**RESEARCH SUMMARY REPORT**

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**Challenges faced by Workers’ Claims Management:**

According to Occupational Safety and Health Administration (OSHA), a lot of money is spent on workers’ health compensation program. Data Analytics pertained to this field of interest have revealed that many minuscule patterns and predictive data are being overlooked which could benefit the claims management system. One common challenge involved is to prevent small injuries from becoming a big claim. *BenefitsPro* points out that “strains and sprains of backs, necks and joints” amount to only 8% of injuries, but account for 80-90% of the costs in the system. Although these types of injuries generally only require one or two visits to a doctor, if they occur frequently and are not addressed, they can turn into a larger health problem for the worker which in turn becomes a bigger claim down the road. Another issue is improper coverages for perennial diseases like cancer. Certain workplaces involve exposure to hazardous substances that could cause cancer but it can take years after the exposure for these diseases to manifest themselves. Most coverages only account for certain defined diseases and, in some cases the coverage period is less than the manifestation period for the disease. Finally, many organisations lack a well-structured and productive data analytics team.

**Possible Solutions:**

Currently a “compromised” treatment is used for the above mention small scale injuries with the hope of cutting cost. It is not a right way to go as it may not necessary solve the problem and can result in injury/illness aggravation thereby resulting in more visits and increased costs. Instead, use of skilled doctors and the right amount of treatment could be beneficial for the medical personnel, the claims company involved and the worker. It is also important to constantly review the system data to ensure that claims are being processed both safely and efficiently. Periodic reviews will also help you identify any problematic patterns and trends related to the business, which will allow you to take specific action to reduce those deficiencies. If insurance professionals could spot exploding claims they would have a chance to intervene and control costs. This brings us to our next challenge, lack of a productive Data Analytics team.

An effective Workers Compensation Management System begins with the right set of personnel ready to handle each claim thoroughly from start to finish. A “team approach” is the best way to handle workers compensation claims and is more beneficial when the employer in claims management is given the most comprehensive control over each claim. The right team should include the following people for claims: claims coordinator, claims consultant, HR, Risk manager, Safety director.  it is especially important to find a knowledgeable insurance agent who can guide you with the associated insurance policies.

Here is a proposed modus operandi for a Claims Management team:

* Identify the claims.
* Assign the claim to a more experienced adjuster.
* Increase the level of managerial review.
* Direct the case to a nurse case manager.
* Retain the best lawyer available.
* Engage a medical professional to help make treatment changes.
* Use a team approach to defend the claim.

The outcome would ensure that claims with high-potential exposure are first recognized and are placed with the right people to drive the best outcome because in reality these high-dollar claims have a grossly disproportionate impact on overall results.

**Necessity for Big Data in Claims Management:**

With large caseloads and numerous issues to contend with each day, adjusters can’t possibly spot every claim that could spiral out of control. Predictive analytics and the use of data are essential tools to help adjusters ensure that these suspicious claims don’t fall between the cracks. Among its many functions, analytics can be used for adjuster assignment, subrogation, litigation management, settlement evaluation, frequency and severity prediction, fraud detection, anomaly detection and prioritization. The ability to effectively implement predictive modelling throughout all operations will increasingly differentiate a company’s performance from its competitors, and the level of differentiation will only increase as they continue to advance their predictive modelling initiatives. It’s imperative that any predictive analytics can be designed to reduce the adjuster’s workload, use data feeds to eliminate manual entry, provide simple and actionable outcomes, and use internal and external data that combines with active and experiential claims data to provide clients a stronger model based on industry experience, marketplace conditions, and customer behaviour.

Another major player constituting for the use of Big data analytics is risk. Insurance is about making decisions on risks either to assume a risk or at what price and matching human and financial resources to the expected outcomes. Financial success in workers’ compensation insurance is a function of properly pricing the risk on the front while efficiently managing the claims at the back. Predictive analytics have gone further to the level of predicting claims even before they occur. This is enabled by analysing large sets of data in both structured and unstructured formats, a capability that only recently has emerged.

**Common usage of Big Data Predictive Analysis Models:**

An important way to make Big Data more than a catchphrase is to apply analytics to the problem of high reliance on opioid drugs. This can curtail unnecessary drug prescriptions and their sometimes-tragic consequences. The right data can show whether a claimant is prone to overdose or a heightened risk of becoming addicted.

Behaviour identification is another area in which predictive analytics is playing a role in the workers’ compensation setting. Some corporate risk managers are implementing integrity testing, a form of employment test that gauges an individual’s honesty, trustworthiness, and other social behaviours. Having established that early reporting of injuries minimizes the impact of a worker’s compensation claim on an organization, the employer must encourage and practice effective communication to meet this goal.

Modified duty offered in accordance with the physician-determined work restrictions will typically result in a more engaged worker, a shorter claim duration, and lower claim costs. There have been instances where companies had initial claims reserves less than $10,000 but had settled for more than $50,000. Feeding these claims into predictive modelling software, claims analysts identified thirty predictive variables that significantly contributed to such undesirable outcomes. The model scored all new claims with reserves less than $10,000, resulting in a thirty per cent increase in identifying ‘jumper claims’ earlier.

**Business Reasons for the usage of Analytical Tools:**

1. The new tools provide a means to more efficiently evaluate the multi-faceted characteristics of workers' compensation claims 30, 60, 180, 360, or any number of days after the date of the accident.
2. The segmentation process provides an efficient means to triage claims, where the most seasoned adjusters and medical case managers can be assigned to claims identified as high-cost claims.
3. The analytical process makes it easier to identify outliers, and particularly outliers that may not necessarily have extraordinary costs but are outliers when compared to other claims with similar characteristics.
4. The claim segmentation results may identify circumstances where a business process might be changed to lower claim costs.

**Utilization of external data in Big Data Analytics:**

The proliferation of third-party data sources is reducing insurers’ dependence on internal data. Digital “data exhaust” from social media and multimedia, smartphones, computers, and other consumer and industrial devices have become a rich source for customer behavioural insights. With much better access to third-party data from a wide variety of sources, insurers can pose new questions and understand better the many different types of risks. New data can now be captured, enabling new ways to segment claims into different claim-cost groups. Demographic characteristics include the injured body part and the nature of the injury, the timeliness of reporting the injury, and the presence of an attorney, as well as the age, sex, and marital status of the injured worker. They can also help answer questions like:

* Which combination of geodemographic factors and treatment options will have the biggest impact on the life expectancies of people with Parkinson’s disease?
* Which combination of corporate behaviours in health and safety management is predictive of lower worker-compensation claims?
* What is the probability that, within a given geographic radius, a person will die from a car accident or lose his or her house in a flood?