

Using AI to Improve Patient Care and Reduce Costs

Overview

Unlocking insights within patient data to manage clinical variation has the potential to revolutionize the way we deliver quality patient care. Standardizing care and reducing variation are vital to improving outcomes and minimizing costs.

This is especially important as providers shift to value or outcome-based care. However, as available patient and care data increase, the number of relationships between variables scales exponentially. Traditional analytics methods are ill-equipped to handle this volume, making it nearly impossible to recognize trends. More sophisticated technology is crucial.

By using a powerful AI platform with advanced machine learning and advanced statistical algorithms, SymphonyAI solutions analyze millions of variables across large data sets, quickly uncovering patterns and previously unseen patterns, connections and outliers. SymphonyAI's clinical variation management solution applies these sophisticated AI techniques to identify areas of unwarranted variation while also surfacing new best practices.

Benefits

Discover Variation

SymphonyAI CVM sorts through the thousands of data points in your EMR data to identify the most common care pathways, the efficacy of each pathway based on patient outcomes and cost, and the statistically significant differences between pathways. These data points are time-sequenced and presented in a simplified, easy-to-understand format. Merging charge and claims data with clinical data provides insights into which care interventions are the costliest and if those expenses translate into positive patient outcomes.

Proven Results

300-bed hospital saves \$892K across 5 diagnosis-related groups (DRGs) in first year.

Background

- 355-bed community hospital
- Data extracted from five different systems (EMR, surgical, analytics, EDW, financials)
- Initial deployment cadence: Pneumonia 9 weeks, Septic Shock 2 weeks, COPD 3 weeks, CHF 3 weeks, Chest pain 4 weeks

Results

- New DRGs deployed every 2-3 weeks
- \$892K YTD for five DRGs in the first year. Projected \$15M annually across 18 DRGs
- Pneumonia: \$1.4K, 1.2 days LOS reduction per episode, 5X fewer readmissions
- Pneumonia order set compliance increased from 57% to 66%
- Septic shock: Mortality dropped from 18% to 9%. National levels 40%-80%

Surface Best Practices

Calculate optimal clinical paths based on patients who have the most desirable outcomes. SymphonyAI's advanced analytics reveal these trajectories, allowing clinicians to easily compare divergent pathways and determine if a variation is unwarranted, and should be eliminated from the care path or correlated with positive patient outcomes, and therefore built into a new best practice.

Build New Care Paths

Create, instantiate, and curate new care paths with statistical analysis of drivers, peer benchmarking insights, and injection of subject matter expertise. Each patient treatment group can surface a specific care path matched to patient subpopulation characteristics. This can serve as a care path template physicians can build upon to inform their course of care. SymphonyAI CVM solutions automate these data-driven care paths, thereby speeding delivery of better, tailored patient care.

Implement Care Paths

Implement best practice care paths emerging from SymphonyAI CVM analysis into existing EMR-based clinical workflows. These workflows, such as order sets, provide point-of-care decision support to systematically standardize care and reduce unwarranted clinical variation.

Continuously Improve Care

Systematically improve care with ongoing data collection and adherence progress to enable data driven peer discussions, thus reducing abrasion and resistance to practice changes. As physicians incorporate new best practices, standardized care paths, and treatments, SymphonyAI's advanced analytics provide insights to measure the level of improved patient care. By measuring the variations that occur after implementation, physicians can gauge the performance of new pathways.

Summary

SymphonyAI's clinical variation management solution provides an unbiased, systematic, AI-driven approach to discover, design, deploy and monitor localized care pathways to manage unwarranted variation in care and drive superior patient outcomes.

About SymphonyAI

SymphonyAI is building the leading enterprise AI company for digital transformation across the most important and resilient growth verticals, including life sciences, healthcare, retail, consumer packaged goods, financial services, manufacturing, and media. In each of these verticals, SAI businesses have many of the leading enterprises as clients. SAI is backed by a \$1 billion commitment from Dr. Romesh Wadhvani, a successful entrepreneur and philanthropist. Since its founding in 2017, SymphonyAI has grown rapidly to a combined revenue run rate of more than \$300 million and over 2,200 talented leaders, data scientists, and other professionals.