

Proton Beam centers taking off

DESPITE HIGH COSTS, ENTITIES FORGING AHEAD WITH CENTERS AROUND COUNTRY



ProVision is the developer of this future proton beam therapy center slated for a comprehensive cancer center campus in Knoxville, Tenn., just one of several such facilities being planned across the United States.

Rendering courtesy of ProVision

By Jessica Griffith

When ProVision Healthcare LLC solidified its plans for a comprehensive cancer campus in Knoxville, Tenn., it was a “no-brainer” to include a proton therapy center.

PRODUCT FOCUS

“Right now, proton therapy is one of the most cutting-edge treatments you can receive,” says Scott Warwick, executive director of oncology services for Knoxville-based ProVision, which plans to break ground early next year on the Proton Therapy Center at Dowell Springs.

Due to the “cutting edge” label attached to proton beam therapy, the facilities needed to house them have also attracted plenty of attention. In fact, the number of proton therapy centers has taken off and continues to take off.

At the beginning of the decade there was one such center nationwide. Today, there are eight, with two more under construction and several more in the planning stage.

“The stigma of proton therapy being too expensive and too experimental has passed,” adds Jeff Bordok, CEO of Advanced Particle Therapy LLC, a Minden, Nev., company that plans to break ground in October for the Scripps Proton Therapy Center in San Diego.

Proton therapy treats cancer patients with a fixed beam of protons that targets the tumor with minimal damage to surrounding, perhaps healthy, tissue. As oncologists note, this is not traditional radiation therapy and it is not delivered via traditional radiation equipment.

The gantry, or moving framework, that allows doctors to direct a beam from any angle is three stories high and weighs about 200 tons. Ten-foot-thick walls stand between the beam and the outside world.

“The concrete for a three-story building would be enough for a normal eight-story building,” says Hadley Ford, CEO and director of ProCure Treatment Centers Inc. in Bloomington, Ind.

ProCure operates one proton therapy center in Oklahoma City and has

centers under construction in suburban Chicago and in Somerset, N.J., about 41 miles from Manhattan. The company plans to break ground on yet another facility later this year in Seattle.

“We’re seeing more patient demand,” said Len Arzt, executive director of the National Association for Proton Therapy in Silver Spring, Md. “Patients have done their homework and a lot of them are self-referring.”

Fewer than 1 percent of cancer patients are treated with proton therapy, but the association expects that number to increase. The American Cancer Society estimates that 1.5 million Americans were diagnosed with cancer in 2009.

The Proton Treatment Center at Loma Linda University Medical Center in Loma Linda, Calif., opened in 1990 and for more than a decade was the only proton therapy center in the United States.

“We envisioned maybe 10 centers on a regional basis but it looks like there will be a lot more than that,” Mr. Arzt says.

Financing the beam

The first seven U.S. proton therapy centers, with the exception of the one at MD Anderson Center in Houston, operate as not-for-profit entities. But many of the newer centers are for-profit ventures, a fact that reflects the economic climate.

According to Mr. Arzt, the earliest proton centers – at Loma Linda, the University of Pennsylvania and Mass General in Boston – are located in hospitals or on a hospital campus as part of a larger cancer center. Some of the other centers are freestanding buildings located near hospitals. Many of the newer facilities are stand-alone buildings.

The cost to build a proton therapy center ranges from \$125 million to more than \$200 million, depending on the size and location.

It looks as if ProCure is the emerging leader in the development of multiple centers, and the reason is financing. ProCure was founded through a partnership between Mr. Ford, a Wall Street banker, and John Cameron, a physics professor who helped develop the Midwest Proton Radiotherapy Institute in Bloomington, Ind.

“It takes a lot of capital in order to achieve our mission, and that is easier to raise in the construct of a for-profit entity,” Mr. Ford said “You typically would not see a banker as the CEO of a healthcare firm, but this industry had all the pieces and needed someone to put them together.”

ProCure will own 70 percent to 80 percent of each proton therapy center it builds. Mr. Ford said. ProCure’s largest lender is Fortis Bank, and dollars for the projects come from debt financing and cash from ProCure, physician groups and hospitals. ProCure plans to open two sites each year.

“You need someone who understands the unique features of proton therapy

“The stigma of proton therapy being too expensive and too experimental has passed.”

**Jeff Bordok, CEO
Advanced Particle Therapy LLC**

centers,” Mr. Ford said. “You need to keep your lenders well-informed and educate, educate, educate.”

For example, a medical office building can acquire tenants before the developer breaks ground, but a proton therapy center does not have a signed contract saying that people will seek cancer treatment.

