

## Q&A with Dr. Sean Bozorgzad, MD, CEO and Co-Founder of Potentia Analytics, Inc. leveraging Artificial Intelligence and Machine Learning Technology to improve Operational Efficiencies in US Hospitals with Workflow Optimization, Intelligent Staff Scheduling and Predictive Software



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“Bernoulli’s optimization engine recommended operational models that resulted in forty thousand hours of increased capacity per year at one hospital and 32 thousand hours of increased capacity per year at another hospital. The monetary impact in these two hospitals are estimated at 15 to 20 million dollars.” - Dr. Sean Bozorgzad, MD

### **CEOCFO: SEAN, what is the focus today at Potentia Analytics?**

**Sean:** The focus today is to leverage technology, specifically Artificial Intelligence and Machine Learning, to improve operational efficiencies in US hospitals and other businesses.

### **CEOCFO: How do you do that at Potentia?**

**Sean:** We have two tracks at Potentia Analytics, healthcare and non-healthcare, and we are excited about both tracks. On the healthcare side we are focused on achieving our goal by optimizing the most expensive resource in healthcare, the human resource. Healthcare operations have historically been very challenging to optimize due to four reasons: 1- variable flow of patients, 2- variable degree of severity of illness 3- variable rate of service by healthcare providers and 4- lack of timely and detailed data about the operations of healthcare. Availability of more granular data has given us incredible insight in to our operations and has presented us with unprecedented opportunity to improve the way we deliver health care. At Potentia Analytics we are in the business of turning data in to wisdom. Our workflow optimization software, Bernoulli, is like a radar system that finds inefficiencies in the way we use human resources and recommends corrective actions to workflow. When you use your human resource well everyone wins. The patients get better care, there is less burn out in our healthcare workers and the risk of adverse outcomes goes down. The most crucial part of our work is simulation. With accurate simulation we can turn our focus to optimization. Our vision is for Bernoulli to run in the background in every US hospital acting like an operational efficiency consultant, always on, always available, always making evidence-based recommendations. We want every healthcare executive to benefit from our simulation capabilities to answer tough questions about any change in their system. Imagine being able to tell if the intended change indeed will result in a

desired outcome before any resources are deployed. This vision is ambitious and so are we.

There is, of course, our Intelligent Staff Scheduling Software, Symphony, which is currently being used to schedule over 1M hours per month in 49 states. Its reputation is steadily outpacing our expectations in the industry and aligns with Bernoulli by automating the staff schedule creation process in an intelligent way. Combining the two solutions optimizes processes touching our healthcare providers on the side facing patient care as well as on the back end further increasing satisfaction while improving CMS metrics.

On the non-healthcare side, we have been applying our patent pending predictive software technology, Foresight, to forecast the outcomes of any negotiations with industry leading accuracy. We have used foresight to recommend strategic direction to financial institutions, government agencies and businesses. We are currently working on multiple joint projects with large US companies. As exciting as these projects are, I am not at liberty to elaborate on the details. During this interview I would like to focus mostly on the healthcare side. I would like to just mention that foresight is different type of predictive software. Most predictive software solutions in the market analyze large amount of historic data to look for patterns that may be applied to the future however foresight is a forward-looking software that is not dependent on historical data.

**CEOCFO: *How do you capture the initial information?***

**Sean:** Within Bernoulli, we have designed our system to be flexible to bring value to every facility with every kind of IT infrastructure. We can work with as little as ADT time stamps in combination with 1 year of historical data and as much as a live API feed from the electronic health record. The live connection will make our early warning system effective. The live feed will also allow us to deploy Machine Learning capabilities which will allow Bernoulli to improve itself with time and recognize patterns unique to each healthcare facility.

Foresight inputs come from two sources, subject matter experts and the open data bases on the net.

