

A leading US-based Fortune 500 Life insurance carrier **implements accelerated underwriting process**



Building an accelerated underwriting process for client by leveraging AI/ML for extracting encoding data and automated risk assessment, **reducing the need for invasive procedures** like Lab tests, Examiner reports, APS.



The Background

Our client is a leading US-based Fortune 500 Life insurance carrier receiving thousands of applications annually from prospects and agents for Life Insurance coverage. The current application approval process requires a manual review and depends on invasive procedures for risk assessment. The process is lengthy, non-standardized, and inefficient, leading to a low bind ratio and higher chances of risk misclassification. Further, there is a high evidence cost associated due to the requirement of invasive procedures.

Creating predictive model-based approach to build STP framework using fluid-less, examination-less, and non-APS evidence data can improve underwriting accuracy and efficiency, reduce evidence collection costs and risk misclassification cost.

Can an **AI/ML led accelerated underwriting framework** help our client to augment and improve current underwriting process by triaging high and low risk applications?

Key Challenges

- \ **Challenge 1: High domain complexity** requires medical SME involvement on a regular basis for steering the project
- \ **Challenge 2: Dependency on unstructured data sources**, requires **advanced NLP techniques** for accelerated information extraction
- \ **Challenge 3: Clear reasoning and interpretability** from the modeling process is required for the underwriters, to drive adoption

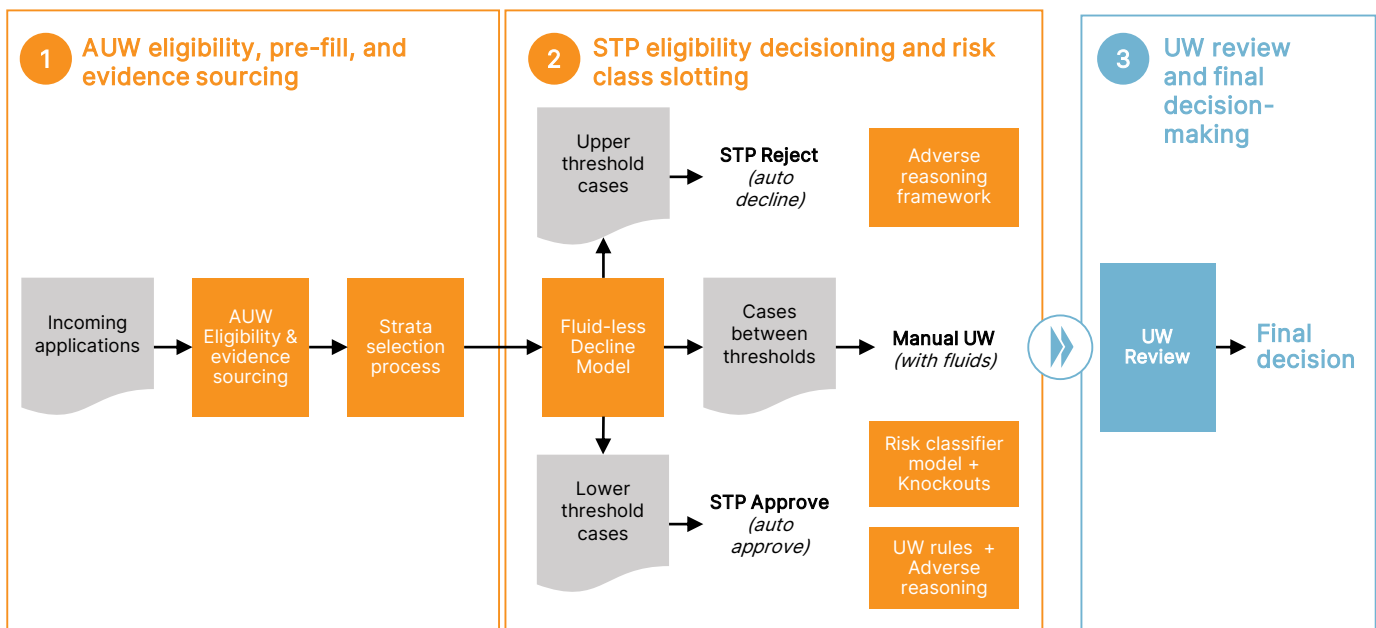
Our Solution

Step 1: AUW eligibility, pre-fill, and evidence sourcing:

Determine underwriting eligibility based on application and evidence data (MVR, MIB, RX) and APS

Step 2: STP eligibility decisioning and risk class slotting: Build Decision Triage model to identify STP eligible claims and a multi-class risk classification model, directly predicting mortality risk

