

Case Study:

Enhancing Value Based Care: Early Detection and Intervention of At-Risk Patients Using AI & Analytics

About the Client

Top Health Insurance Firm and a Hospital System

Challenges

The healthcare industry faces a significant challenge in aligning with value-based care models, which prioritize high-quality, patient-centric, and cost-effective treatments. Our goal is to harness the power of AI and data analytics to transform historical health data into predictive insights for patient risk. This initiative is crucial for early intervention and personalized care strategies, ensuring that resources are optimally allocated to those in greatest need. By focusing on preemptive healthcare measures and improving care efficiency, our solution aims to embody the principles of value-based care, enhancing patient outcomes while simultaneously managing healthcare costs.

Predicting Patient Risk Scores

Leveraging historical claims and behavioral data, we developed a predictive model to identify and prioritize at-risk patients, aligning perfectly with the principles of value-based care. This model enables early intervention, reducing the likelihood of costly emergency treatments and hospitalizations. Our tailored care strategies, based on individual risk profiles, ensure that each patient receives the most appropriate, personalized care. We provide weekly, user-friendly risk reports, empowering care teams to make data-driven decisions and allocate resources effectively. This approach not only boosts care team productivity but also significantly enhances patient health outcomes, contributing to the overall cost-efficiency and quality goals central to value-based care. Ultimately, our solution represents a stride forward in realizing the full potential of value-based healthcare.

Impacting Healthcare with TeraCrunch Solutions

Utilizing TeraCrunch's *Patient Risk Score* Solution, **care teams are able to identify at-risk patients at 89% accuracy. More importantly, our solutions identify these patients very early in the process.** This helps set up early interventions, improves patient's health, and increases productivity.

Key Benefits



Personalized intervention plan
increased patient connection
rates



Identified at-risk
patients very early, at
89% accuracy



Reduced cost of care
per patient

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Outcomes

Reduced Emergency Department (ED) Encounters	Significant Reduction in Hospital Readmissions	Decreased EMS Utilization	Operational Efficiencies
A 17% reduction in ED encounters in the intervention group compared to the control group. Although this reduction was not statistically significant, it indicates a trend towards decreased emergency healthcare needs due to proactive interventions.	A substantial decrease in hospital readmissions within 90 and 180 days. Specifically, there was a 71% reduction in 90-day readmissions and a 52% reduction in 180-day readmissions in the intervention group, both statistically significant findings.	Emergency Medical Services (EMS) encounters were 47% lower in the intervention group, suggesting effective preemptive healthcare measures can reduce the need for emergency interventions.	Improved operational management in healthcare, leading to better efficiency, productivity, safety, and quality of care. By anticipating healthcare needs and trends, healthcare providers can allocate resources more effectively and improve patient safety outcomes.

About TeraCrunch

- **11 Years of AI Mastery:** Your trusted partner in the AI maze. US based.
- **Tailor-made AI Solutions:** Over 150 projects delivered with 5-40x ROI.
- **No Nonsense:** Direct results, no IT runarounds or overcharging.
- **Our Edge:**
 - Proprietary methods plus a tech-stack perfected over a decade.
 - Elite data scientists from Harvard and NASA, ready to join your team.
- **Free Viability Assessment:** Essential expert evaluation to ensure your AI project's success, identifying high-value use cases and validating your data's potential — all at no cost.
- **Why TeraCrunch?** Amidst the fast-paced AI world filled with IT firms posing as AI gurus and overpriced bespoke services, we provide quick results you need

Contact us for a free consultation at advancedanalytics@teracrunch.com