Development of a Quarterly Referral Productivity Report

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Abstract

The Office of Physician Relations at The University of Texas M. D. Anderson Cancer Center (MDACC) has developed a dynamic referral productivity reporting tool for its Multidisciplinary Care Centers (MCC). The tool leverages information within the institution’s Enterprise Information Warehouse (EIW) using business intelligence software Hyperion Intelligent Explorer Suite 8.3. The referral productivity reports are intended to provide each MCC with detailed referral and registration data outlining how, and from where, patients arrive here for treatment. The reports support operational and strategic initiatives aimed at improving referral processes and market related program development.

Introduction

The World Health Organization (WHO) cancer fact sheets indicate that one third of the cancer burden could be cured with early detection and adequately treatment. Reducing diagnostic and treatment delays, which occur at patient delay, primary care delay, referral delay, secondary care delay, may increase the proportion of early stage cancers and improve survival and patient clinical outcomes.

As a leading cancer research institute and hospital, more than 74,000 people with cancer will receive care at MDACC this year. This dynamic quarterly referral activity report has been developed to support operational and strategic initiatives by providing efficient visual data analysis, enabling quick discovery of data trends and referral patterns. This data is utilized to facilitate decision-making and promote continuous quality improvement.

System Description

Patient referral and registration information and referring physician information are stored in the EIW created in Oracle 10g with star schema. The EIW is a patient-centric data warehouse, which is designed to support the institution’s mission of patient care, research, education and cancer prevention. It uses several electronic medical record (EMR) systems as operational data stores (ODS). It contains patient referral and registration information, diagnosis and treatment information, performed procedures and hospital charges information.

The reporting tool was developed in Hyperion Intelligent Explorer Suite 8.3. As a Business Intelligence Tool, Hyperion is used to create queries, reports and dashboards against the EIW. By selecting year, quarter and MCC in dashboard, the application converts raw data into graphical information that is easy to review and analyze. The reports are generated every quarter and can be automatically converted to PDF file and sent to clinical and administrative leaders representing each individual MCC.

Referral Productivity Report Categories

- **Referral Activity Report Summary**
  A dashboard presentation contains referral and registration activity by referral source; geographic distribution of physician referrals; run chart of physician referrals over time; the top referring states with physician referrals and the top referring physicians during the reporting period; and referral activity by unique hospital service within each MCC.

- **Referral / Registration Activity by Referral Source**
  Displays the total new patient referral and registration counts for each MCC during the reporting period. This data is presented by referral source and compares the current reporting period with the same period from the previous fiscal year.

- **Referring Physicians by State / Hospital Service**
  Presents a listing of referring physicians’ information by home state and by the unique hospital service the referral was sent to.

- **Referring Physician Satisfaction Survey Report**
  Shows the survey ratings of the physician referral experience with a specific MCC on overall satisfaction, physician loyalty, initial consultation, referral process, treatment, and returning the patient dimensions.

Application Status and Future Work

The report simplifies the process of visualizing large amount of data, and presents highly complex and abstract data without overwhelming the users, which will facilitate the decision-making and referral processing improvement. The spatial visualization of the referral geographic location will be added into application for the future work to identify the hidden geographical relationships.