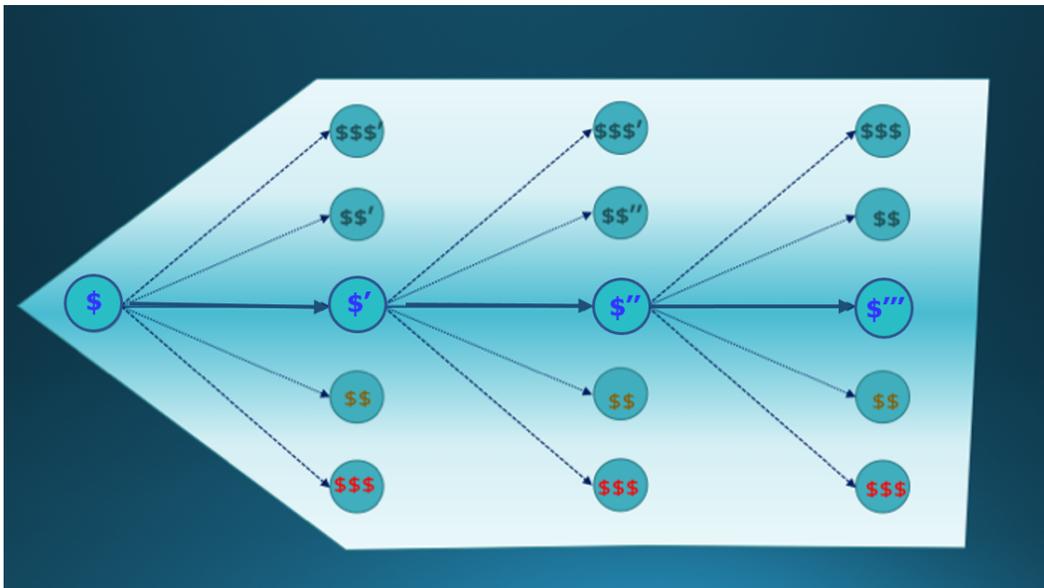


If Google has access to the location data collected by your smartphone, then you are part of Google’s crowdsourced operation to improve and expand Maps. Your location data can be used for things like real-time traffic updates, estimated current traffic speeds, and pinpointing road detours. Google Maps is able to identify diversions and delays and will adjust directions accordingly.

Similar to how Google Maps looks at the network of roadways and all the paths that can get the individual from point A to point B in order to choose the quickest path, DZee creates a network of pathways showing how a person may consume healthcare services in the future in response to their health status and evolving care needs. Whereas Google Maps’ goal is to find the quickest travel route, by understanding the possible delays on the way, the goal for Healthcare is to understand the need for the type and level of services that will be needed in the future and translate them into expenses. The result is we can capture the person’s health status and care needs as they change over time.

Using Big Data resources, DZee Solutions analyzes the paths individuals pursue and the expenses they incur by looking at the larger healthcare claims histories of comparable populations over long periods of time. As a result, we get the trajectories and probabilistic paths a person may pursue which looks somewhat like this...



**Exhibit 2: Using Big Data, DZee Simulates the Expense Paths Chosen by Larger Populations Over Time**



on the results of the simulations (for example, DZee recommends the most appropriate healthcare insurance plans for companies and employees). A typical Monte Carlo conducts thousands, or potentially even millions of trials to simulate and calculate outcomes using different randomly-selected variables. The more trials undertaken; the greater the mathematical integrity and confidence in the result. The completed simulation yields a large results pool. These results are used to describe the likelihood, or probability of reaching various results in the system.

The “system” DZee is modeling and predicting is... ***the healthcare domain in which patients consume healthcare services, accumulate chargeable expenses, and utilize healthcare insurance & savings plans.*** In a Monte Carlo simulation, the system in question is simulated a very large number of times (millions and millions of times). Each simulation is often referred to as a “trial” of the system.