Advanced Particle Therapy and its investors will own the Scripps Proton Therapy Center in San Diego, which is projected to cost \$185 million. Mr. Bordok said the funding would comprise 35 percent equity and 65 percent debt.

“Our clinical partners prefer this model,” Mr. Bordok said. Advanced Particle Therapy plans to open multiple centers. Mr. Bordok said he is negotiating future sites but declined to name any locations.

“It was not that difficult to finance,” he said of the San Diego project. “A lot of people and institutions held onto cash during the economic downturn and are now looking for places to invest.”

ProVision will serve as the initial owner of its not-for-profit center in Knoxville, where groundbreaking is scheduled for the first quarter of next year. The company is seeking other investors, Mr. Warwick said, and the projected cost is \$120 million to \$125 million. The clinical partner is the University of Tennessee Medical Center, but UT is not an owner and the center is open to all physician groups.

“Obviously, the financing piece is challenging due to the high cost of the project along with the current economic environment,” Mr. Warwick said.

Mr. Warwick said ProVision might build additional proton therapy centers.

Hampton University Proton Treatment Institute in Hampton, Va., cost an estimated \$225 million; it was financed by bonds and some federal grants. The center opened in August. Officials from Hampton University did not respond to requests for comment.

Construction is on hold at the site of the Northern Illinois Proton Treatment and Research Center in West Chicago, Ill., a suburb of Chicago. The project is a partnership between Northern Illinois University and the Northwestern Medical Faculty Foundation, plus several area hospitals and research laboratories. Construction began in 2008 and some utility and foundation work was completed, said Nathan Brown, senior account supervisor with Mack Communications, which represents the center.

Officials planned to raise 90 percent of the project’s \$159 million price tag through a bond sale and 10 percent through federal and state grants. Mr. Brown said the bond sale did not occur because of the economy, and about half the grant money was raised. The project’s certificate of exemption expired in February, and officials have a tentative plan to meet with the Illinois Health Facilities and Services Review Board in November.

Meanwhile, ProCure is building a center in nearby Westmont, Ill.

“There was a discussion about combining forces,” Mr. Brown said. “There was a distinct difference in philosophy in terms of how to run a

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proton center and what the mission would be. ProCure has for-profit motives and NIU wanted to focus on research and development.”

Mr. Ford of ProCure confirmed the meeting.

“There was an opportunity lost to build a real center of excellence,” he said.

“They were convinced only one center needed to be there and in the end they didn’t have the financing wherewithal.”

Industry watchers also are paying attention to Dayton, Ohio, where Optivus Proton Therapy Inc. of San Bernardino, Calif., and Kettering Health Network of Dayton each have announced plans to build proton therapy centers. (For more information, please see “Pricey proton therapy centers planned” in the May 2010 edition of **Healthcare Real Estate Insights™**.)

Also on deck are two proposals for proton centers in New York. One of those, the New York Proton Center, plans to break ground in February. (Please see “Manhattan on verge of proton center” on Page 15.)

Miles of concrete

When the first proton center opened in Loma Linda, it contained enough concrete to pave the way to Los Angeles, 90 miles away, Mr. Arzt said.

Construction challenges are numerous, and very few proton therapy centers exist, meaning a single template for construction is not in place. Companies such as ProCure take a learn-as-you-go approach.

For example, in Oklahoma City, ProCure found the biggest crane in the state and used that to haul the cyclotron into the building. That chore took a week, and after it was complete, the team realized it would be easier to wheel the cyclotron into

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**Hadley Ford, CEO and Director
ProCure Treatment Centers Inc.**

the building on rails and then build the fourth wall.

“We did that in Chicago and it took an afternoon,” Mr. Ford said.

Proton centers can take a long time to build; the Scripps center will open about 27 months after groundbreaking, as will the ProVision center in Knoxville. The ProCure center in Oklahoma City also opened in about 27 months and Mr. Ford said the Chicago-area center is on schedule to open two years after the groundbreaking.

Proton center developers achieve some economies of scale by building large facilities that can accommodate 2,000 to 3,000 patients each year. The centers under development range from 40,000 square feet to about 100,000 square feet and typically contain four or five treatment rooms, usually a combination of fixed-beam and gantry.

The gantry can direct a beam of protons from any angle, but many patients require only a limited number of angles and a fixed beam can target those tumors. ProCure also developed an inclined beam that can replicate 80 percent of the angles.

Going smaller

Not all developers are pursuing the multi-room cancer treatment facility. And the reason for this change of heart is the potential development of one-room facilities to treat the disease.

Dr. James G. Schwade, a radiation oncologist and executive director of the CyberKnife Centers of Miami & Palm Beach, put his plans for a

proton center in South Florida on hold because he believes large centers will reach obsolescence within a few years.

