

## Technology and Forward Thinking

By Evan Dumas

How many of us have a Smartphone or a GPS? How many of us utilize the internet in some capacity on a daily basis? These technological innovations have dramatically changed the way we live, the way we interact, the way we socialize, the way we conduct business and even the way we think. Geographical boundaries are no longer restricting the flow of information, rapidly giving way to the electronic blitzkrieg of global communication. People and systems are connected in ways and numbers like never before. There is one omnipresent commonality in each of these new connections: **Data**. Whether we're thinking of text or images, movies, or even pure binary or hexadecimal code: rest assured that something, somewhere, can read, interpret, and display it. That being said, if data can be read, then it can be analyzed.

Within the next few years, we can expect exponential advances upon the innovations of the last decade. How do we prepare for this? While it is nearly impossible to be ahead of the curve, we CAN attempt to keep up with these advances by embracing the technology available to us and cultivating a more forward thinking approach when it comes to the analysis of medical claim data. To accomplish this, we need to think outside the box, or "take the blinders off", so to speak.

There are developers out there in other fields that have already embraced the tenet of forward thinking; the web/software developers, the game designers, among others. These technophiles have created a series of input/output, data crunching, logic constructs known as *engines*. Metaphorically, there could not be a more proper term as it relates to the way WE evaluate data. The increased utilization of these engines will no doubt be the driving force in the way we will come to analyze claim data.

One of the most important engines in regard to data analysis is also the most commonly used. A *Search Engine* is a system designed to retrieve information stored on a computer system or network. It provides the user with an interface that enables them to specify search criteria and even the desired output or display settings. Web Search Engines are the most widely used form of search engine today. They have become embedded in our culture, constantly searching for information on the internet and displaying the results for our clicking pleasure. Don't believe me? "Google" it!

The methodology among search engines may vary, but text based syntax is typically utilized. This set of search parameters is known as a *query*. However, these queries do not necessarily have to be typed out to ensure the proper result. Alternatively, the use of GUI (*graphic user interface*) software can allow for these queries to be set by the combined use of text fields and drop-down menus, or even simply by clicking on selected parameters. The engine will then find items of interest algorithmically based on similarity and relevance, as dictated by the search query itself. Additionally, Boolean logic can be utilized to ensure specific search results. The operators "AND", "OR", "+", "-", among others, can be used alone or in combination to display search results that

match the desired output. Each of these methods allows the user to concentrate on data that may have a higher priority, and prevent *Information Overload*.

For our purposes, the search engine works in tandem with *Databases*, *Data Warehouses* and *Software Engines*. These engines are the essence of a computer program or set of programs. They usually operate within multiple platforms; such as Operating Systems, programming languages, software, applications, GUI and even the hardware architecture itself. Logic and algorithmic programs make use of this data, based on the parameters set forth by the user.

Statisticians have been using these programs for years, capturing and assessing data in a multitude of diverse job fields. Government agencies and news organizations utilize statisticians on a day to day basis. When you hear sports broadcasters rattle off player or team stats and how they relate to the game at hand, it is a statistician that provides them with this information. In comparison, anyone who analyzes and evaluates claim data should have a mindset akin to that of a statistician. If enough statistics are calculated and collected, patterns begin to emerge.

The proper analysis of these patterns can have a profound impact on the modus operandi, ideology and even the business model of a company. If the patterns show that certain data is valuable or that other data is essentially useless, it becomes possible to further refine the analytical process. In our case, demographics play an important role in the evaluation of medical data. Without giving away trade secrets, we can make certain assumptions on data based on key demographics such as age, location, etc... However, it is the data buried deeper in a claim set that provides the most telling information. We need to be able to cater our data set to suit our specific needs.

With The Phia System™, the optimization of a data set is a cumulative process. The elimination of unnecessary data is achieved with a “filter” mentality. Large amounts of data are whittled down and filtered out to produce an end result that reflects any client-specific thresholds or criteria. Pertinent data may exist under multiple headers (categories) and throughout these varying criteria. If arbitrary claim data can be easily eliminated from a data set under certain criteria, it is no longer necessary to analyze it under others. For instance, if we are catering our data set to exclude younger claimants, and to exclude physical therapy claims, we will not have to analyze both the Date of Birth and ICD headers for this redundant information. If a young claimant has been removed from our data set, then that claimant’s corresponding physical therapy claims will no longer be present for us to waste time reviewing. Once again, the focus remains on relevant data.

