School: ATEC – Technology Essentials
Course: Technology in Claims Modeling and Governance (Module 3)
Faculty: Deborah Watkins, Founder & Chief Disruption Officer, Care Bridge International

Summary

The course "Technology in Claims Modeling and Governance," taught by Deborah Watkins of Care Bridge International, provides a detailed exploration of how technology, particularly predictive analytics and automation, can be leveraged to improve claims management processes. This course is aimed at professionals in the workers' compensation industry, offering insights into how technological advancements can enhance efficiency, accuracy, and overall governance in claims handling.

Introduction to Predictive Analytics and Claims Modeling: Deborah Watkins begins by discussing the role of predictive analytics in claims modeling. She emphasizes that traditional methods of forecasting medical care in claims often result in inconsistent outcomes due to the variability of human judgment. To address this issue, Care Bridge International developed a machine learning model capable of analyzing large datasets to predict future medical costs and treatment patterns with high accuracy. Watkins explains that this approach not only increases the consistency and accuracy of predictions but also significantly reduces the time required to process claims, providing a faster, more efficient service to clients.

The Balance Between Data Science and Domain Expertise: Watkins underscores the importance of integrating domain expertise with data science in claims modeling. While machine learning models can identify patterns and predict outcomes based on historical data, the involvement of professionals with clinical and claims expertise is crucial, especially in handling complex cases such as catastrophic injuries. This hybrid approach ensures that the models are not only accurate but also relevant to the specific needs of the claims being managed. Watkins also highlights the significance of ongoing validation through actuarial reviews to ensure that the models remain reliable and effective.

Data Management and Cleaning: A critical component of successful claims modeling, according to Watkins, is data management. She describes the process of data cleaning, which involves organizing and correcting data to ensure it is accurate and usable for predictive modeling. This step is essential because incomplete or incorrect data can lead to inaccurate predictions, which could negatively impact the outcomes of claims. Watkins provides practical examples of how unstructured data, such as medical records or social media content, can be processed and integrated into predictive models to enhance their accuracy.

Automation in Claims Processing: Watkins also delves into the role of automation in claims management. She explains that automation can streamline repetitive tasks, such as bill review and utilization review, by leveraging AI and machine learning. For instance, Care Bridge International can automate bill reviews, completing them in as little as 90 seconds, compared to the days it might take using traditional methods. This level of efficiency not only saves time but also reduces costs and improves the overall experience for both the claims professionals and the injured workers.

Governance and Quality Assurance: The course concludes with a discussion on governance and quality assurance in the context of claims modeling. Watkins stresses the importance of having a formal framework for data governance, which includes ensuring that all processes comply with regulatory standards and are conducted ethically. She also highlights the necessity of rigorous testing and validation of models before deployment, involving end-users in the testing process to ensure the final product meets their needs and expectations.

Conclusion: In summary, Watkins presents a compelling case for the integration of advanced technology in claims modeling and governance. By combining predictive analytics, automation, and domain expertise, organizations can enhance the accuracy, efficiency, and reliability of their claims management processes. This not only leads to better outcomes for injured workers but also helps organizations meet the increasing demands for speed and accuracy in the workers' compensation industry.

Learning Objectives
1. Understand the fundamental concepts of predictive analytics and its application in claims modeling.
2. Learn how to identify and address common data challenges in claims modeling, including data cleaning and structuring.
3. Explore the use of machine learning and AI in creating predictive models for medical care forecasting and claims settlement.
4. Gain insights into the importance of stakeholder involvement and domain knowledge in developing accurate and effective claims models.
5. Assess the role of automation in enhancing claims processing efficiency and the overall governance of data-driven decisions.

Primary Takeaways
1. Predictive analytics, when combined with domain expertise, can significantly improve the accuracy and speed of medical care forecasting in claims management.

This document is the property of
Workers' Compensation Educational Services, LLC
and cannot be reproduced or distributed without authorization.

2. Data cleaning and structuring are critical steps in developing reliable predictive models, as messy or incomplete data can lead to inaccurate results.
3. Machine learning and AI are powerful tools for automating routine tasks in claims management, such as bill review and utilization review, drastically reducing processing times.
4. Effective claims modeling requires a balanced approach that integrates technology with human expertise, ensuring that the models are both accurate and practical.
5. Automation in claims processing can enhance efficiency and reduce costs, but it must be carefully implemented to maintain compliance and data security.

Course Outline

1) Introduction to Claims Modeling and Predictive Analytics
    a) Overview of Predictive Analytics
        i) Definition and importance in claims management.
        ii) The role of data science in predicting medical care outcomes.
    b) Identifying and Defining Problems
        i) The importance of clear problem identification.
        ii) Mapping current workflows and understanding the current state.

2) Data Management in Claims Modeling
    a) Data Collection and Structuring
        i) Difference between structured and unstructured data.
        ii) Methods for collecting and cleaning data for modeling.
    b) Handling Data Gaps
        i) Identifying missing data points and addressing them.
        ii) Examples of common data gaps in claims management.

3) Building and Testing Predictive Models
    a) Agile Development in Claims Modeling
        i) The process of iterative testing and model improvement.
        ii) Importance of stakeholder involvement in model development.
    b) Evaluating Model Performance
        i) Measures of success for predictive models.
        ii) The role of actuary reviews and quality assurance in validating models.

4) Automation and Governance in Claims Processing
    a) Role of Automation in Claims Management
        i) Examples of automation in bill review and utilization review.

      ii) Benefits of automating routine tasks in claims processing.

  b) Governance and Compliance

      i) Ensuring data security and regulatory compliance.

      ii) The importance of maintaining a formal data governance framework.

NOTE: Artificial Intelligence was used in the creation of this document.