

Guidewire Predictive Analytics: Severity Escalation

> Finding and Mitigating Workers' Compensation Claims at Risk of Adverse Development

Creating a Smart Core System

Many insurers have invested in modern core systems that are flexible and robust in order to drive transformational change through their operations. Compared to prior legacy mainframe environments, the new systems enable employees to work more efficiently and enjoyably, bring focus to the customer relationship and improve the quality of individual interactions, and enforce process consistency and best practice. Such investments have positioned these insurers to pursue new markets and to leverage new technologies more rapidly. Significant advancements made in predictive analytics for P&C insurance have now created a unique opportunity for insurers with modern core systems to embed analytic scores within the core decision-making workflow, thereby creating a “smart” core system. Successfully leveraging predictive analytics requires a few key ingredients:

- A business problem with a clearly defined target outcome
- A functional design to integrate analytic scores into the core system workflow
- A technical design that includes data acquisition, model building, and core system integration

However, becoming a data- and analytics-driven insurance company requires much more than data and predictive models. It requires a solution that business users can understand and leverage easily so they can make fact-based decisions. You can maximize your technology investment, speed up implementation, and achieve faster ROI by using the Claims Severity Escalation solution described in this document—a solution that integrates Guidewire ClaimCenter® with Guidewire Predictive Analytics™ and its award-winning machine learning technology.

Business Problem

Managing large losses effectively is an important priority of every claims department. Seemingly innocuous claims that explode into large losses after first notice are a major pain point for most claims departments. With the benefit of hindsight and closed file reviews, claims leaders understand that there are often multiple opportunities to proactively intervene in slow-developing claims. When integrated into the claims escalation workflow, predictive analytics can help to identify these severity escalation claims early, raise them for attention, and route them to the appropriate resources. Earlier warning helps provide faster treatment, avoid unnecessary indemnity, avoid or prepare for potential litigation, reduce expenses, and even mitigate opportunistic fraud.

Functional Design

Typically, supervisors manually review open claims owned by adjusters on their team to identify claims requiring special attention. With the Claims Severity Escalation solution, Guidewire ClaimCenter automatically creates an activity to notify the supervisor or other experienced personnel about exposures (claim features) where the predictive model identifies an increased probability of severity escalation. A scoring request may be initiated either as a scheduled process (for example, every night between 30 and 90 days) or when key fields are updated in ClaimCenter. The new task appears on the supervisor’s existing Activities screen (Figure 1))

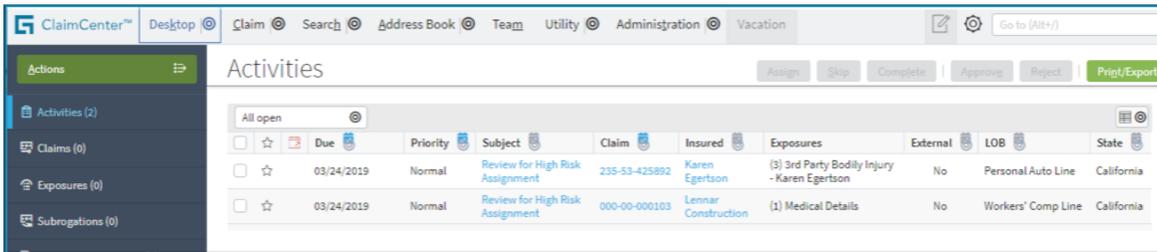


Fig 1: Activity created for Supervisor in Guidewire ClaimCenter to “Review for High Risk Assignment”

Opening the activity, the supervisor will see both a high-risk indicator for the claim as a whole and the escalation risk for each individual injury exposure (Figure 2).