**CEOCFO: *It has been almost a year since we spoke with Potentia Analytics; what has changed in your product over the past year - what have you learned?***

**Sean:** Great software evolves with time. During the last year our software has continued to evolve at a steady pace. The most important improvement contributions have come from our end users. We have had the opportunity to deploy our software in multiple US hospitals with different patient volumes. One project we are currently working on is with two large trauma centers with volumes of 60 to 80 thousand patients per year. We have realized that these organizations operate very differently and are influenced by different internal and external factors. Even geographic location and weather patterns make these facilities very different. By serving different sized hospitals in different geographic locations we have gained valuable insight which has resulted in improvements in the software.

**CEOCFO: *In what ways have you helped these hospitals?***

**Sean:** Bernoulli's optimization engine recommended operational models that resulted in forty thousand hours of increased capacity per year at

one hospital and 32 thousand hours of increased capacity per year at another hospital. The monetary impact in these two hospitals are estimated at 15 to 20 million dollars. Bernoulli's simulation provides evidence-based recommendations in resource utilization and staffing changes. One example is the recommendation Bernoulli made for a staffing change at a small rural hospital in the Northeast. The hospital was planning to hire an extra staff member; however Bernoulli recommended moving the start-end time of the current shifts by two hours. This change resulted in improved flow without adding additional staff.

**CEOCFO: *Are hospitals reluctant to make the changes that might be needed or does the current healthcare environment or economic environment somewhat force hospitals to pay attention?***

**Sean:** Change can be stressful; however, the current economics of healthcare reimbursement, namely the change from fee for service to value-based reimbursement, has created a sense of urgency in healthcare leaders to make bold decisions concerning operational efficiency. This makes it easier for a product like Bernoulli to penetrate the market. Healthcare executives are very motivated to cut cost, improve patient safety and deliver better care.

One of the most interesting things we observe is how some healthcare leaders resist having insight in to their operations without the ability to solve these problems. A lot of healthcare executives suffer from a phenomenon I call dashboard burnout or alarm fatigue. At Potentia Analytics we are vested in the success of our clients and help to eliminate some of this burnout. We give them data attached to creative solutions that they can use daily.

**CEOCFO: *What is the competitive landscape? Are there many companies taking the comprehensive approach as you are at Potentia, and do hospitals recognize the difference?***

**Sean:** There are two types of competition out there. The first group are the consulting firms that have historically done this kind of work using manual techniques. The other group are technology companies that rely on technology to present similar services. I know of one or two companies that do this type of work. Our strategic direction at Potentia Analytics is to offer a product that is a combination of both. A powerful software deployed and guided by a subject matter expert with a proven track record in the industry. We have been working on multiple joint projects with a premier consulting firm and a large physician staffing company to join forces in this effort. We have gained from their experience and they have gained from our technological prowess. It is our plan to present our services in a hybrid manner.

**CEOCFO: *How do you get a foot in the door?***

**Sean:** Potentia Analytics has a proven track record in the industry. Our advanced scheduling solution is in use in hundreds of US hospitals. Our most significant introductions have come from our business associates who have used our products in the past. We believe in long term relationships and have been working hard to foster these relationships. So far that has been the best source of potential customers for Bernoulli. We have also started to target large hospital systems with whom we have had no previous relationships and so far, we have been very well received. We believe our timing is just right.

**CEOCFO: Are you seeking funding, investments and partnerships as you move forward?**

**Sean:** We are focused on growth and the right partner with strong industry connections which can facilitate that growth. The timing is right for us to partner with the right investor.

**CEOCFO: What do you see a year from now?**

**Sean:** Sales of 5 million dollars a year and a growing team of talented people.

**CEOCFO: These are busy times for you!**

**Sean:** These are exciting times for Potentia analytics and for me personally. I could not think of a better thing to do.

**CEOCFO: What should people remember and understand about Potentia?**

**Sean:** People should understand that Potentia Analytics is a team of amazing individuals and people should remember that at Potentia Analytics we are committed to making your organization operate more efficiently by helping you convert your data to knowledge and then to wisdom.

