

Bringing to market their Apollo EPMM® (Enterprise Patient Media Manager) for Hospitals and Health Systems, Apollo PACS, Inc. is enabling Images to be in the EHR and acts as a Clinical Information System for the Whole Healthcare Enterprise

**Healthcare
IT software**

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**Mark J. Newburger
CEO**

BIO:

Mark J. Newburger, CEO/President, has 20 years of experience in the pathology digital imaging and telemedicine industry and was selected by BtoB Magazine as one of BtoB Magazine's 2001 25 eChampions. Mr. Newburger is a leader in the industry and participates in numerous standard committees including DICOM.

About Apollo PACS, Inc.:

Apollo, a trusted healthcare IT software developer, provides a market-proven application that enables clinicians and healthcare institutions to capture, manage, access, and share

clinical multimedia content across a diverse array of medical specialties not currently addressed by today's radiology PACS. The company's clinically-focused, open-system solutions optimize clinician workflow and efficiency, enabling institutions to make the most of legacy systems and turn multimedia into a strategic healthcare enterprise resource. Apollo solutions are assisting clinicians in the delivery of quality healthcare services to patients at leading academic centers, regional medical networks, commercial laboratories, and community hospitals throughout the US and Canada.

**Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFO Magazine**

CEOCFO: Mr. Newburger, would you tell us about Apollo PACS?

Mr. Newburger: Apollo makes software for hospitals and health systems that effectively manages what we refer to as enterprise patient media. Our system enables images or multimedia to be in the EHR and acts as a clinical information system similar to a radiology picture archiving and communications system (radiology PACS) except our solution does this for the whole healthcare enterprise. We provide specialty-specific workflow and enable clinicians to utilize pictures, video and other types of media for clinical processes. In summary, Apollo's proven solution, Apollo EPMM® (Enterprise Patient Media Manager) brings together all the patient media, including pictures, video and clinical data related to an individual patient and makes it accessible in the most effective workflow for each speciality or

organization. Using open-system architecture, Apollo EPMM is easily integrated/interfaced with existing and future software applications and infrastructure. The result is a more coordinated and effective clinical team with reduced risk and improved patient outcomes at a lower cost.

CEOCFO: What would typically be under your control?

Mr. Newburger: Patient media from virtually any specialty. For instance, in gastroenterology a gastroenterologist uses endoscopy to do colonoscopies and upper GIs to find colon polyps and look for disease processes going on inside the body. During that exam, they take pictures of areas of interest for the record that they can show the patient later to see what the specimen looked like. Those pictures have traditionally been printed on paper and then put into a paper file. Sometimes they are actually captured and put into a specific storage device, which is an image storage system that is attached to the endoscopy unit. Recently, manufacturers have started to offer device-specific management solutions, similar to radiology where you have PACS for x-ray machines. There are specialties across the entire institution, some of which you would not usually expect to capture media other than text. In fact, the Hospital for Sick Children in Toronto, a flagship institution for us, worked with us to prove otherwise. They started using Apollo in the Department of Pathology, which is where we got our start -- in pathology and laboratory medicine. We successfully managed all the different pathology lab's media for them in a user-friendly, secure and reliable

way. They then told us they had the same kind of problem managing media in other departments such as dermatology, gastroenterology, plastic surgery and ophthalmology. They even have a unit called SCAN (Suspected Child Abuse and Neglect). They asked if we could adapt the same solution to work in these departments. We said that technically there was no reason why not, but each area has a different clinical workflow and we must understand what that is so the system does not bog down the user. It is critical that the application is effortless to use so it does not slow down interactions with patients. We did an analysis and then showed them what we could do - resulting in a contract to put the new idea into practice. Once we were in place for the other departments, we set up a data structure that enabled the local administrators to define other specialty workflows within the enterprise. There are now 43 different specialties using Apollo EPMM at this hospital, often using this user-friendly tool in innovative ways. For example, the Department of Nutrition takes pictures of a plate of food before a child gets it. Then they will take a picture after the child eats the food so they can see what is left. We have gotten into the concept of the most invasive medical device ever developed is a smart phone with a camera on it. There are way more of those cameras running around the hospital than any other kind of device. You need a way of managing that securely, so we have implemented that also. We get involved with a lot of device integration and workflow and how the media gets into the system, is utilized within the system and is organized and then comes back out.

CEOCFO: What was the most challenging piece to put together?

Mr. Newburger: The biggest challenge was finding the right way to make the solution work the way the clinicians work as opposed to defining a process and imposing it on the users. One size does not fit all. So many different methods for treating patients and managing them exist across spe-

cialties and within each specialty that we had to make certain that our system was easy to learn and use and actually was not only effective but created efficiencies that enable institutions to save dollars just from gaining back time of their healthcare professionals. We went through much analysis and user understanding. We have very good clinical expertise here at Apollo for understanding the semantics of the clinicians while at the same time we understand the IT side of the shop. The reason it was difficult was because we were having to coordinate hundreds of different workflows into a single implementation. Years of success have proven that the effort was worth it.

CEOCFO: Is there much competition?

