THE INDUSTRY'S BEST COLLECTION OF EXTENDABLE PREDICTIVE MODELS

Early diagnosis, targeted interventions, and personalized care management are key to tackling healthcare's most challenging and costly issues—chronic diseases, hospital infections, avoidable hospitalizations, and readmissions, to name just a few. Electronic medical records and other patient data, including labs, healthcare claims, and social factors, hold the promise of helping organizations avoid these issues. In order to unlock the patterns in these large data silos, better tools are needed.

ClosedLoop provides a wide array of off-the-shelf predictive models for common healthcare use cases and creates customized models to meet each organizations specific needs. The following are just a few examples of ClosedLoop predictive models that can be customized, trained, and deployed to provide the insights needed to change the way healthcare is delivered.

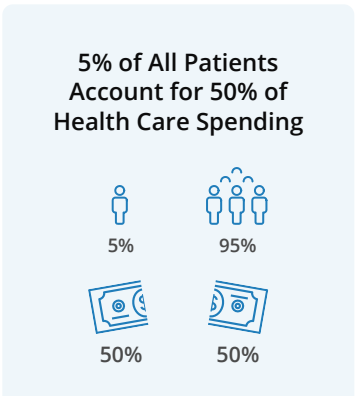
CLOSEDLOOP MODEL CATALOG

- Total Risk / Total Utilization
- Preventable Hospitalizations / Admission Risk
- Re-admission Risk
- Avoidable ED Utilization
- Chronic Disease Onset or Progression
  - COPD, Asthma, Diabetes, CHF, CKD
- HAIs / Sepsis Risk
- Medication Adherence
- Rising risk / Cost Bloomers
- Appointment No-Shows
- Propensity to Pay
- Clinical Documentation Improvement
- Automated Coding
- Fall Risk
- Mortality
- Opioid Addiction
- Health Plan Member Churn
- Transition of Care

Total Risk

Not surprisingly, patients with the greatest needs are placing an inordinate burden on the healthcare system. According to the AHRQ, the top 5% of all patients account for 50% of total U.S. healthcare expenditures, and the costliest 1% of patients account for 21% of healthcare expenditures. Furthermore, treating people with chronic diseases accounts for 86% of our nation's healthcare costs, where seven of the top ten leading causes of death are due to these chronic diseases.

Predictive analytics can go beyond traditional claims-based risk scores to accurately identify patients that are likely to incur high costs in the future. By flagging these potential high utilizers, healthcare organizations can focus on patients that could benefit most from earlier, more targeted interventions. Recognizing that a relatively small percentage of patients drive healthcare spending, better care coordination and management, along with sustainable cost-containment strategies, will lead to better outcomes and a reduction of overall healthcare costs.

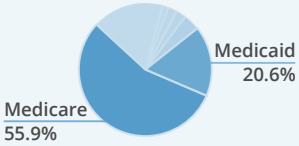


Readmissions

The numbers associated with hospital readmissions are staggering. According to AHRQ, there were approximately 3.3 million adult 30-day all-cause hospital readmissions in the U.S. in 2011, and they were associated with about $41.3 billion in hospital costs. Medicare had the largest share of total readmissions (55.9 percent) and associated costs for readmissions (58.2 percent), followed by Medicaid (20.6 percent and 18.4 percent, respectively). The remainder fell to privately or uninsured patient readmissions.

Many factors can contribute to costly hospital readmissions. By using predictive analytics, healthcare systems can proactively identify patients likely to be readmitted to the hospital within 30 days post-discharge. With this valuable knowledge in hand, care teams can implement targeted interventions with patients and caregivers to reduce the risk of readmission. These interventions can have a profound impact on patients' health outcomes and quality of life, as well as the healthcare system's financial wellbeing.

Medicare & Medicaid Patients Make Up 3/4 Readmissions



Potentially Preventable Hospitalizations

Potentially preventable hospitalizations are both common and costly. According to a AHRQ study, nearly 4.4 million hospital admissions for acute illnesses or worsening chronic conditions totaled $30.8 billion in hospital costs. These patients might not have required hospitalization had their conditions been managed successfully in outpatient settings.

By harnessing the power of predictive analytics, patients at risk for hospitalization can be identified in a timely manner. Healthcare providers can turn this insight into action by implementing targeted care management strategies, such as improved ambulatory care, enhanced access to effective treatment, or the adoption of healthy behaviors. Helping patients avoid hospitalizations can lead to better health outcomes and contribute to containing—or decreasing—healthcare costs.

