

<http://www.wsj.com/articles/big-bets-on-proton-therapy-face-uncertain-future-1432667393>

## BUSINESS

# Big Bets on Proton Therapy Face Uncertain Future

Insurers balk at expensive radiation treatment; can smaller machines turn the tide?

By [Melinda Beck](#) [Follow](#)

May 26, 2015 at 3:09 pm ET



New and costly proton-radiation therapy centers are scheduled to open in the U.S. in the next few years, entering a market where most insurers have stopped covering it for prostate cancer. PHOTO: HOWARD LIPIN/U-T SAN DIEGO/ZUMA PRESS

Six new proton-beam centers are set to start delivering state-of-the-art radiation to cancer patients around the country by year's end. Ten more are expected by 2018, bringing the U.S. total to 30—many the size of a football field and costing between \$100 million and \$200 million to build.

The projects, long in the works, will enter an uncertain market.

Proton-beam therapy, a highly precise form of radiation, has been dogged by a lack of evidence that it is better than traditional radiation despite costing significantly more. Many insurers including UnitedHealth Group Inc. and Aetna Inc. have stopped covering it for prostate cancer, once seen as a main source of patients. One center closed last year and several others have racked up millions of dollars in losses.

But proponents say the new business models are different. Five of the six proton centers opening this year are compact versions only a fraction the size and cost of the behemoths to build and operate.

“Proton therapy was ridiculously expensive—there had to be a way to make it more accessible,” said Joseph Jachinowski, chief executive of Mevion Medical Systems Inc. The closely-held Littleton, Mass., company makes proton systems costing between \$25 million and \$30 million with single treatment rooms instead of the usual four or five. Last month, a Mevion-equipped cancer center in Jacksonville, Fla., became the first proton-therapy facility owned by a private physicians group.

Other proton manufacturers, including Ion Beam Applications SA, Hitachi Ltd., and Varian Medical Systems Inc., also are building compact systems in centers in the U.S., Europe, Asia and the Mideast.

Officials at many centers say they aren’t relying on prostate patients to fill treatment rooms. Some are treating breast, lung and other cancers and experimenting with alternative payment models while they generate more data.

The University of Pennsylvania Health System is accepting the same rate for proton therapy that it does for regular intensity-modulated radiation, known as IMRT, from two insurers while it tracks patient outcomes. “It’s very important that providers have skin in the game as well as payers,” said radiation oncologist Justin Bekelman.

Some hospitals have turned to private donations, rather than private equity, to finance proton operations. Next month, the Mayo Clinic in Rochester, Minn., plans to start treating patients at its \$180 million proton center, one of two built with the help of a \$100 million gift.

With no investors to pay back, Mayo officials also say they will charge the same rates for

proton therapy as for IMRT.

“We’re basically telling the insurance companies and our critics—we’re not in this for the money. We think this is the best thing for our patients,” said Sameer Keole, medical director of proton-beam therapy at the Mayo Clinic in Phoenix, scheduled to open next year.

Health systems large and small see proton therapy as a way to attract patients and top clinicians and offer cutting-edge care. “All of the top 10 cancer centers in the U.S. have proton therapy or are developing a center, which shows they believe in it,” said Scott Warwick, chair of the National Association for Proton Therapy, an industry group.

Many radiation oncologists remain enthusiastic about the technology, in which positively charged particles are accelerated to 60% of the speed of light, then shaped into a powerful beam that can be programmed to deposit most of its energy directly onto a tumor, minimizing radiation exposure to surrounding healthy tissues. While proton therapy isn’t necessarily better at halting cancers, proponents say it sharply cuts side effects that can add substantial costs.

The benefits are undisputed for rare pediatric brain cancers, adult eye tumors and cancers at the base of the skull, which insurers generally cover. Some oncologists say proton therapy can reduce harmful side effects in many other localized cancers as well, including head and neck, central-nervous system, lung, prostate and breast, where some patients develop heart damage from spillover radiation.

But some insurers are balking at paying premium rates for proton therapy for such common cancers without more evidence that it does improve patient outcomes—ideally from randomized controlled trials. Several are now under way, but it will be years before results are clear.

Most Medicare regions cover proton therapy for prostate—at about \$1,100 per treatment session, compared with \$600 for IMRT. But several major insurers stopped after a 2012 study found it has no added long-term benefit. Men with prostate cancer had made up 70% of patients at some proton centers; now they are less than half the facilities’ customers nationwide.



A Scripps Proton Therapy Center worker in San Diego, Calif., adjusts the image of a patient being treated for brain stem cancer. PHOTO: HOWARD LIPIN/U-T SAN DIEGO/ZUMA PRESS

That decline has taken a toll. Last year, Indiana University closed its money-losing facility in Bloomington, citing the high cost to upgrade it and changing patterns of prostate care.

In 2013, ProCure Treatment Centers Inc., a private-equity backed operator of proton facilities, sold its share in a struggling center near Chicago, after missing a \$3.5 million loan payment. ProCure declined to comment.

Proponents have high hopes that “hypofractionation,” or delivering higher doses of radiation in fewer treatment sessions, will help bring the cost of proton therapy more in line with IMRT. Studies testing that are under way.



A brain stem cancer patient wears a mask custom designed to keep her head in the same place for each radiation treatment at the Scripps Proton Therapy Center in San Diego. PHOTO: HOWARD LIPIN/U-T SAN DIEGO/ZUMA PRESS

Meanwhile, manufacturers say the smaller proton centers can be more selective with patients and still be profitable because their costs are so low. Mr. Jachinowski said Mevion’s systems use just one-twentieth the energy and one-tenth the operating staff of the large proton facilities—“but the billing codes are the same,” he said.

Smaller is no guarantee of success, however. Earlier this month, ProTom International Inc.,

another closely-held builder of compact systems, filed for bankruptcy protection, citing a contract dispute over a center it is installing in Flint, Mich. ProTom didn't respond to a request for comment.

Critics say the lower startup costs will mean more centers offering pricey, unproven treatment. "Now, we'll have an even bigger problem on our hands," said Amitabh Chandra, a professor of public policy at Harvard's Kennedy School of Government.

Some also are concerned that the proliferation of centers in some geographic areas could stimulate unnecessary demand. By 2018, plans call for three in the Washington, D.C., area; two in Oklahoma City; two near Dallas; four in Florida; three in New Jersey and one in Manhattan, where a consortium of major hospitals hopes to break ground soon on a \$238 million facility. Planners told state regulators they expect to treat 1,500 patients annually with a profit of \$5.8 million after three years.

**Write to Melinda Beck at [HealthJournal@wsj.com](mailto:HealthJournal@wsj.com)**

