Evolving Claims Management in an Era of Big Data.

Maria Vandenhurk, B.Sc., O.T, MTC, RRP - Chief Executive Officer, Banyan Work Health Solutions Inc.
Joanne Johnson, MSC, BSC, RRP, Vice President, Banyan Work Health Solutions Inc.
Gillian Blair, BA, CVP, RRP, Vice President, Banyan Work Health Solutions Inc.

Preferred Disability Management (DM) providers of the future will manage cases using technology platforms that change traditional understanding of claims patterns and service level clustering into more advanced models using sophisticated analysis and prediction of probability, driving optimized handling and superior outcomes. Overall, the field of Disability Management faces unprecedented challenges in today's competitive landscape: rising claim volumes, budgetary and resource constraints, and increasing demands for better tools, processes, and technology platforms. Organizations specializing in disability claims operations are actively seeking opportunities for financial gain through significant administrative efficiency, increased productivity, and optimized performance, while improving customer service and overall stakeholder experience. Furthermore, these organizations face moral and ethical challenges to more effectively manage disability claims in order to mitigate not only the negative economic impacts but the unwanted human outcomes associated with medically unnecessary time away from work.

Current research literature and industry best practice establishes that early intervention and prevention are key to mitigating these challenges. This involves deliberate and focused involvement on the part of management in advance of an employee claim as immediately as possible [1, 5, 7]. Early "upstream" involvement in the DM process can decrease claims duration and minimize work absences, resulting in significant savings for the organization [5, 7, 13], which may include reducing costs such as paying replacement workers, lost productivity, and higher disability insurance premiums.

What is often overlooked with significant volumes of claims is the detrimental impact associated with extended time away from work on the health of the individual employee. Dr. Gordon Waddell (2007) from the Centre for Psychosocial and Disability Research at Cardiff University aptly states: "Long term worklessness is one of the greatest risks to health in our society. It is more dangerous than the most dangerous jobs in the construction industry, or working on an oil rig in the North Sea… too often we not only fail to protect our patients from long term worklessness, we sometimes actually push them into it." [14] Waddell & Burton (2006) further state: "Worklessness is associated with poorer physical and mental health and well-being."[13]. Conversely, resuming work in a timely manner promotes recovery, leading to better health

outcomes and improved quality of life [13]. The oft-overlooked maxim that "Work is Healthy" provides a compelling imperative for effective, expedited disability management, which impacts positively not only on the health and well-being of the worker, but can result in economic and business gains in the workplace.

Achieving desirable outcomes in the DM process – as well as improved timing for active intervention – necessitates a new approach beyond the more traditional "one-size-fits-all" approach to case management [Busse, 2011]. Implementing effective and appropriate intervention at the ideal time on a file is crucial [12]. We are fortunate to live in an age where access to massive amounts of aggregate information – "Big Data" for health, rehabilitation, and claims – can be effectively leveraged to assist in directing the type of case management approach warranted for different and disparate files. This can include identifying those cases that require more comprehensive or holistic care and handling [8, 6], which are also cases that represent a disproportionate amount of the overall cost of a DM operation.

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The Case for Advanced Segmentation.

Advanced segmentation of cases, driven by predictive modeling and analysis sourced from Big Data, is poised to revolutionize disability claims management by effectively expediting and streamlining DM processes and functions. While Case Segmentation (or "clustering") is not a new phenomenon in the DM world, there is a growing realization that Big Data can form the foundation of a DM model that moves beyond the traditional understanding of claims patterns. This can lead to significantly increased operational efficiency, improved experience for all stakeholders involved, and better outcomes overall [10]. Ready access to large quantities of health and disability information and the ability to perform modelling and analysis is critical to realizing such outcomes [8], as these can ensure that specific variables are exposed as key factors within each disability claim; this provides an objective rationale for segmenting cases, as opposed to an arbitrary (and far less accurate) manual categorization of files that is traditionally employed by case managers. A system of segmenting claims supported by relevant data, based primarily predictive modeling and analysis, can bring precision and organization on a broad, organization-wide basis; this can further be refined by personal, human-based handling to ensure that each specific file is matched with the optimal DM approach and accompanying specialized services.

To fully benefit from the value of Big Data, it is necessary to first identify key sources of data to be analyzed, and verify that the selected sources will maximize the practical application of the information gathered. In regards to case segmentation, claims need to be appropriately sorted based on case management needs. Common examples of relevant data sources for segmentation include: claims system data and demographics (age, gender, diagnosis, salary, benefit, occupation), data found by text mining important documents (claims application form,

attending physician statements, performance reviews), and prescription drug history (see Figure 1). Effective access to Big Data also hinges on the organization making the appropriate commitment to the necessary information technology – advanced technology platforms and case management software that designates and maps criteria such as skills and expertise to file complexity – which is absolutely critical in quickly and accurately yielding the necessary measures and data points to develop and drive the model.