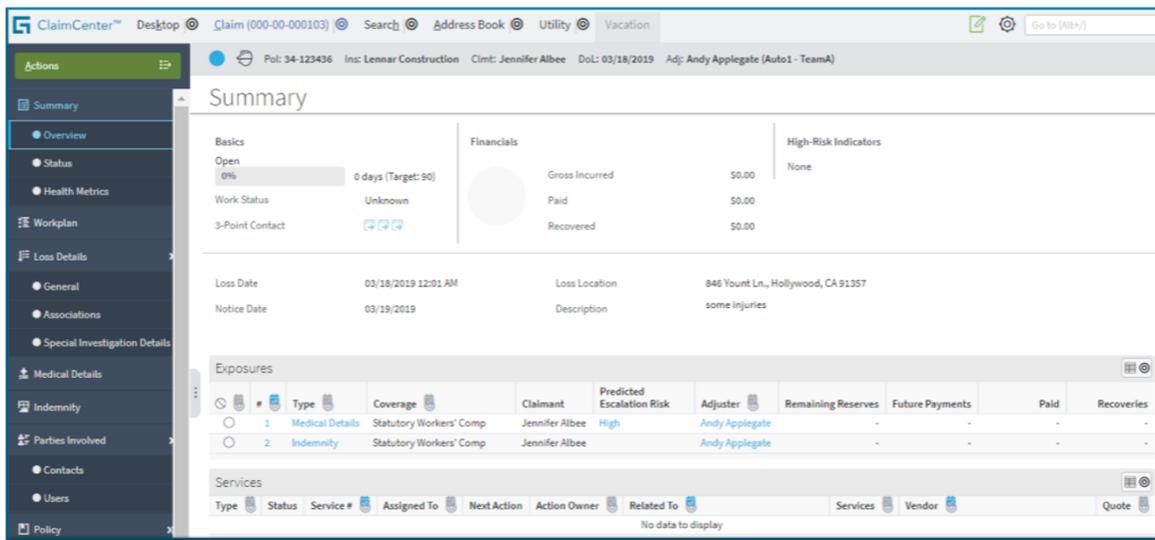


Fig 2: Summary page in Guidewire ClaimCenter workers’ compensation exposure with high risk of escalation

By drilling down to the relevant exposures, the supervisor can view the model’s escalation risk assessment and the underlying claim characteristics that most contributed to that outcome (Figure 3). The supervisor can also review any prior model results to understand which new or revised information may have triggered the increased score. When used together, these model outputs can guide the supervisor to review the pertinent details of the injury incident and the subsequent settlement process. If there are reasons for concern, the supervisor can reassign the claim to a more experienced adjuster (or team) or can consult with the current adjuster to proactively manage the risk of deterioration and/or increase the reserves.

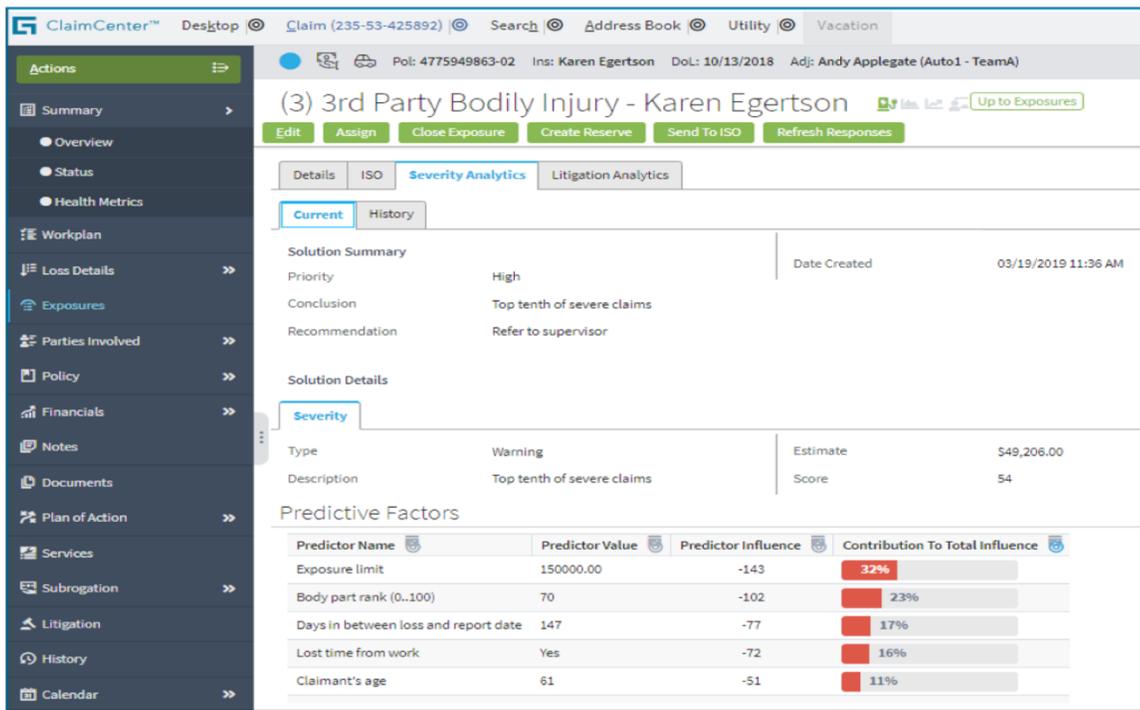


Figure 3 Severity Analytics tab showing the priority as “High” along with the contributing predictive factors

This solution also includes three diagnostic utilities that assist users to review and monitor the models:

- Claim Overview: a single page that displays all predictive analytics claims solutions on one page.
- Claim / Explore Search: a single page that displays all claims/exposures that have successful predictive analytics score attached to it based on specified user search criteria.
- Claim Summary Dashboard: a single place that displays how all the different models are impacting claims processing. It also displays counts for low/medium/high complexity and priority of claims/exposures.

