

LEVERAGING BUSINESS INTELLIGENCE TOOLS FOR PRECISION COST ANALYSIS AND INTEGRATED DATA INSIGHTS IN SLOVENIAN HOSPITALS

Can a BI solution make wonders?

Digital transformation is shaping the landscape of institutional healthcare, offering numerous benefits to the healthcare industry, healthcare delivery, and advancements in treatments and therapies. However, alongside these improvements come challenges related to the quality control of extensive data collection, IT infrastructure, cost efficiency, innovative medical education principles, and new models in healthcare management. This transformation extends beyond businesses and services, ultimately influencing relationships between key stakeholders: healthcare providers, payers, and patients.

The increasing costs of patient care are placing considerable strain on the healthcare system, exacerbated by inflation, rising wages, and additional expenses. Shortages in healthcare workers and outdated funding methods further complicate the situation, necessitating the adoption of new approaches like value-based healthcare, where hospitals receive funding based on patient outcomes.

In Slovenia, despite over 30 years of healthcare data collection, cost management in hospitals remains a challenge. While tools like Business Intelligence (BI) and Artificial Intelligence (AI) exist to aid analysis in administrative, business, and clinical areas, there is a gap in their effective utilization.

Drawing on our experience in the Slovenian healthcare ecosystem and extensive understanding of funding trends and internal clinical processes, we advocate for leveraging current BI tools to:

1. Systematically track and analyze costs for each patient, including medications, lab tests, and other expenses, moving away from fixed rates
2. Monitor overhead costs such as salaries, travel, and electricity more diligently.
3. Exploit integrated data from different systems to enhance analytical capabilities and support informed decisions, as well as identify areas to implement evidence-based practices; managerial and clinical.
4. Enable the measurement and tracking of clinical outcomes over time to assess the effectiveness of treatments and interventions, identify areas with suboptimal outcomes, and implement targeted improvements.
5. Advanced analysis of clinical pathways and workflows, identifying bottlenecks or areas for improvement. Optimizing clinical pathways contributes to streamlined processes, reduced delays, and ultimately better clinical outcomes.

The use of BI tools transcends mere digitization; it involves a fundamental shift in healthcare management practices. Over 30 years of experience in digital healthcare transformation emphasizes the crucial role of cooperation and open communication between healthcare institutions and IT providers for success. The primary goal is to create value and improve patient treatments.

However, challenges persist, including limited awareness of specific monitoring parameters, a lack of understanding of hospital management principles, resistance to changing established processes, and the necessity for learning new routines. Additionally, there is limited knowledge of the complex healthcare financing system and challenges associated with the diverse array of available analytical tools, leading to operational inefficiencies.

In essence, BI empowers healthcare professionals with tools to transform raw data into actionable insights, fostering a data-driven culture that positively influences clinical decision-making and, consequently, enhances patient outcomes. While BI solutions and tools, along with available medical data, exist, a critical consideration of how to effectively use this data to address the aforementioned challenges is lacking. The presented use case will illustrate how maximizing the benefits of BI tools through open dialogue between medical professionals and IT providers can contribute to advancing the overall healthcare system.