To date, the organizational commitment to evolve technology that can support the necessary access to Big Data is lagging the claims industry. RGA (2011) surveyed 120 companies with health and life claims operations and discovered that there is a long way to go before existing and projected claims technology will be able to achieve the outcomes desired, and that for many systems already implemented "there are universal shortfalls in current claims technology" [8]. It is here that the pull of Big Data to specifically to achieve the appropriate segmentation of claims will become essential to DM operations looking to optimize processes and improve experiences moving forward; indeed, the industry eventually will become reliant on the required tools and technology to leverage Big Data to meet their economic and business goals across all operations.

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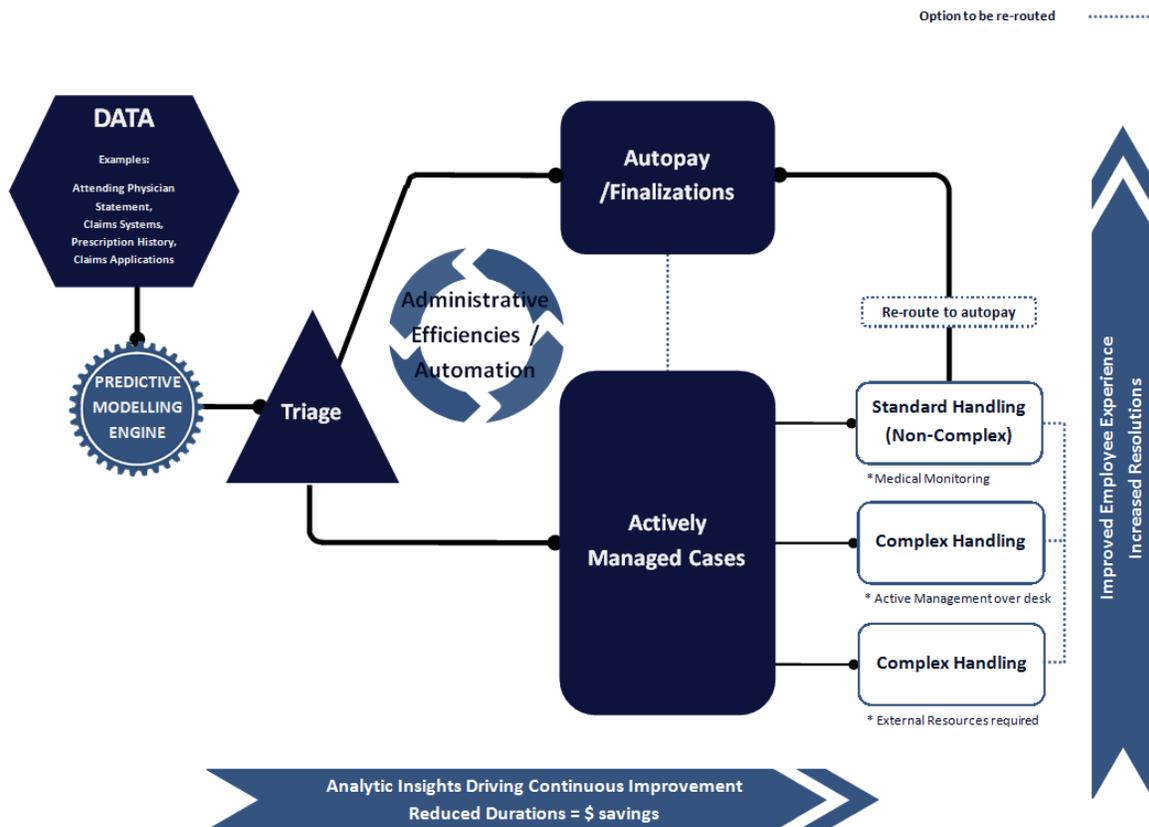

Figure 1: Segmentation Model

An advanced case segmentation approach works in the following way: as per Figure 1, information obtained using predictive analytics can form the basis of an automated "case triage," leading to workflows in differentiated case handling that align the human talent (i.e. case management and expertise and skills) required, as well as the extent of financial investment made at the case level.

Simple "Low-Touch", Active Management, and Complex Claims.

In reviewing the texture of large blocks of claims, three broad categories of claims emerge with distinctive attributes – each necessitating a unique case management approach involving different skill sets:

- For simple or "low-touch" claims, a one-off automated payment / processing service – accompanied by a brief, targeted customer service call (as required) is ideal. This brief and administrative-oriented intervention approach removes unnecessary handling costs when the recovery and return to work timeline is easily predictable and typically short in duration; or, on the other end of the spectrum, if the timeline is very long term and payment is anticipated to be required to the end of the claim period. In these cases, direct case management interaction is not required, although further customer service efforts may establish a more suitable focus. There is enormous value in removing a cumbersome and frustrating experience for the employee who is submitting a claim, specifically by early identification that the claim needs to proceed to payment, and by issuing that payment in a timely manner; all of this can occur without unnecessary steps or requests that stem from a more mechanized process geared for the worst case scenario.