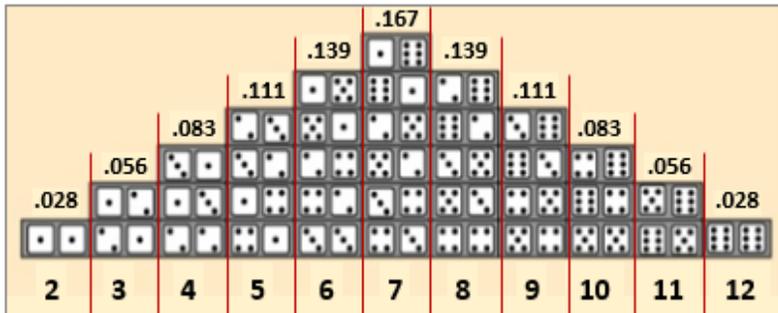


Exhibit 4: Possible outcomes & probabilities of rolling two dice

As a simple example of a Monte Carlo simulation, consider calculating the probability of a particular sum of the throw of two dice (with each die having values one through six). In this particular case, there are 36 combinations of dice rolls. The more trials undertaken; the greater the mathematical integrity

But better than rolling the dice a hundred times, we can easily use a computer to simulate rolling the dice 10,000 times (or more). The system is then simulated by rolling the dice such that the performance of the system (through trials with variables) can be computed. This results in a large number of separate and independent results, each representing a possible outcome for the system. The results of the independent system trials are assembled into probability distributions of possible outcomes.

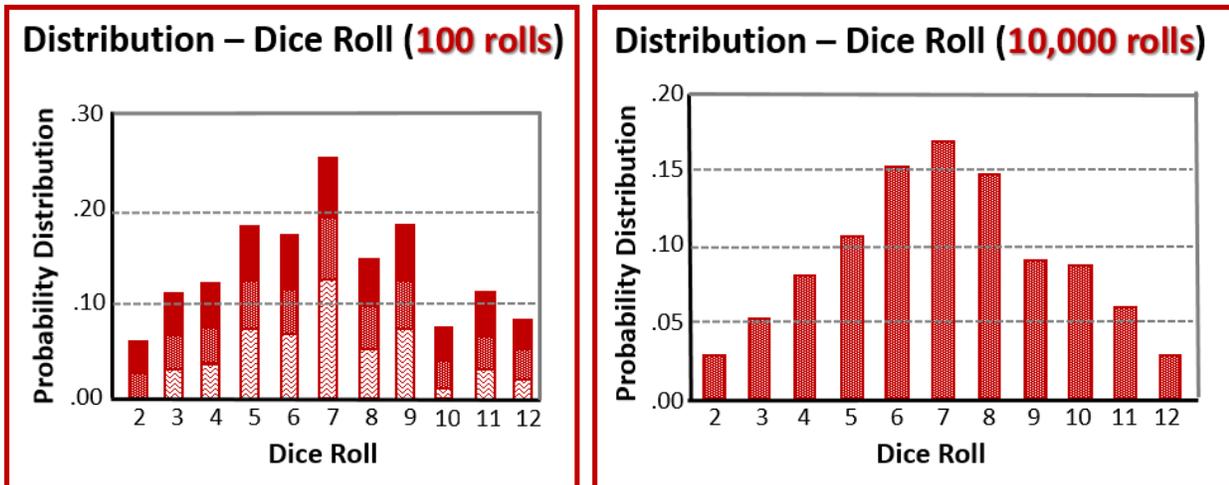
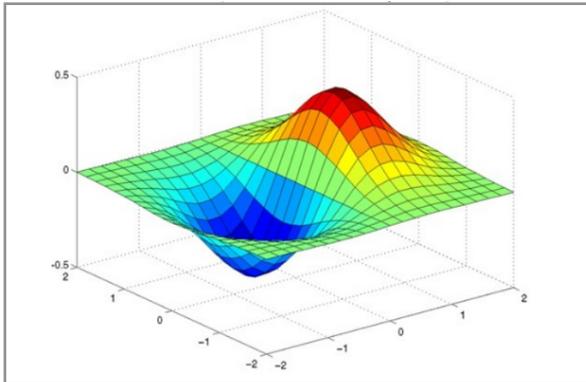