In addition to the analysis and optimization of claim sets, The Phia System™ also allows us to create custom reports. These reports can be incredibly useful to our clients, providing a multitude of valuable records and statistics. Using our software, similar claims can be grouped and dollar amounts can be aggregated together to reveal the potential value of a particular incident or set of treatments. This enables our clients to see the results of our analysis in varying degrees of detail, and allows them to provide any necessary feedback, ensuring that all parties are on the same page in regard to the

recovery process. This exchange of information also allows us to identify trends *as* they are forming. We can compare our historical reports to those that were recently created, and judge whether any augmentation is necessary to our process.

At The Phia Group, it is a combination of resources that makes this all possible. Software and logic routines work in tandem with their human counterparts, the Data Analysts. It is an analyst's responsibility to recognize any patterns that may be unique to a particular data set and act accordingly. The user interface of any claim analysis software is a key element in achieving this goal. The Phia System™ enables our analysts to quickly and efficiently alter a data set in response to specific trends and information. Until computer systems start thinking for themselves, it is up to us to make these decisions, whether planned for or on-the-fly. While medical data may be a 1's and 0's representation of a person's well-being, the analysis of this data is hardly so "black and white". Logic routines do not have the ability to make judgment calls, software can't always decide on the best possible course of action. All the programming in the world cannot plan for every eventuality or scenario. It can however, make it easier for us to reach these decisions.

Buried deep within a claim set, there are tales just waiting to be told. The right software can identify and group similar claims for further review. The Phia System™ allows us to do just that. Based on this collection of grouped claims, we can begin to piece together the different elements of these tales. For example, based on Provider data alone, we can come to some conclusions as to what may have transpired in a certain member's history. We can make the reasonable assumption that some providers have a greater likelihood of "providing" services that are more indicative of incidents with potential third party liability. At Phia, we categorically define provider types and set a priority level for each. This allows us to shift our focus to providers such as ambulance or Med-Flight companies. In addition, there are a multitude of conditional indicators that signify a person's proclivity for certain injuries or ailments. Knowing this, we can use the logic process to treat claims that contain these indicators differently than those that do not. Extreme conditions such as End Stage Renal Disease and Cancer often have associated treatments that are unique to the condition. These treatments may weaken the body nearly as much as the affliction itself. Radiation and Chemotherapy can lead to additional health issues that may have not been directly attributed to a particular cancer. We can use logic to identify not only the presence of these conditions, but also the corresponding medications or services generally associated with the treatments of them.

Again, we can refine our logic process to accommodate this information and focus on data that is of a higher priority based on these factors, thus providing a tailored end result. This level of customization makes it possible to identify potential accidents based solely on the claim data itself, thereby increasing the probability of recovery, which is really what this is all about...

All this talk of data analysis is fine and good, but how does it REALLY relate to how we affect the industry as a whole? Specialization is made possible through technological innovation and the ability to use the technology in productive ways. It is this

combination of elements that gives The Phia Group a competitive advantage. Our proprietary software, coupled with our dedicated team of full-time analysts, allow us to provide a level of service unmatched in the industry. You can be assured that any data that has been reviewed by The Phia Group, has gone through a rigorous process of analysis and optimization. In addition to our review of claim data, we also check our clients' systems, proprietary or otherwise, for any information or details that may already have been identified. In fact, our team is proficient in all leading Claim Management Systems. For all "homegrown" systems, our teams of claim administrators and analysts are trained on the unique functionality of each. This allows us to provide the same level of service to all our clients. Along with our internal process of checks and balances, ensuring that no work is duplicated, we pride ourselves on our level of communication. The Phia Group understands that communication is an important factor in any business relationship. Our Client Liaisons work directly with key personnel and convey information back and forth, to and from our clients.

What does the future hold? Through the use of technology, we can adapt our current processes to allow more in-depth trend analyses, and we will be able to provide our clients with even more telling statistics and trends. For instance, we can track member or group medical history. We will be able to determine if the frequency of provider visits has increased or decreased over time. We can determine the ratio of office visits to specialists, surgery to lab work, etc. Armed with this information, companies can rework their procedures and rewrite their plan documents to reflect these trends.

