AZUBA™
Your Health Records - Anytime, Anywhere

Azuba Launches National Lifetime Clinical Records Platform

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CEOCFO: *Mr. Carlson, what is the idea behind Azuba Corporation?*
Mr. Carlson: The basic idea behind Azuba is to initially collect all of the patient's current and historical clinical data from their doctors, emergency rooms and/or hospitals visits, and then to continually keep the data updated based on health visits going forward. In addition, Azuba automatically keeps all the patient's doctors' computers updated based on the patient's instructions. By maintaining a master Lifetime Clinical Record for the patient, the system can provide the patient's data to a list of the patient's doctors, hospitals and/or emergency rooms. The goal is to reduce the number of unnecessary deaths and unnecessary trips to the doctor, emergency room or hospital by providing all of the patient's health information to all of the patient's health providers that the patient chooses in advance of any appointment and/or within minutes of an unplanned trip to the emergency room.

CEOCFO: *How do you do that?*
Mr. Carlson: We have built a national clinical records network that connects to over seventeen hundred hospitals, forty thousand clinics and over six hundred thousand doctors throughout the country. We are electronically connected to all of them. So, when a patient requests their records from a particular doctor, we then send a request to that doctor's computer and the doctor's computer sends the patient's records back to our system. And, as we receive the patient's clinical data back from each of their health providers, we then convert them into a standard data format. The reason we do this is because many, if not all, of the patient's doctors and hospitals have different electronic records systems which save the patient's clinical data in different formats. Once we receive their records back, we then convert the data into a standard format, and make it available to the patient via their smartphone.

CEOCFO: *Many companies seem to be trying to do something similar. How have you been able to put it together with such a large number of stakeholders?*

Mr. Carlson: The major difference between the Azuba solution and other similar mobile "app-only" solutions is that Azuba solution can automatically retrieve, store, display and/or transmit any or all of the patient's clinical data from all of their health providers with a single click on their smartphone. The reason Azuba can do this is because Azuba was designed and built as an "enterprise" solution that does all the "backend" hard work of automatically keeping the patient's data up to date. In addition, Azuba has partnered with many of the EHR vendors, HIEs and others throughout the country to streamline the patient experience.

This is a much different approach than using an app-only solution that requires the patient to connect their smartphone repeatedly with their primary care physician, each of their specialists, and each of their hospitals to keep their smartphone and each of their health provider's clinical data up to date. So, if something changes at one of their health providers, then the patient has to reconnect their smartphone with each of their health providers one at a time every time they have an appointment with one of their healthcare providers. Obviously, this is a very time-consuming process.

And, if you happen to be sixty-five years of age or older with a health problem, then on average you will see 11 different health providers every year. So, keeping your data up to date on your app-only solution with all your health providers can be very labor intensive. Simply stated keeping the patient's clinical data up to date via an app-only solution can require lots and lots of time by the patient making manual connections!

What we at Azuba are trying to do is take all of that "pain and suffering" out of the equation. The patient connects to our secure enterprise back-end network, tells us what they want done and then our enterprise system automatically goes out to the patient's health providers and keeps both the patient and all of their health providers up to date. For example, if the patient had a doctor's appointment this afternoon, then after the appointment the patient could simply instruct the Azuba smartphone app to retrieve their data from that doctor and automatically update all of their other health providers with their new health data with a click of a button. We believe this greatly simplifies the process of retrieving your health data and sharing it with all of your other health providers.

CEOCFO: *Where were the technology challenges in making this happen?*

Mr. Carlson: As you might suspect there have been and continue to be many technology and non-technology challenges along this journey. Initially, we have over five hundred different electronics health records (EHRs) suppliers being used in doctor's offices, clinics and hospitals throughout the country. And, many of these five hundred EHRs have been modified to work slightly different at each location. So, realistically we are talking about thousands of different systems. So, the biggest challenge is how to talk to all of these different systems and be able to make sense out of the data.

The second issue is that only approximately half of the data is in a standardized structured form and the other half of the data is the doctor's notes that they either transcribed into the system or typed into the system. Therefore, we now have to go look at those notes and extract the important data and put that into a digital form that makes sense for computers and makes sense for more accurate processing.

