

# **Demand for radiotherapy expected to rise substantially in the next 10 years**

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The demand for radiotherapy across all European countries will increase by an average of 16% between 2012 and 2025, with the highest expected increase being for prostate cancer cases (24%), according to a new study published in *Radiotherapy and Oncology*.

"Because radiotherapy involves significant outlay in equipment costs as well as in staff, long-term planning is necessary in order to achieve the required results. We, therefore, decided to try to forecast the radiotherapy needs of new cancer patients in the short to medium term in order to gain sufficient time for the purchase of appropriate machinery and the personnel training that will be required to meet this need," said Professor Yolande Lievens, from the Radiation Oncology Department, Ghent University Hospital, Ghent, Belgium, who is a co-author of the paper and president elect of ESTRO.

The research group, made up of senior radiation oncologists and epidemiologists from Belgium, Denmark, Spain, France and Australia, analysed European cancer incidence for the year 2013 by country and by tumour site, using data from the International Agency for Research on Cancer (IARC) GLOBOCAN project on worldwide cancer incidence and mortality.

Using statistical modelling, the researchers applied the 2012 country, sex and site incidence rates to the population forecast for 2025 in order to obtain projections of new cancer cases for that year. "Although these projections take demographic changes into account, we are unable to

estimate the potential impact of changes in risk factors," co-author Professor Josep M. Borrás, of the University of Barcelona, Spain, will tell the ESTRO35 conference on Sunday 1 May.

The detailed estimates for many different tumour sites produced some major increases. In breast, rectum, head and neck, lung and prostate tumours, which account for the highest percentage of patients in a radiotherapy department, there were relative increases of more than 25% in rectal patients for whom radiotherapy would be indicated in Spain, The Netherlands, and the Czech Republic, while Belgium, the UK, and Denmark had estimated increases of more than 20%.

Prostate cancer showed the highest expected increase over the period, with a 24.4% rise, followed by bladder cancer (21%) and multiple myeloma (20.4%), whereas projected increases in female breast cancer, lymphomas, and head and neck cancer were below average.

About four million new cancer patients are expected in Europe in 2025. This estimate is based on demographic changes, and represents a 15.9% increase on the 3.4 million diagnosed in 2012, assuming that overall cancer rates remain unchanged. Of these four million, the number of patients who would benefit from radiotherapy treatment at least once during the course of their disease would rise from approximately 1.7 million patients in 2012 to two million in 2025, which represents an increase of 16.1%.

This increase in new cancer cases is largely because the European population is ageing due to increased longevity and lower fertility levels. Indeed, the very old (80 years and over) now make up the fastest-growing population age group in Europe. Although migration also has an impact on demographic change, its impact is usually seen in younger age groups with a relatively lower cancer risk, the researchers say.

"Being able to estimate the number of new [cancer patients](#) requiring radiotherapy is essential if we are to be able to plan for radiotherapy services," said co-author Professor Cai Grau, from Aarhus University Hospital, Aarhus, Denmark. "We have shown clearly that the need for radiotherapy across Europe will increase substantially by the year 2025."

Professor Lievens said: "We hope that our study will focus the minds of European policymakers on the need to invest in radiotherapy, particularly as we know that there are already important differences in equipment and staff between European countries. This, taken together with the expected increase in the number of new cases of cancer, means that planning for the best possible treatment of patients needs to start now.

"ESTRO now intends to build a global partnership of organisations to help close the gap between the actual and the projected uptake of [radiotherapy](#) worldwide. A meeting to take this project forward will be held on Monday May 2 during the conference in Turin. We hope that we will be able to play a major role in planning for and achieving the best possible situation for radiation oncology, and hence for patients, in the context of multidisciplinary [cancer](#) care in the future."

**More information:** Josep M. Borras et al. How many new cancer patients in Europe will require radiotherapy by 2025? An ESTRO-HERO analysis, *Radiotherapy and Oncology* (2016). [DOI: 10.1016/j.radonc.2016.02.016](#)

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