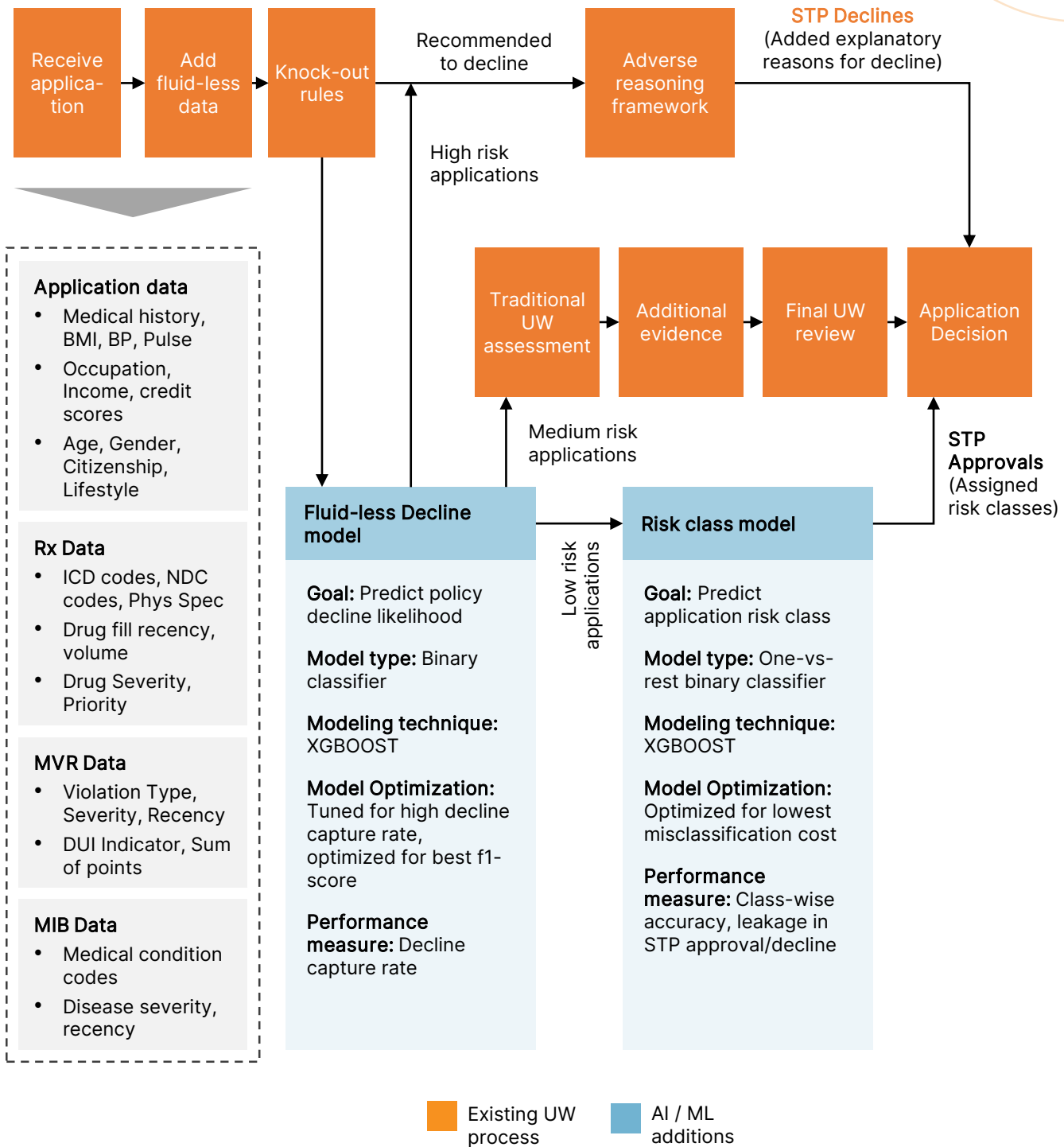
Step 3: UW review and final decision- making: Build knock-out frameworks and adverse reason modules to assist underwriters make the final decision



Tech Stack

- / NLP based feature extraction and disease tagging from Attending Physician Statements (APS)
- / LIME and SHAP frameworks for adverse reasoning
- / Linear Survival modelling framework for direct mortality prediction
- / Multi-variate non- linear classification for risk slotting

Solution Architecture



Value Delivered

Transformed underwriting process through AI/ML driven solution for extracting encoding data and automated risk assessment

- Designed accelerated underwriting workflow to augment current process which can save ~ 39% of evidence costs with ~ 40% STP
- Developed decline propensity model with 86% accuracy for all non-APS ordered policies
- Built predictive models to assign risk classes with overall accuracy of 70%



About Us

Tiger Analytics is a global leader in AI and analytics, helping Fortune 1000 companies solve their toughest challenges. We offer full-stack AI and analytics services & solutions to help businesses achieve real outcomes and value at scale. We are on a mission to push the boundaries of what AI and analytics can do to help enterprises navigate uncertainty and move forward decisively. Our purpose is to **provide certainty to shape a better tomorrow.**

Being a recipient of multiple industry awards and recognitions, we have 4000+ technologists and consultants, working from multiple cities in 5 continents.

www.tigeranalytics.com

US | UK | Canada | India | Singapore | Australia