CEOCFO: *Would a patient set up something where every time they press this button sources will receive the information?*
Mr. Carlson: Yes, the patient initially either tells the system who their health providers are and/or confirms the preloaded list downloaded from their health insurance company. And, when they want to either retrieve their clinical data or send their clinical data to their one and/or all of their health providers, then they simply click on the appropriate button to instruct the system to do so.

CEOCFO: *How would a new doctor be entered into the system? Would the patient do that? Would a doctor do it from their side? Day to day; how does it work?*
Mr. Carlson: Let me back up a little bit here and say how you get started. We know that most of us, who are using smartphones, do not like to enter lots of data. We like to get lots of data, but we do not like to enter it. Therefore, when you initially sign up with your health insurance provider that you want to use and download the system to your smartphone, the health insurance company pre-loads all of your demographic data; your address, your telephone number and things of that nature. In addition, they pre-load all of your doctors, hospitals, labs and so forth. Therefore, when you first sign in after you download the app, all of demographic and provider data is already there. Now the system will ask you, "What would you like to do?" And you get to make the decisions. For example: "I just want my primary doctor to be kept up to date." Or, "I want all of my doctors and hospitals to be kept up to date, so none of them makes a mistake because they did not have my data." Or, somewhere in between those.

If I go to a new doctor, then at this time my health insurance company will probably not know that I have a new relationship with this doctor because they have not previously received a claim from this doctor on my behalf. However, because we maintain a data base of all the doctors and hospitals that are licensed to practice in the United States, the patient can add this new doctor to their personal list of health providers by simply typing the provider's name in the Azuba-App search field. For example, they might type in the providers first name, last name, location or just the first few letters of the last name. The Azuba-App would then show them a list of health providers with the names and addresses that match, and they would pick the correct one. And, going forward this new provider becomes part of their provider network for that particular patient. That's how easy it is to add another doctor, hospital, lab or whatever the case may be, to the system.

CEOCFO: *What is your business model?*
Mr. Carlson: We provide these services to the health insurance industry and they provide it free to all of their "members" or what most of us would think of as patients and family members. And, they pay us a small fee each month for as long as you are one of their customers.

CEOCFO: *Are insurance companies proactive in getting the information to their patients and explaining what is going on?*

Mr. Carlson: That is what we are trying to change. Historically, insurance companies have focused on providing their members with claims data or what some may call the billing data. Our goal is to help insurance companies provide their members with their clinical data so the member can share it with their doctors to reduce both diagnostic and treatment errors. In addition, there is another whole aspect of the system. For example, if for some unfortunate reason a member is in a car accident and ends up unconscious in an emergency room without a family member or friend to help, then currently the emergency room doctors have to proceed with their diagnosis and treatment procedures without the benefit of knowing what medicines the patient is currently taking or the patient's health history. This puts both the patient and the doctors at a distinct disadvantage. What Azuba does is provide a safety net so ER doctors can reach out to Azuba and obtain the patients clinical history in an emergency. Of course, this assumes the patient has previously authorized us to do so.

In addition, the emergency room doctors may conclude that the patient needs further treatment such as surgery and they are then admitted to the hospital. And once the patient is admitted into the hospital they could be there for two days or five days or more. And, depending on the patient's condition, the hospital doctors might send the patient to a rehab facility for a week or two or more.

What happens now in the system is that the insurance company sometimes does not find out about these events until two, three or four weeks after the events occurred. As a result, the insurance company is not able to proactively help the patient understand the importance of going to rehab and/or assisting with transportation to help the patient get to rehab. So, one of the benefits Azuba provides to the insurance industry is that we tell them that you have just been checked out from the hospital. Once the insurance company has been notified, then they can follow up with the patient and say, "Do you need transportation to get to rehab?" Or, what other things are needed in addition to the clinical data, but are very important in being able to understand the comprehensive needs of patients.