Pharmacy data that is stored in our Data Warehouse can be analyzed to identify key demographics. It can tell us what individuals or families visit which pharmacies, for which medications. We will be able to determine what plans these individuals have and how excluded or generic medications affect their prescription purchases. Pharmacies and other healthcare providers could use this information for advertising purposes or future business opportunities. Pharmaceutical companies can use this data to decide when and where to distribute their free samples to providers. Fewer dollars spent on advertising, stocking, and site scouting will allow these providers to keep their costs down, potentially charging insurance carriers less for their products and services.

In an increasingly paperless world, we can foresee that plan members under certain policies may be given access to Web-based e-mail or medical mailboxes, where they can review ALL their medical information in one place, including medical records. With the utilization of laptops and internet capable Smartphones, patients can have access to their records on-the-go. Applications can be built to display and forward pertinent medical information such as emergency contacts, allergies and PcP information to hospitals or other providers.

Knowing that internet connectivity is ever increasing, we can work with our clients to implement a purely electronic questionnaire system, thereby eliminating the need for paper and postage. Accident questionnaires and EOBs (Explanation of Benefits) can be e-mailed directly to the intended recipient. This will not only lessen the burden on mailrooms across the country, but HIPAA compliance can be more easily regulated and

monitored through the use of password protected access. Until that time arrives, we can continue to keep costs down by optimizing data sets before questionnaires are mailed. Rather than send a questionnaire to every member that has a certain ICD code in their claim history, our preliminary analysis of the data ensures that a “quality over quantity” approach is utilized. This not only cuts down on the cost of postage, but improves member relations as well. By “going green” and keeping costs down, companies will find that the “green” that we’re talking about, is in the form of plan dollars that can be reallocated into their group funds.

Looking to the future, The Phia Group is in Pre-Development of a Claim Modeling Application. This will enable us to catalog and track viable cases, identify key components of the associated claims, and build a claim model to then compare to our database. We will be able to identify certain claim scenarios that were similar to previously viable cases. For instance, if we see that a member shows a certain treatment frequency, or treats at his PcP, a specialist and then a subsequent rehab facility, we can build a claim model of these associated treatments and see if other members’ claims show similar characteristics. Again, the appropriate use of technology allows for faster identification of third party liability and subsequent recoveries.

The more sophisticated that technology becomes, the easier it is to plan for, and react to changing environments. I’m sure we all remember the paranoia surrounding Y2K. This predicament was a double-sided coin. The lack of forward thinking on the part of developers from previous decades, allowed them to overlook a simple date issue. To save space and processing power for older technologies, a 4 digit year was abbreviated to only the 2 digit representation of that year. 1998 would simply have been x98. Upon the rollover from 1999 to 2000, it was predicted that a catastrophic failure might occur in long-running computer systems such as Flight control/avionics, banking systems and databases across the world. As we know, there was no major failure associated with the turn of the millennium, but that didn’t stop people from offering products or services designed to capitalize on the paranoia. It was however, the forward thinkers of the time that both identified the problem and actively worked to correct it on a massive scale. However, it is unknown whether the absence of catastrophic system failure was the result of these actions or whether the impact of the problem had been vastly overstated. This shows us that while there is no roadmap for technological development in the coming decade or so, forward thinkers can make sure we stay ON the road, more-or-less ahead of the curve and at a somewhat deliberate pace.

Our driving metaphor is now fully taking shape. In this case, software will serve as our vehicles. Within these vehicles lie the engines, fed by fuel in the form of high octane, optimized claim data. Data analysts will be our operators behind the wheel and IT personnel will serve as our mechanics, maintaining these various components. If recovery serves as our destination, it becomes the responsibility of forward thinkers to serve as the GPS navigation, guiding everything toward our goals. In this era of exponential innovation, we must breed a culture of multidimensional leadership and implement a management strategy to reflect this ideology.

The proper use of technology allows companies to utilize their employees more effectively. If we can further refine our process to allow for faster identification of recovery potential and a faster and more accurate exchange of information, companies can focus more on the recovery process itself.

More recoveries, more often, bring us closer to our ultimate goal of curtailing the rising cost of healthcare through the reimbursement and proper allocation of funds. If we can cultivate the embrace of new technology, encourage forward thinking, and streamline our efforts to eliminate waste, inefficiency will give way to proficiency. Status quo will give way to status *pro*, and the individuals that subscribe to this school of thought will find that their passion for technology is mirrored by their *Passion for Subro*.