Admissions Cost U.S. Hospitals $30.8 Billion

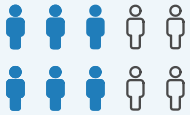
$30.8 BILLION

Chronic Disease—Onset or Progression

The human and economic costs associated with chronic disease continue to soar, creating a burden for patients and the healthcare system overall. According to the CDC, six in ten adults in the U.S. have a chronic disease, and four in ten adults have two or more chronic diseases. Heart disease, cancer, and diabetes are not only the leading cause of death and disability in the U.S., they make up 90% of the nation's $3.3 trillion annual healthcare costs.

Focusing on life-changing resources to prevent chronic diseases or slow their progression will not only optimize quality of life, it will reduce demand on the healthcare system. Predictive analytics can identify patients at higher risk of developing chronic diseases or in the early stages of their progression. By using this valuable insight, care teams can intervene with personalized programs and services that can help patients avoid long-term health problems that are difficult and costly to treat.

6 Out of 10 Adults Have a Chronic Disease



Acquired Conditions and Infections

It's logical to think that when a patient is admitted to the hospital, the goal is to get better, not sicker. Unfortunately, patients can develop hospital-acquired conditions (HACs)—medical conditions or complications that were not present at admission and occurred as a result of errors or accidents.

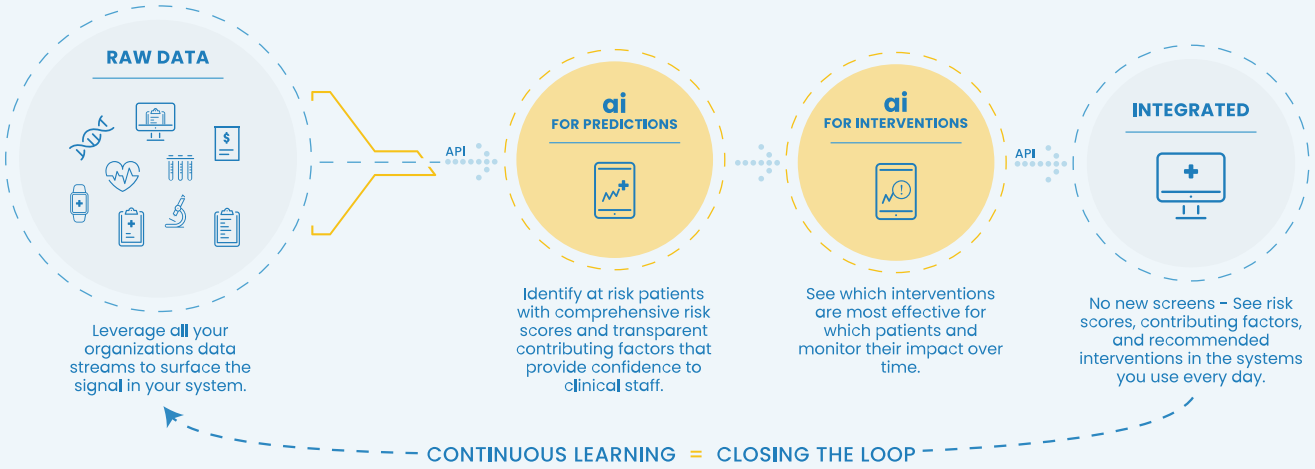
One type of HAC is hospital-acquired infections (HAIs) which are caused by viral, bacterial, and fungal pathogens. The most common types are bloodstream infection, pneumonia, urinary tract infection, and surgical site infection. Annually, approximately 2 million patients suffer with HAIs in the U.S., and nearly 90,000 are estimated to die. The overall direct cost hospitals incur due to HAIs is estimated to be as high as $45 billion annually.

Hospital-Acquired Infections Cost Hospitals $45 Billion Annually

One example of the high human and economic cost associated with HAIs is sepsis, the body's often deadly response to infection. It is not only the leading cause of death in hospitals, it is also a main reason why people are readmitted. While sepsis affects the young and old, patients with chronic conditions or weakened immune systems are at higher risk.

Ensuring patient health and safety is the number one priority for hospitals. In addition to maximizing prevention efforts to reduce HACs and HAIs, hospitals can use predictive analytics to identify patients who are at high risk and more likely to acquire a condition or infection after being admitted to the hospital. This insight can do more than just lower costs—it can save lives.

The field of predictive analytics is shaping the future of healthcare, and ClosedLoop is leading the way. Contact us today to learn how our dozens of predictive models and healthcare specific machine learning platform enable healthcare organizations to identify at risk patients, target interventions, and improve patient and operational outcomes.



About ClosedLoop

ClosedLoop.ai is an AI-based predictive analytics platform for real-world healthcare data. We are committed to bettering the healthcare industry by providing organizations with the power to predict health outcomes with ease and transparency.

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