CEOCFO: *Do you anticipate Azuba being the standard in the industry, where it will just be what everybody expects to have at some point? How do you go from here to there?*

Mr. Carlson: That is a great question. Azuba is a startup and we have no customers at this point in time. We are just coming to market. We are just starting to have those conversations with the leaders of the insurance industry. Most of the large ones have known that we've been working on it, but they have not seen it in action. And, so we are now starting to schedule our initial meetings with them to review the system, explain what it is doing, and demonstrate how it works in real-time. And, we believe that we are going to be able to help disrupt the health industry by helping doctors better understand their patient's comprehensive health histories resulting in improvements in both their diagnosis and treatment accuracy decisions. By doing so, we believe it should also reduce the number of repeat visits to the doctor that the patient currently has to make to get the correct diagnose and treatment.

The reason we believe we can accomplish this is by "pushing" the patient's data out to the doctor's office before the patient actually arrives at the doctor's office for their appointment. Specifically, we can help the doctor get a better understanding of where the patient's clinical journey has been before the patient arrives in their office. Currently, most doctors in the United States have, on average, about seventeen percent of the patient's clinical data when they are trying to make a diagnosis or a treatment decision. What we do is we provide that other missing patient data to the doctor. And, going forward, we believe new technologies like artificial intelligence and machine learning can be made available to help the doctor ask the right questions to get to the correct diagnosis and correct treatment decision based on the patient's symptoms, health history, and other data about the patient on the first visit. So, yes we are very optimistic about the future of our health system going forward!

We have also been working with a number of researchers who are working on future solutions. And, based on what we have learned so far is that the more we can aggregate, normalize and present the data in a usable and concise manner, then the more value it will have to helping doctors improve the accuracy of their diagnosis and treatment decisions. For example, I recall reading one study that estimated something like three hundred and ninety-two thousand people in the United States of America died unnecessarily because the doctor did not have access to all the patient's data when trying to make a diagnosis or treatment decision. And, millions more had to go to multiple appointments for multiple types of procedures that were not necessary. And, industry experts also estimated that somewhere close to one trillion dollars of unnecessary expenses are currently being spent. Just to be clear we do not claim that we are going to eliminate that one trillion of reported waste all together. However, if we can help take out billions of dollars of waste in the system while improving the overall health and longevity of our patients, then we believe we will have been successful in meeting our overall goals.

CEOCFO: *Let us say that I make an appointment with a doctor; maybe a new doctor or a doctor already used. Is the doctor requesting information or is it me saying, "I have a new appointment, send stuff over there?" How does it come together?*
Mr. Carlson: Currently, the patient or the patient's caregiver initiates the request. For example, if you are a proactive patient and you are a user of the system, and you know you have an appointment for tomorrow morning at ten o'clock, then you add that doctor to your list of health providers on your smartphone. And, you say to yourself, "I'm not sure if this doctor is going to be good fit for me or not, so the patient just instructs the system to send all their data to their new doctor one time before they arrive at the doctor's office." If after the initial appointment the patient decides that they like the doctor and want to continue with further appointments as necessary, then the patient can change that request to, "Keep my doctor automatically informed going forward. Or, do it once a month or once a quarter. Or, just do it on demand."

CEOCFO: *Will the doctor know when the records have come in? Is there anything that they need to do or is it seamless?*

Mr. Carlson: Each situation is a little bit different because, remember I said there are over five hundred manufacturers of what are called electronic health records systems, and each one operates a little differently. Some just send a little notice. Maybe the doctor does not get the notice, originally, but it is one of the nurses or the staff at the front desk. Then based on what that doctor has told them to do with the patient's data, the respective doctors system either adds your records to their system and/or makes it an augmented record adjoining your records. In all cases, the process is going to be different for each individual health provider.

CEOCFO: *There are many different EHR systems. As records change, as individual health records from different doctors change, how does that get updated so it is indeed the most comprehensive and up to date?*
Mr. Carlson: It depends on where the realization has been made, either by the patient or one of their health providers or doctors or hospitals. If it is the respective doctor that they are seeing and it is their system, then that doctor or the nurse can go in and fix it. That data will then replicate up through our systems and notify all of the other parties. Let us say that that doctor does not notice it, but the patient notices it. Currently, they can contact the doctor where the error originated. In the near future they will be able to put a note in the system that this was in error. However, the system does <u>not</u> let them change the actual clinical record of the patient.