Mr. Newburger: There are no similarly proven products on the market, but direct competition is developing to follow us on the road we built. There

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was a time that Apollo EPMM was compared to other types of technology. For example, some people would say that we were like a vendor neutral archive, but a vendor neutral archive is really about managing the data source, and we are more than that. Some people would say well you are competing with the electronic health record except what we were really doing is enabling the health record. Some of the bigger health records can store some types of pictures in them although they are not full-fledged clinical systems for managing that media.

CEOCFO: How do people learn about you?

Mr. Newburger: We are going to have a booth at HIMSS next week and we have done some advertising. We have our social media outreach through the web and Twitter and on LinkedIn. Periodically articles are written about us, but also the most successful marketing is word of mouth.

Clinicians see the value in what we have to offer, the technical staff appreciates the robust security and simple administration, and administrators like our price point. We have been around a long time. I founded the company back in 1993 originally to build software to organize medical collaboration processes, which was then called telemedicine. It is still called telemedicine today but people are now saying ‘collaboration’ much more, which is really the right way because back in 1993 we used to say eventually telemedicine is how all medicine is going to be delivered and it will not be called ‘telemedicine’ anymore but it will just be standard of care. We had a focus on innovations in telepathology, which was remote diagnostics between laboratories. We had some very cutting-edge technology that we were able to implement at the Department of Veterans Affairs here in the US. They clinically proved that the diagnostic accuracy of doing remote diagnostics with the robotic telepathology was the equivalent to doing a diagnosis directly through a microscope. From 1993 until 2003, we were a telemedicine systems integrator. We were called Apollo Telemedicine.

In 2003, we made the decision that really being a systems integrator was not a good business model for a company of our size. It made more sense for us to focus on what we were good at which was more of the software development in healthcare information technology and then work with systems integrators. From 2003 to 2006, we transitioned our sales and marketing activities and focused our development on expanding our software capabilities and we came out with our pathology PACS in 2006. We renamed our company Apollo PACS. Then very quickly after that we incorporated clinical media from specialties all over with a very high concentration of what we refer to as visible light as opposed to non-visible light specialties. We created a product called Apollo EPMM® (Enterprise Patient Media Manager). Our first successful implementation was the Hospital for Sick Children and they went live in 2010. We started working

with them in pathology in 2005 and then in 2008 we started implementing Apollo EPMM. All of the sudden, instead of one department -- the Department of Pathology, we were dealing with multiple departments across the institution and what we thought was going to be a team of ten people that was a team of a hundred people, and we had to coordinate all of their needs and desires and make sure that it was easy to use. We went live in 2010. We now have implementations of Apollo EPMM at major hospitals and research facilities in the U.S. and Canada as well as multiple locations in the Federal space.

CEOCFO: Is the government a focus for you or is it just opportunistic?

Mr. Newburger: The government was initially not our focus, but the success and uniqueness of our product created endless possibilities to make a difference in our country. Now we have a strong government focus. We are local in the DC area and we have a nice footprint with the Department of Veterans Affairs and our footprint at the Department of Defense is growing. We have two strong teaming relationships with large IT services companies -- Dell Healthcare and CGI Healthcare.

CEOCFO: How is business these days?

Mr. Newburger: It is good. I think we have turned the corner.

CEOCFO: How did you keep up with all the new technologies and all the new situations in healthcare that might require tweaks or even major additions?

Mr. Newburger: Apollo EPMM was designed from the ground up to be uniquely adaptable and flexible. That is how we were so successful working with clinicians to innovate quickly. From the device standpoint, we have a large library of device drivers and interfaces that we have developed over the last two decades. Standards never die so most of the new devices that are coming out use some amount of standardized processes. One advantage that we have is that we only focus on healthcare. I am not doing IT services in any other vertical. Another advantage is we are right here in the DC area, so we typically are seeing what is going on from a regulatory standpoint up close. People are reluctant to move forward with new technology so it's great that we can offer something with such a small change management impact.

CEOCFO: What is your revenue model?

Mr. Newburger: There are two ways that we charge. We have the traditional software model which is a perpetual software license with recurring annual support and the support includes upgrades. Most of our customers are under that model. For those customers that are trying to stay away from capital expenditures and want to be more in the cloud, we can do subscription offerings. We are very customer driven. We want to do what the customers need, and we are very flexible. One of the things that makes us competitive in the market is that we are very dynamic. We tend not to go after what we are not asked for. We are starting to get involved with genomic tumor boards because some

of the biopharma and genomic research organizations are asking us for our solution but in a research setting as opposed to a clinical setting.

CEOCFO: Why should the business and investment community pay attention to Apollo?

Mr. Newburger: If you look at how we have come out with innovations, the big guys tend to follow those innovations years later - as I said earlier, following the road we paved. Back in 2003 we made the move from telepathology to being a healthcare information technology company and several years later some device manufacturers in the pathology and laboratory market started to develop software. In 2010 we installed Apollo EPMM. We had already been under development for that for 2 ½ years. It is now three years later and we are starting to see systems that are hawking the same kind of capabilities being marketed, but for the most part they are still very radiology focused and are imposing radiology workflows and technology on other specialties. We thought that all through many years ago and have a solution that works to truly address the needs of the entire enterprise. I think the investment community should pay attention to us because we have been a weather vane on where the market is headed. Another reason the investment community should be interested is that there is a big opportunity with the proven solution that everyone is late in the game to try to accomplish.



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