

Evidentli's Technology informs healthcare managers in real time about what matters to them: issues such as patient safety and quality of care monitoring, resource and load management, or clinical variation. Designed to be lightweight and easy to integrate Evidentli raises the bar for AI informing policymakers.

A wide range of questions answered

Hospitals collect vast amount of data but only a learning healthcare system capitalises on such information to improve care through better policies. Spinetto examines and analyzes data every few minutes to produce the evidence needed to drive change in practice. Spinetto's continuous automatic update means that feedback is immediate and consequences are measurable in real time.



Example Questions

- How many patients presenting hip fractures in ED are given local anesthetic within the hour, and what are the implications for their length of stay and pain management?
- How many patients undergoing hip replacements are transferred to Intensive Care compared to knee replacement patients?
- What medications are given to patients post microdiscectomy?
- How many patients have been admitted in the last 24 hours and what conditions were assigned to them?

If the evidence you need is not available in our ever growing library of questions, we will add it for you, free of charge.

CASE STUDY - An Issue of Patient Safety

Setting

The Director of Medical Services at a medium size private hospital (who has asked to remain anonymous due the patient safety issues mentioned below) had a nagging suspicion that too many patients at the hospital were being transferred to the intensive care unit (ICU) after orthopaedic surgery. In particular, it was suspected that orthopaedic patients undergoing hip and knee replacement surgery were harmed. Recent literary articles indicate that use of opioids is less safe to patients than previously thought and it was hence suggested as a possible explanation to the high rates of ICU admittance. Despite the hospital collecting all required data electronically, the project was delayed for two years because it was estimated to require 2 FTEs over 9 months in non-clinical time, or an estimated cost of \$250K.

Analytics

The Evidentli system was implemented at the hospital, extracting and mapping the required fields (anonymised patient demographics, ADT, procedures, medications). In parallel, an Evidentli scientist created a research workflow, using Evidentli's synthetic dataset and unique research automation AI to:

1. Automatically include patients according to inclusion/exclusion criteria;
2. Segments the included patient population into cohorts of patients that have undergone any hip or knee replacement surgery; and compare them with two control arms: patients undergoing any surgery and all included patients.
3. Compares the cohorts' use of ICU analyzed by day of the week, month of the year, and opioid use.
4. Automatically generate a report that describes the workflow and findings.

Implementation of the protocol took **2 days** and was immediately available to run when mapping of real data was complete.

Results

The analytic workflow was run on the hospital's data. It confirmed that high ICU utilisation rate for hip and knee replacement patients (10.65%) compared to all surgery patients (5.64%) and all patients (3.1%). It did not find significant differences in ICU utilisation between the cohorts and the control arm with regards to day of week and month of the year. It found that patient that had hip or knee replacement surgery and received opioids were also 4 times more likely to attend ICU than other patients that use opioids, and twice as likely to attend ICU than other surgical patients who use opioids.

Translating into Practice

The Hospital is now educating its clinicians on the findings of the study and a further review is being conducted to find more appropriate medications for these susceptible patient cohorts. Practice has already been changed and ICU transfer rates are dropping considerably.

Further Steps

The Hospital is now undertaking a number of studies using Evidentli technology in areas of patient safety, medical innovation, and translational medicine. They anticipate the increased practice of research will dramatically improve care while lowering costs associated with patient harm and clinical variation. If you would like to learn more about Evidentli's technology, please contact us on:

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