CEOCFO: *Where does the government come in terms of Medicare or Medicaid?*
Mr. Carlson: About seven or eight years ago, the government invited me to serve on a committee called the Blue Button Committee. One of the primary purposes of the committee was to figure out a way to empower patients by providing them access to their claims data from all of their health providers. However, the number one thing to remember, when you start talking about patient health data is that patient "claims data" is <u>not</u> the same as patient "clinical data." Specifically, claims data is produced by the doctor and sent to the insurance company so the doctor gets paid for their services. The claims data is typically at a much higher almost summary level compared to the clinical data.

For example, if there is a problem with your knee, then the claims data might indicate a code pointing to the area affected, but not get very specific. To the contrary, clinical data is all about the specific clinical and scientific data the doctor needs to know about the whole patient to be able to fix their knee. Bottomline, providing doctors with access to a patient's lifetime clinical records helps them improve their diagnosis and treatment decision accuracy rates.

What we know is that the Federal government is one of the largest health insurers in the United States. I believe they currently have something like seventy-three million plus members enrolled in either Medicare, Medicaid or Dual Eligibles. However, much of the actual day-to-day operations are performed by the States and outsourced to various private carriers such as Blue Cross Blue Shield, United Healthcare, Anthem, Aetna and HCSC plus many others. However, whether or not the payer is a government plan or a private plan, the doctors serving these patients all need access to the patient's lifetime clinical data to serve their patients the most effectively. And, so we plan to provide our

services to all the Medicare, Medicaid and Dual Eligible populations going forward.

CEOCFO: *Are you seeking funding, investments or partnerships?*
Mr. Carlson: Yes, we are currently seeking funding. We have been self-funded up to this point to develop and turn on the system. However, as we roll out the system into production, we will need to hire more people to grow and support a system that has to run twenty-four hours a day, seven days a week and every day of the year. Therefore, we plan to build the system to be the most redundant and secure system that we believe has ever been built in healthcare. For example, if you were to look closely at other cloud-based operations of companies who provide critical healthcare services, then you would find that most of them have a primary system that is running in production with a single off-site backup system. And, we not only have primary and secondary sites, but we are creating additional "real-time" backup data center sites that are distributed throughout the country.

I might be dating myself here, but a number of years ago I recall hearing about a "brown out" up in the Northeast whereby electricity service was either not available or available in very limited amounts. And, as I recall, it really shut down operations in the Northeast. So, when we were designing the Azuba solution, I did not want someone in a life and death situation located in an emergency room whereby the doctors were not able to retrieve the patient's lifetime clinical records to help save the patient's life. Therefore, we purposely designed the system to grow to multiple locations in different regions of the country to store all of the patient's data. So, if you shut down one state the system can automatically switch to the next state and still get the data. And, neither the patient, the emergency room doctor and/or the care manager at the insurance company will even know the system has automatically switched to a backup system in another state.

We believe that this is something that has to be part of a national health network solution. And while it is slightly more expensive to build and operate with this level of redundancy, we believe it is a modest additional cost to help a doctor make an accurate diagnosis and/or treatment decision sooner for a patient and/or to save a patient's life in an emergency room. Just imagine a patient is driving alone who gets into a serious car accident and ends up unconscious in a nearby emergency room. And, further imagine that to save the patient's life the doctor needs immediate access to the patient's health records. Therefore, we felt we had to build a system that allows for that emergency room team of health providers to contact us and through a series of checks and balances, be able to transmit that patient's records in real-time to that emergency room to save the patient's life. Obviously, our fundamental belief in designing and building the system was that it had to be as redundant as possible because we knew people get hurt, sick and so on at all hours of the day and night. And, we did not want any reason for it to be down and not able to help a doctor who was trying to save the patient's life when the patient's health data was needed.