Other Functional Considerations

In addition to the Claims Severity Escalation solution’s required fundamental features, insurers can consider supplementary features such as scoring claims for severity escalation at first notice of loss and capturing the subjective and objective responses from the claims team for the actions taken. This data can then be used to understand user adoption, improve the calculation of success metrics, and further improve modeling accuracy.

Executives, managers, and analysts can choose to be notified of the number and characteristics of claims that have been flagged for severity escalation. Predictive scores and priority levels can also be used as additional dimensions for filtering or slicing business intelligence reports on claims department performance in general and outcomes of severe claims in particular. Such categorization can add insight and diagnose problems by differentiating KPIs based on escalation potential.

Technical Design

The functional solution described above leverages Guidewire ClaimCenter for core operational workflow and Guidewire Predictive Analytics to build models and deploy them as real-time scores. The technical design must consider three key components: data acquisition and preparation, model building and scoring deployment, and core system integration.

Data Acquisition and Preparation

An initial modeling data set is prepared with sufficient target observations to build credible models. Based on our experience, Guidewire can identify the relevant fields and extract this historical information from ClaimCenter (and Guidewire PolicyCenter®). Typical data elements for a claims severity escalation model are derived from information about the claimant, policy, accident details and location, vehicles, injuries, treatment, and claim adjudication history. Depending on the quantity of historical data available in ClaimCenter (and in PolicyCenter), some projects will require additional data from legacy system environments.

Model Building and Scoring Deployment

Guidewire then builds and refines customized predictive models using a full range of statistical and machine learning techniques designed specifically for the insurance industry. These models are compared to holdout data and to one another to determine the most trustworthy predictors of future claim behavior. Working with claims department leaders and experts, one or more models are chosen to introduce into the claims process.

The scores from such models depend on business context for significance. Claims department leaders must first determine the target definition of escalation that they consider worthy of attention, and then decide what action to take in ClaimCenter for a particular score. Model scores are sorted into bands that trigger different responses by the claims organization.

Integration with Guidewire ClaimCenter

To operationalize the model, Guidewire Predictive Analytics creates an API to score claims. ClaimCenter then uses HTTPClient to call a REST service published in Amazon Web Services. Configuration tools define the scheduled times and/or triggering events that initiate these calls. Where necessary, UI screens are created or revised to display model results properly (see "Functional Design"). All processes are designed to safeguard ClaimCenter's performance.

Integration with Guidewire ClaimCenter

To operationalize the model, Guidewire Predictive Analytics creates an API to score claims. ClaimCenter then uses HTTPClient to call a REST service published in Amazon Web Services. Configuration tools define the scheduled times and/or triggering events that initiate these calls. Where necessary, UI screens are created or revised to display model results properly (see "Functional Design"). All processes are designed to safeguard ClaimCenter's performance.

Solution Delivery and Value Realization

Leveraging Guidewire Predictive Analytics, the Claims Severity Escalation solution can be delivered in a relatively short time period with the following high-level delivery phases:

- Inception workshop (1–2 days)
- Data acquisition and preparation, followed by model building (1–2 months)
- Core system integration and implementation (1–2 months)

Guidewire can provide customers with consulting services to handle each of these phases, typically requiring only a few hundred hours of work. Customers can also use Guidewire software products independently and self-sufficiently, leverage one of our implementation partners, or use any combination of approaches.

In addition, customers have the option to leverage Guidewire Professional Services to help identify key performance indicators (KPIs) to measure the business benefit and validate ROI. Because predictive models can grow outdated as external business conditions and internal claim processes continue to change, Guidewire can also provide a complete lifecycle service that includes an annual model refresh to review and optimize model performance and then promptly deploy the revised model into production.

Guidewire is the platform P&C insurers trust to engage, innovate, and grow efficiently. We combine digital, core, analytics, and AI to deliver our platform as a cloud service. More than 380 insurers, from new ventures to the largest and most complex in the world, run on Guidewire. For more information, contact us at info@guidewire.com.



Navigate what's next.