

## Chapter 3

# Applying Business Intelligence and Analytics to Clinical Costing Data

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### **ABSTRACT**

*Most healthcare organizations would like to provide actionable information to the managers of their various service lines. Bringing administrative, clinical, and financial data together is critical to operating the service lines efficiently. It also presents a strategic advantage, as the applications of funding are more closely monitored, and regulatory reporting requirements increase. With a clearer picture of their financial and clinical performance together, organizations are better prepared to put efficient strategies in place to meet their goals and demonstrate value. However, that requires thorough planning and forward-thinking leadership. This chapter discusses approaches to how organizations can empower their stakeholders by providing them with integrated clinical and costing data. It addresses how business intelligence supports the management and reporting of clinical costing data, the utilization of data visualization and advanced analytics, the importance of data governance, and the role of a BI strategy, illustrated throughout with a case study.*

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## **INTRODUCTION**

In the field of information management, the discipline of business intelligence, in its broadest sense, is about transforming the transactional data of an organisation, and providing suitable information to the decision makers and other interested stakeholders in the organisation. Among hospitals and other healthcare providers, clinical costing data forms a key part of the data that requires conversion to useful information for decision makers on various levels of the organisation.

The objectives of this chapter are to illustrate how the following concepts are related to and utilised in the reporting and analysis of clinical costing data:

- Business intelligence.
- Data warehousing.
- Reports and dashboards.
- Data visualization.
- Applied analytics.
- Business-intelligence strategy.
- Data governance.

## **BACKGROUND**

### **A Data-Oriented View of Clinical Costing**

From the point of view of data, clinical costing lies at the intersection of the following subject areas:

- Patients (inpatients or outpatients)
- Services provided
- Providers (e.g., clinicians, nurses, radiologists) of these services
- Resources utilised (e.g., wards, beds, theatres, equipment)
- Consumables used (e.g., medications, bandages, food and beverage)
- Costs associated with:
  - Each aspect
  - Each episode
  - Each ward (or unit)
  - Each hospital

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