“I am very bearish on building a large proton therapy center now,” he said. “They could wind up being white elephants in five years. My take on the technology is that within the time one could design a large cyclotron or synchrotron facility, there will be single-room treatment options. We think compact particle generators are close enough to reality that the smarter move for us is to wait.”

Dr. Schwade cited Still River Systems, a Littleton, Mass., company that is developing a single-room, proton therapy system. Still River’s technology is being installed in several medical centers but has yet to treat patients.

Mr. Warwick of ProVision called the single-room solution the Holy Grail of proton therapy, and he expects one-room centers to enter the market in three to five years.

“It is not a concern because feasibility studies demonstrate that the demand far outpaces the capacity of a one-room solution,” he said.

Demographic studies vary, but patients often travel dozens or even hundreds of miles for proton treatment. ProCure looks for a population of 3 million within a two- to four-hour drive of a four-room center.

Mr. Warwick said no proton therapy center exists within 350 miles of Knoxville and prior to the development of his firm’s facility in that city, residents traveled as far as Jacksonville, Fla., or Loma Linda for proton therapy.

Advanced Particle Therapy also considered locale in its decision to build a center in San Diego. For patients who must travel and stay for the duration of their treatments, “San Diego is a great place to be for five or six weeks,” Mr. Bordok said.

The developers said cities usually are

supportive of proton therapy centers.

“The most important thing I’ve learned in real estate is you need the willingness of the municipality to work with you,” Mr. Bordok said. Mr. Ford said he now judges every community by the standard of Oklahoma City, where ProCure built its first center.

“The city was very open and welcoming,” he said. “If you are doing something for the first time, it might be best to not do it in New York City.” □

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Manhattan on verge of proton center BUT A LAWSUIT WAS RECENTLY FILED BY DEVELOPER OF COMPETING PROJECT

Staff Report

If all of the regulatory approvals are granted as anticipated, the West Side of Manhattan could be home to a \$235 million proton beam therapy center as early as 2014.

Five New York-based health systems are teaming up with a for-profit Florida-based oncology company on the development and future operation of the New York Proton Center. The planned 241,220 square foot, five-story facility is slated for a site at 621 W. 57th St., near St. Luke’s Roosevelt Hospital.

The hospital consortium consists of four Manhattan institutions: Memorial Sloan-Kettering Cancer Center, Beth Israel Medical Center, NYU Langone Medical Center and Montefiore Medical Center. The fifth hospital in the group, Mount Sinai, is in the Bronx.

The developer is Fort Myers, Fla.-based 21st Century Oncology, which runs more than 98 radiation centers throughout the country – none of which offer proton therapy.

According to the application with the state, 21st Century would run the non-medical operations at the center, leaving the medical component to the consortium of hospitals.

Officials estimate that the future proton beam center would treat about

1,500 patients annually, according to news reports.

The New York Proton Center would contain four massive, mobile gantries and a fixed-beam unit manufactured by Ion Beam Applications of Belgium, as well as radiation shielding.

The proton beam therapy cyclotron room and lower pit area would be located on the first floor, with the second floor housing four rotational gantry treatment rooms, the fixed-beam treatment room, a beam transport tunnel and a single research room.

Financing for the New York Proton Center would come by way of two loans for \$98 million each, one from BNP Paribas Fortis Bank and the other from a partnership of KBC Bank and Dexic Bank. Affiliates of the hospitals would also contribute equity: \$10 million from Sloan-Kettering and \$6.5 million each from the other four hospital systems. Another \$10 million in equity would be contributed by 21st Century.

New York’s Hospital Review and Planning Council is expected to review the proposal in coming weeks, and the state’s Public Health Council could make a final decision on a Certificate of Need (CON) in November.

While it looks as if the Manhattan

project is a done deal – the state has indicated that the New York Proton Center will be the only such center it approves at this time – the backers of a proposed proton beam cancer center in Queens are not backing down.

In fact, Manhattan-based Medscan and the Proton Institute of New York recently filed an antitrust lawsuit against 21st Century and its executive, Norton Travis. Medscan and the institute had also responded to the state’s request for proposals (RFP) for a new proton beam center and are proposing a \$273 million facility in Queens. It would be located on the site of the former Mary Immaculate Hospital and be called the Proton Therapy Cancer Center of New York.

According to the lawsuit, 21st Century and Medscan were working on the project for a year before parting ways in 2009. Medscan now accuses 21st Century of stealing its hospital collaborators on the project as well as the site in Manhattan.

The suit contends that 21st Century avoided “cost and lead time” by misappropriating confidential information. The suit is seeking damages of \$350 million.

Mr. Travis has said in news reports that the lawsuit will be “vigorously defended” and will not interfere with the Manhattan project. □