- A second workflow could be formed for straightforward, acute injuries or illnesses that feature predictable recovery timeframes and minimal functional impact; these cases are differentiated from the more complex cases requiring "high-touch" intervention [12]. For claims characterized by some lost time and health / rehabilitative issues that need a certain level of management but also have a predictable timeline for returning to work, some basic case management and/or adjudication involvement is required to supplement basic handling processes. For the most part, case management for this type of claim would be accomplished from the case manager's desk with appropriate monitoring and maintenance of stakeholder communications. In this workflow, appropriate resources can be deployed to ensure timely management and adequate communication, which ensures a good overall experience for the employee.

- A third category of claims constitute the most financial risk in that they are responsible for a disproportionate amount of the overall claim spend [2]. These claims are generally referred to as "complex" or "high-touch". The use of predictive modeling and analysis rooted in Big Data can earmark those claims for specific factors that influence health status, such as extended work absence, non-medical influencing factors, and/or the need for more extensive intervention to facilitate resolution. Complex claims demand a highly-specialized approach to case management [13]; these cases require comprehensive handling that notably involves a "holistic case management" approach [9, 11] where there is a focus on early identification and management of the variables that pose a barrier to recovery and early return to work. This approach addresses these variables by involving innovative, customized and timely DM solutions [12] that can include a specialized set of tools, processes, and technologies that directly address or remedy the barriers. Such an approach is essential to ensuring proactive and expedited and management of the claims that pose the greatest risk for both for financial outlay (e.g. duration of claim) and employee loss (e.g. negative health impact of work absence)[13].

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Classification flexibility – coupled with the ability to move claims between these handling categories – is required to fully realize the benefits of a specialized case management approach. For example, claims handled with a fully-automated workflow determined at the triage level may indeed develop characteristics that demand a multi-faceted and holistic approach as required by a more complex file; as such, mechanisms to quickly identify and re-direct such cases to the appropriate type of handling are essential to ensure DM outcomes are maximized, even as the features of the claim evolve. Similarly, for those files identified at the outset suited to more comprehensive case management may resolve more quickly than anticipated, which would require options to re-route the file to the administrative, automated handling workflow. In these examples, implementation and case management software with advanced classification features can support this requirement.

In addition to determining claims characteristics and directing case management approach via segmentation, predictive modeling and analysis via Big Data can be applied to identify best practices for case management, treatment, and rehabilitation, thus maximizing the effectiveness for implementation of various interventions [6]. For example, the impact of specialized psychological services such as cognitive behavioural therapy may vary in outcome depending on the timing of service provision as it coincides with other treatment modalities (e.g. pharmacological). Interpreting outcome information driven by Big Data, the intervention may be directed at a time when it stands to be of most benefit to the employee [4]. This maximizes efficiency in terms of treatment and mitigates DM operational costs, while increasing likelihood of better gains for the individual employee, and overall positive outcomes for the organization as a whole.

Conclusion.

Moving forward, having access to sources of Big Data, along with predictive modeling and analysis to determine the right health and DM variables, supported by the right information technology will be critical to an effective claims operation. Advanced segmentation that relies in large measure on analytics and technology to match files with particular characteristics to the optimal case management approach will form the bedrock for a solid claims operation. By enacting workflows that automate the processing of simple claims, ensuring adjudicative and other basic issues are dealt with via monitoring of standard claims handling process, and taking an overall holistic and specialized-services approach to complex files, organizations can achieve a new level of efficiency with improved outcomes and a better experience for all stakeholders involved. Customized technological capabilities embedded with predictive analytics are will undoubtedly become critical for claims operations seeking to meet the challenges of today's resource-constrained DM environments.

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About Banyan.

Banyan Work Health Solutions Inc. ("Banyan") is a recognized thought leader and solutions provider within the Canadian landscape of absence and disability management.

Founded in 1995, Banyan's business approach is based on an uncommon philosophy: Work is Healthy. We follow a holistic approach to case management that augments traditional medical recovery with an emphasis on functional capability, reasonable accommodation and enhanced communication.

Our vision is to challenge industry norms, drive technological change and enable breakthrough opportunities for industry, governments and insurers, nationally and internationally. Our mission is to inform and transform the workplace into one that optimizes the performance of people while reducing costs and enhancing the bottom line. Our philosophy is built upon experience, results and understanding that "Ability" not "Disability" is the essence of recovery and return to work. We invite you to join us on the path of innovation and continuous improvement.