Exhibit 5: Frequency distribution of scoring outcomes of rolling two dice 100 times, and 10,000 times

Advantages of Monte Carlo methodologies:

- Results show not only what could happen, but how likely each outcome is.
- It's easy to create graphs of different outcomes and their chances of occurrence.
- It's easy to see which inputs had the biggest effect on results.

All of these advantages can be compounded and deliver exponential improvements when combined with “big data” (massive healthcare claims, treatments, expenses, demographics, geography, etc. data sets), and machine learning capabilities.



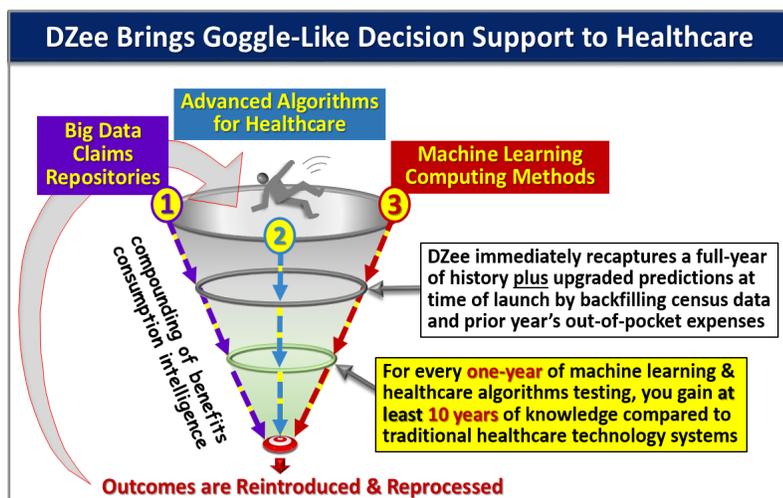
**Exhibit 6: Monte Carlo Frequency distribution chart**

Google’s search engine results are backed by enormously complex technology and logistics to identify the most pertinent results to a query. Similarly, DZee’s analytics and decision support apps for employee benefits are also backed by enormously complex technology and logistics. Google uses sophisticated and customized algorithms to personalize the user experience, as does DZee for consumers of employee benefits plans. It is immensely difficult to design and execute these complex systems, but the quality, depth, and precision of the results these sophisticated methods produce are unmatched.

Until now, health cost predictions have been largely based on aggregate expense data coupled with actuarial models derived from the Property and Casualty Claims modeling. These models don’t necessarily apply to health care for several reasons – claim frequency, the different treatments becoming available, the increasing life expectancy to name a few. In addition, these models also do not look at the health and how different health grades require different services, and how these services being consumed leads to expenses. However, it should be admitted that expenses at a large scale and at a group level would work well for modeling large groups of people in aggregate for the setting of insurance premiums (as long as suitable re-insurance premiums are baked in). These models however do a poor job of making accurate future healthcare cost predictions for individuals.

DZee on the other hand, models health care expenses as a function of an individual’s state of health that varies over time. Our health grade migration matrix allows us to look at health expenses not only as high severity events (large claims), but as a mixture of events of varied severity which are ultimately co-related within themselves, and we can look at different time horizons (near term, medium term, long-term).

DZee can run census “pre-analytics” simulations and benchmarks which can look at the self-assessed health grades, or generate a health grade based on some claim experience data, and then create a claim simulation that takes into account the health grade variations within the group before actual enrollment and plan experience occurs. These predictions are then compared to the actual “post-analytics” results. Thus, a “learning loop” is constantly getting fed, updated, and refined with insights and validations using machine learning (similar to what Google’s search engines do when personalizing and prioritizing results reporting that is aligned with individualized preferences and biases based on previously tracked behaviors).



