

Ayasdi Clinical Variation Manager

Using Artificial Intelligence to Reduce Variation of Care

With the continued pressure to decrease healthcare costs and improve care delivery, and the increased reimbursement transformations to value-based payment models, it is imperative that health systems manage and reduce unwarranted clinical variation. Eliminating clinical variation is critical not just to reducing the overall cost of healthcare, but also an integral part of ensuring that patients receive the safest, highest-quality care.

Traditionally, the process of identifying and reducing variation has been highly manual and labor intensive, however, new technological advances using artificial intelligence (AI) have simplified and optimized the process of clinical variation management.

An AI-approach to clinical variation management delivers better patient outcomes, fewer complications, reduced duplicative services, and higher performance on quality metrics.

An Intelligent Application for Clinical Variation Management

Ayasdi Clinical Variation Manager is an application that draws on the power of artificial intelligence to identify best care practices within your health system, develop optimal care paths for different patient groups, operationalize care paths, and continuously improve patient care and outcomes. Through analyzing your system's electronic medical record (EMR) and financial data, Ayasdi Clinical Variation Manager allows you to improve and personalize care delivery continuously and proactively.

Discovery

By analyzing all of the clinical and financial data within a health system, artificial intelligence detects each patient journey within a population – including all patient procedures and millions of individual events. Using unsupervised and semi-supervised learning, it automatically surfaces groups of similar patient procedures and generates clinical pathways for your local patient population. Very quickly, a health system is able to see hidden events that reveal the best outcomes.

Prediction

With the discovery of unique groups and care paths within the population, AI accurately predicts what the optimal outcome should be for the various groups and individual patients. Using a health system’s desired measure, be it length-of-stay, cost, or another, the intelligent application delivers the best path of care to achieve this outcome.

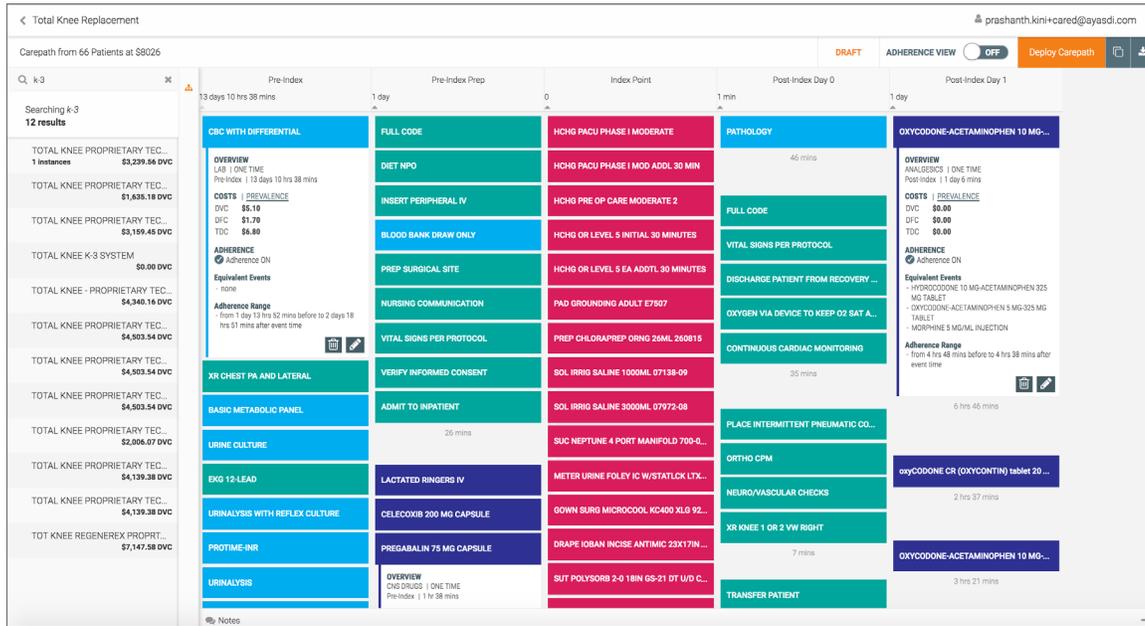


Figure 1. Predict optimal care paths and outcomes

Justification

Ayasdi Clinical Variation Manager justifies its recommendations with full transparency. Every standard of care is delivered with granularity, exposing each individual event that is critical to best care. Further, the application details each of the inputs to its recommended pathways and facilitates comparison to existing guidelines. Turning this type of clarity into recommendations is unique to an intelligent application and complements clinician workflow and decision-making.

