The Case Mix System

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The Case Mix System (CMS) was developed as a broad-based decision support system for planning and managing effectiveness in the product line environment. CMS is proven in a range of hospital settings and provides the information needed to meet today's health care management challenges.

INTRODUCTION

The Case Mix System (CMS) is a hospital-based decision support system that provides for intranstitutional assessment of trends and variances in case mix and medical practice. CMS collects and maintains clinical descriptions of patients treated and billing data documenting the treatment rendered. Focusing on patient care from the physician's perspective, it produces a series of management reports and maintains a comprehensive data base for planning, financial management, analysis, and research.

CMS was developed by Arthur Andersen & Co. (a consulting and public accounting firm) in conjunction with Providence Hospital (Southfield, Michigan) and with developmental and financial support from Blue Cross/Blue Shield of Michigan. The system has been operating for 1 or more years at Borgess Medical Center, Kalamazoo, Michigan; New England Medical Center, Boston, Massachusetts; Our Lady of Lourdes Hospital, Binghampton, New York; Providence Hospital, Southfield, Michigan; Saint John Hospital, Detroit, Michigan; and Stanford University Medical Center, and Palo Alto, California. Installations are under way at over 15 locations with bed sizes ranging from 250 to 1,400.

The system identifies the financial impact of changes in medical practices and shifts in the condition, disease mix, and volume of patients treated. Variances are reported in

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a Diagnosis Related Group (DRG) perspective along existing lines of medical organization and responsibility. This enables physicians on the hospital’s medical staff to evaluate care practices for economy and propriety, and to focus quality assurance efforts on those practices undergoing significant change. From a financial prospective, the system reports profitability by DRG, physician, and pay source.

SYSTEM DESCRIPTION

System Objectives

Historically, hospitals have had inadequate information to measure and explain the reasons for changes in hospital costs from one year to the next. Administrators and providers are put at risk for the cost consequences of factors they can neither accurately monitor nor control, such as changing medical practices, changing patient populations, and adverse economic conditions.

The Case Mix System provides information that enables administrators and providers, working together, to understand and manage the behavior of hospital costs. The objectives of CMS are to accomplish the following:

1. Enable the medical staff to focus its quality assurance efforts on those care practices undergoing significant change and to evaluate the practices for economy as well as propriety.
2. Enable administration to better understand and document the influence of physician and patient variables on hospital costs and to better defend itself against regulators’ claims of inefficiency.
3. Enable medical records to achieve greater control over its clinical data resource, resulting in increased accuracy, timeliness, and comprehensiveness of data and greater efficiency in its compilation.
4. Provide data for support of physician-specific quality assurance efforts.
5. Provide data for development of strategic plans for provision of medical care.
6. Assist in dealing with third-party payers when negotiating reimbursement related to mix and intensity changes.
7. Provide a means to monitor the effectiveness of medical education programs.
8. Provide a clinical data base and reporting capabilities at least equivalent in breadth, depth, and usefulness to the financial data and reporting possessed by most hospitals.

Data Base

The CMS data base is generated from the hospital’s patient billing system, medical records abstracting system, and cost data.

The billing system serves as the source of data describing the patient’s demographic characteristics, insurance coverage, and dates of hospitalization, the services utilized, and the charges incurred during the stay. Data are captured at the time of detailed bill preparation and are edited and summarized to a level of detail appropriate for medical review.