**Exhibit 7: DZee's Advanced Triangulation of Data & Technology**

DZee provides unmatched excellence in the rigor of data analyzed, the scope of outcomes tested, the application of scientific and technology methods, the continuous and perpetual testing and refinement processes utilized, the inclusion of asymmetrical behavior choice biases, and integration of multiple time horizons to provide the most holistic probability models available. This results in an order-of-magnitude quality improvement in the astuteness of predictions for medical benefits consumption and costs.

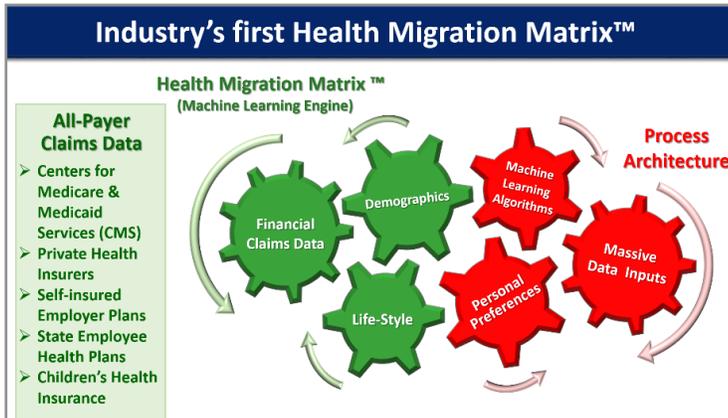
### The importance of Context and Behavior Biases in Predicting Outcomes

All too often, patients skip preventive steps, don't renew prescriptions, allow conditions to go unchecked, and seek treatment from the wrong providers. These "medical process errors" (not to be confused with mistakes made in the practice of evidence-based medicine) result from decisions that patients make either without all of the facts, or when other obligations get in the way of applying the best health practices.

**Medical process errors lead to deteriorating health and the need for more-expensive interventions.** One simple example would be a mother who chooses to miss her physical therapy appointment rather than leave her child waiting to be picked up at preschool. People have behavioral biases that influence their choices and outcomes. DZee takes large demographics data sets and identifies clusters of similar profiles within a larger population to model, personalize and account for the effects of these behavior biases on predicted outcomes.

Medical Process errors are also called "contextual" errors, and they are related to a patient's daily life circumstances and issues, and research has revealed that they are seven times more costly compared to biomedical errors. As a result, predictive analytics for healthcare claims are the most astute when they can also recognize the non-clinical, behavior biasing variables that have influenced outcomes.

A study by a major British insurance company found that an analysis of a customer's less conventional data, such as online behavior and spending habits, was **as effective** in identifying potential health risks as a medical examination including blood and urine tests. The lesson is there are both formal medical issues and informal and personal life-style issues and biases that must be addressed to improve predictions, and for better health to be achieved. If a major goal of health care is to help people live with vitality for as long as they can, we must address the personal circumstances – as many as possible – that affect the course of their life-health trajectory.



**Exhibit 8: DZee's algorithmic testing & machine learning model**

DZee has launched the benefiting industry's first "Health Migration Matrix" that predicts the benefits employees will consume over their entire lifetime based on their health status and correlations with U.S. healthcare claims and demographic data using the DZee machine learning engine.

### About DZee Solutions

DZee Solutions, Inc. is a cloud-enabled decision support software company operating in the healthcare insurance and employee benefits sector. The Company licenses its proprietary analytical software platform to businesses and enables clients to make well-informed decisions in the selection of health insurance plans, supplemental benefits plan packages, and wellness program financial results and savings.

***To experience a new paradigm in healthcare & voluntary benefits predictive decision-support, contact DZee Solutions and request a demo: [info@dzeesolutions.com](mailto:info@dzeesolutions.com) or call (747) 224-7461***