Justification allows us to understand the characteristics of unique patient groups (why they’re grouped together). Justification allows us to also grasp the individual factors that lead to variations in cost and quality. This in turn allows us to harness the collective intellectual wisdom of an organization’s clinicians to continuously improve care path standards through scheduled reviews of adherence dashboards and analysis of both positive and negative variation.

Action

Ayasdi CVM is integrated with EMR systems to facilitate the rapid deployment of intelligence across the organization. Further, Ayasdi’s CVM application provides healthcare organizations with intuitive dashboards that let you objectively monitor adoption and adherence to standardized clinical pathways. The adherence analytics allow you to engage in data-driven conversations about care variation, capture the collective voice of your physician community, and continuously gather feedback to improve existing clinical pathways.

Automated care pathway development allows clinicians across a health system to automatically determine the impact of various care pathways on cost and quality, and implement the best path of care for a given individual. Collaboratively create standard pathways tailored to an organization’s patient population, physicians, facilities, and specific care parameters to reduce costs and improve outcomes. The adherence dashboard allows health system to continually improve the adoption of data-driven pathways within the organization.

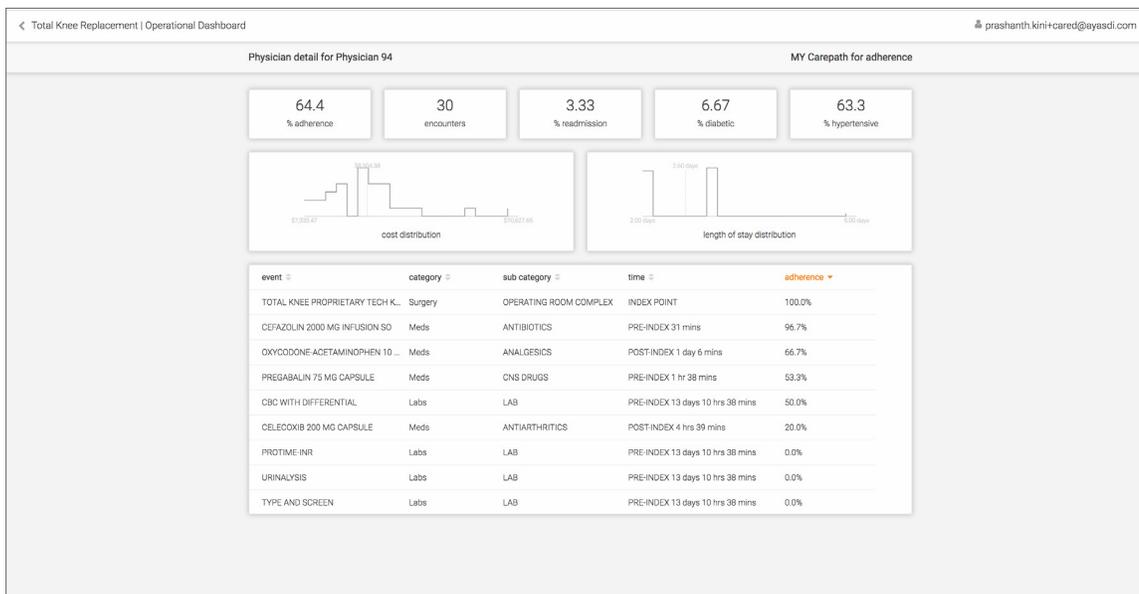


Figure 2. Track and improve care path adherence

Learning

Ayasdi CVM comprehensively analyzes your hospital's data and captures all clinical variation – both good and bad. It reflects the collective experience and expertise of your own physicians and ensures that you do not miss out on good variations that result in better patient outcomes. Furthermore, the application is always looking at new data as it comes in, finding emerging patterns that reflect the current practice within the organization.

Ayasdi CVM learns by analyzing thousands of patient procedures and millions of individual events, spanning the entire timeline of each patient procedures and millions of individual events. Learn the specific differentiating diagnostics, procedures, drugs, devices, and their timing in the consensus care paths driving to lowest average costs and best outcome. By learning more and more and recognizing complex patterns within patient data, it is able to create more nuanced subpopulations, leading to better, more accurate prediction.

Conclusion

With the increasing pressure to reduce healthcare costs and improve the quality of care, reducing clinical variation is a critical component of a health system's success. By leveraging the key attributes of artificial intelligence – discovery, prediction, justification, action, and learning, Ayasdi Clinical Variation Manager creates a proactive approach to managing variation, helping health care organizations to succeed in today's new health economy.

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