capacity on a daily basis; and (3) to present patient flow statistics.

Methods

The following describes the phases (Figure 1) of the development and implementation process of the Census Tracking System.

1. Investigate and collect the requirements behind census tracking and to obtain the project objectives from hospital administration.
2. Develop a custom integration package to extract patient Admissions/Discharge/Transfer (ADT) data from Siemens Invision/Signature in real-time. Siemens is currently Cleveland Clinic Florida's admitting and registration system and in addition to handles patient accounting.
3. Develop a customized application to read in each ADT patient record from Siemens and insert the record into a backend Microsoft SQL database.
4. Implement an Intranet Website to provide bed census per unit in conjunction with minimal patient details. Propose several executive dashboards to display graphical trends for monitoring purposes.

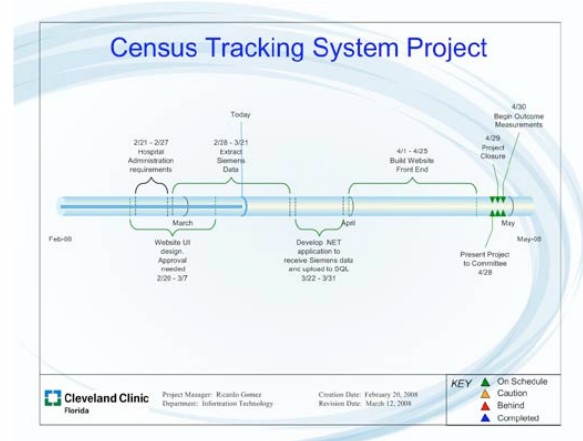


Figure 1 - Phases of CTS Project

Results & Conclusion

An effective Census Tracking System (CTS) was developed and implemented in Cleveland Clinic Florida. CTS now provides the real-time patient flow statistics and real-time bed

usage/status in the hospital; supplies data with historical trends, which allows the hospital administration to accurately predict demand and capacity on a daily basis. CTS improves the overall workflow throughout the hospital by efficiently facilitating inter-departmental communication between physicians, nursing staff, and environmental services. More outcome measures will be carried out to investigate the value of CTS by comparison of the current workflow to a pre-recorded baseline data. Qualitative studies will also be conducted to reveal the satisfaction and perception of the CTS from the administration, physicians, nursing and housekeeping staff.