

Study reveals gaps in availability of radiotherapy services across Europe

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Most strikingly, the study finds that in several countries in western Europe there are too few radiotherapy machines to ensure that cancer patients in need of radiotherapy receive treatment. For instance, in Italy around 16% of need is unmet, in Portugal 19%, Austria 20%, and the UK and Germany 21%. However, the authors caution that these apparent gaps in treatment supply may be compensated by more efficient organisation of radiotherapy provision.

Led by Eduardo Rosenblatt from the [International Atomic Energy Agency](#) in Austria, the researchers analysed data from the Directory of Radiotherapy Centres (DIRAC) database, a global registry of radiotherapy facilities, to compare the need for radiotherapy equipment with existing supply based on the number of inhabitants and [cancer incidence](#) in 33 [European countries](#).

Availability of radiotherapy services varies widely between countries and regions within Europe. [Nordic countries](#), Belgium, the Netherlands, and Switzerland are well-equipped with radiotherapy machines to meet the demand for treatment, whilst most countries in eastern and southeastern Europe are insufficiently equipped and have the greatest need to expand and modernise their equipment.

On average, the study found that countries have 5.3 teletherapy (the most common form of radiotherapy) machines per million people, but the number ranged from fewer than two per million in Macedonia and [Romania](#) to more than eight per million in Denmark, Switzerland,

Belgium, Finland, and Sweden. Overall, ten countries were found to have an insufficient number of machines to meet estimated need.

The findings suggest that fragmentation of radiotherapy services exists in 28 of the 33 countries studied, with Sweden, the UK, the Netherlands, Denmark, and Slovenia having a more centralised set-up, operating a high number (between four and ten) of machines in each centre.

"The fragmentation in radiotherapy services that prevails in many European countries might affect the [economic burden](#) of radiotherapy and its quality", say the authors, whilst emphasising that although their results do not prove whether differences in equipment and organisation have an effect on cancer outcome, they do warrant further investigation into how to optimise the efficiency of radiotherapy services.

Across Europe, cancer is on the rise. Currently, 3.2 million Europeans are diagnosed with cancer every year, with roughly half of those requiring radiotherapy at some point.

"Despite being more cost-effective than surgery and chemotherapy for treating cancer, the building and running of a radiotherapy centre requires substantial financial and technical investment, so countries need to plan ahead" , explains Rosenblatt.

"Our data should enable governments, European Union bodies, and international organisations to see at a glance how adequate the provision of radiotherapy is in each European country. For the first time, it gives countries the ability to plan investment objectively and ensure the building and maintenance of sufficient capacity to meet the ever-increasing demand", he adds.

More information: [www.thelancet.com/journals/lan ... \(12\)70556-9/abstract](http://www.thelancet.com/journals/lan... (12)70556-9/abstract)

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