

# Demand for radiation therapy projected to outpace supply of radiation oncologists

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Between 2010 and 2020, the demand for radiation therapy will exceed the number of radiation oncologists practicing in the U.S. tenfold, which could profoundly affect the ability to provide patients with sufficient access to treatment, according to new research from The University of Texas MD Anderson Cancer Center.

The study, published in the October 18, 2010 issue of *The Journal of Clinical Oncology*, estimates that over the next decade, the number of [cancer patients](#) requiring radiation therapy will increase by 22 percent, while the number of full-time equivalent radiation oncologists entering the workforce will increase by just two percent. Researchers based their calculations on projections that in 2010, 3,943 radiation oncologists will treat an estimated 470,000 patients in the U.S.

According to Benjamin Smith, M.D., assistant professor in the Department of [Radiation Oncology](#) at MD Anderson and lead author of the study, radiation therapy is critical in the [cancer care](#) continuum, making the need for solutions that will resolve the gap a priority to continue providing the best cancer care possible. With this in mind, researchers also outlined stop-gap measures to address the shortage, including adopting more team-care models, altering the length of treatment and gradually increasing the size of residency training programs.

The findings add to the growing body of literature compiled by the American Society for Clinical Oncology and other organizations on the

projected shortage of cancer doctors over the next ten years, which is driven largely by demographic changes, including an increase in older adults and minorities, groups in which certain cancers are more prevalent. Data from the study approximates that the need for radiation therapy for adults ages 65 and older will increase 38 percent; for minorities, demand will increase by 45 percent.

"Shortages mean double trouble," said Smith. "Since research has shown that a delay between diagnosis and the start of radiation therapy can reduce its effectiveness, oncologists and radiologists must collaborate even more so the quality of care doesn't break down at multiple points."

Further research is needed to determine how practices can be changed to accommodate more patients and better provide radiation therapy without compromising quality of and access to care, Smith said. In the paper, the researchers offered several strategies to offset the shortage:

- Adopt a patient management team model: Incorporating physician assistants and/or advanced practice registered nurses to assist physicians in caring for patients receiving radiation therapy in order to increase the number of patients who can receive care at the same time;
- Provide shorter radiation treatment courses: In many situations, shorter treatment courses have been proven to be more efficient than, and just as effective as, long course radiation; and
- Increase the size of residency programs: A gradual increase in the number of trainees admitted to programs would help to increase the number of radiation oncologists available to treat patients over the next ten years.

Smith and colleagues estimated demand for radiation therapy by multiplying the current use of radiation therapy by population projections. To project the number of radiation oncologists in 2020, researchers examined the current number of board certified radiation oncologists and active residents who would become certified by 2014, being sensitive to age and gender, to determine approximate retirement age and full-time status. This model was then used to simulate the class composition for the remainder of the decade.

To measure the demand for radiation therapy and the supply of radiation oncologists, researchers used figures on current radiation therapy use and population projections from the Surveillance, Epidemiology and End Results (SEER)-17 database, the U.S. Census and American Board of Radiology data on the current workforce and trainees.

"For the first time, we have a clearer sense of how a shortage in the oncology field may play out," said Smith. "While our projections in the number of full time practicing radiation oncologists are the most accurate to date, the actual gap between patients and radiation oncologists will depend on the role of and need for [radiation therapy](#) in the future."

Provided by University of Texas M. D. Anderson Cancer Center

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