Dimensional INSIGHT®

6 Ways Analytics Can Help with Infection Prevention in Hospitals

Introduction

The United States Centers for Disease Control (CDC) estimates that on any given day, approximately 3% of patients in a hospital have a healthcare-associated infection (HAI). The consequences of these infections are staggering—not only do HAIs cost billions of dollars to the healthcare system, but also approximately 10.5% of patients with an HAI—or 72,000—die during their hospitalizations.

It's critical for healthcare organizations to understand the state of infections in their hospital so they can move the needle on patient care. How can they do so? Analytics can help. In this white paper, we'll examine six ways analytics can help hospitals and health systems better understand HAIs and infection prevention in their institutions.

1. Understanding Performance and Quality

When it comes to understanding HAIs, healthcare providers must be able to see at a glance their total numbers and how they are performing on quality measures.

This means being able to quickly access numbers such as:

- Total admissions and patients
- Total infections
- Total procedures
- Procedures with infections

Analytics can provide a quick and easy look at these numbers, as well as provide color-coded indicators so healthcare administrators and users can see how the hospital is performing comparatively, either within their own institution or compared to national benchmarks.

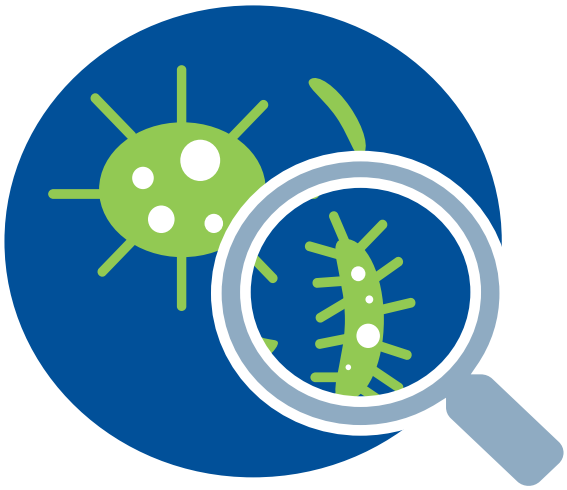
2. View Trends over Time

When measuring infections in the hospital, it's important to track trends over time to see if the hospital is able to make improvements. Such trends can also help healthcare organizations measure how close they are to reaching goals that they've set.

An analytics solution should be able to provide day-over-day, month-over-month, and year-over-year views on:

- Total number of infections
- Breakdown on different types of infections
- Top number of infection types (e.g. Top 5 infections in the hospital)

Such views enable healthcare professionals to quickly and easily focus their efforts on the most impactful ways to reduce hospital-acquired infections.



3. Antimicrobial Tracking

Antibiotic resistance is one of the most prevalent and serious causes of HAIs. Antibiotic-resistant bacteria causes more than 2.8 million infections in the U.S. each year, killing more than 35,000, according to the CDC. These bacteria can quickly and easily spread throughout a hospital due to compromised immune systems.

It's critical for hospitals to be able to track antimicrobial usage, both from a best practices and a government reporting standpoint.

Analytics enables healthcare organizations to track usage of different antimicrobials for patients. Hospital administrators can see the average days that antimicrobials are used and recommend substitutes or lower-class treatments, if necessary. They can also view physician prescribing patterns to determine if certain physicians are prescribing antimicrobial rates higher than their peers.

4. Mandatory Reporting

Many hospitals are required to report their infection and prevention efforts to government bodies in order to ensure they are doing all they can to prevent and contain outbreaks. For example, 36 states plus the District of Columbia are currently required to report HAI data to the CDC's National Healthcare Safety Network (NHSN).

Analytics can be configured to meet specific reporting needs. This lessens the administrative burden and frees up highly skilled personnel for more valuable patient care activities.

5. Containment and Placement

The ultimate goal of infection prevention is, of course, to prevent HAIs. When that's not possible, it's important to be able to contain any outbreaks in order to minimize the impact. Analytics can provide several ways to help do so.

First, it can provide a calendar view of the number of infections each day, with each day given a color code to indicate the number of infections. This enables users to see at a glance which days were better or worse for infections.

In addition, users can place patients throughout the hospital so they can quickly pinpoint any hotspots. For example, if several patients who were operated on in the same room later came down with infections, healthcare workers could quickly zero in on that operating room and take steps to make sure it is properly sanitized. If users notice that patients in a particular recovery wing have infections, they can target that area for increased vigilance.

6. Predicting Infections

One of the best ways to prevent infections is to know ahead of time which patients are most at risk of an infection, and take steps ahead of time to mitigate the situation.

Analytics can help by ingesting available data the hospital has on procedures, patient test results, and other risk factors, and creating an overall risk score for each patient. This risk score can be updated as new data comes in.

As a result, medical staff can keep extra tabs on patients with high risk scores, prioritize care resources, and help hospital management define areas for specific attention.

About Dimensional Insight's ICU Advisor

Dimensional Insight's Infection Prevention Advisor is a powerful new tool that helps hospitals in their efforts to reduce patient infections. Infection Prevention Advisor uses Dimensional Insight's proven business intelligence and analytics technology that enables it to handle literally any data source. A team of participating microbiological and hospital infection experts have worked together with data specialists to develop the infection intelligence rules, which are easily encoded by the Dimensional Insight data engine.

Infection Prevention Advisor provides the following benefits:

1. Allows hospitals to quickly and easily understand performance and quality measures so they can track patient and procedure numbers, and see how they compare to their peers.
2. Enables hospitals to track trends over time so they can view the impact of improvement efforts.
3. Provides tracking on antimicrobial usage so hospital administrators can view physician prescribing and identify opportunities to move patients to a lower-risk drug.
4. Simplifies mandatory reporting, which lessens the burden on administrators and allows hospital staff to focus on higher value opportunities.
5. Provides views of data that allow hospital staff to place the locations of infected patients, thereby better containing infections.
6. Ingests data on patients and provides risk scores, allowing hospital staff to know which patients are at higher risk of infection.

Dimensional Insight's Infection Prevention Advisor is an invaluable tool in any effort to reduce both unnecessary patient suffering and the significant costs associated with individual infections and multi-resistant bacterial outbreaks.

Learn more

To learn more about Dimensional Insight's Infection Prevention Advisor application, as well as other hospital applications, please visit: https://www.healthcare.dimins.com.

About Dimensional Insight

Dimensional Insight® is a leading provider of analytics, data management, and performance management solutions, offering a complete portfolio of capabilities ranging from data integration and modeling to sophisticated reporting, analytics, and dashboards. The company is a seven-time Best in KLAS winner in healthcare business intelligence and analytics, most recently ranking #1 in 2020. Founded in 1989, Dimensional Insight has thousands of customer organizations worldwide. Dimensional Insight consistently ranks as a top performing analytics organization by customers and industry analysts in its core market segments including healthcare, manufacturing, and beverage alcohol. For more information, please visit https://www.dimins.com/.

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