

## Estimation of the Need for Radiation Therapy Services According to the Incidence of Cancer in Colombia to 2035

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### Description

The present study was performed by surveying different radiation remedy services linked in Colombia through the Colombian Association of Radiation Oncology. The demand was estimated grounded on incident cases and published information on the use of radiation remedy by type of cancer. Unborn demand was estimated under the supposition that prevalence rates don't change and thus the change in the number of cases is due to the change in the age structure of the Colombian population. Perceptivity analyses were conducted on the chance of radiation remedy use by type of cancer. A Monte Carlo simulation was carried out to estimate the distribution of cases taking radiation remedy, the quantum of outfit, and the number of staff demanded for care with the use of this technology.

### Radition Therapy in Colombia

In total, Colombia has 69 direct accelerators, 2 radiosurgery outfit, 30 high- cure- rate brachytherapy pieces of outfit, 124 radiation remedy oncologists (113 working, 9 not working, and 2 not informed), and 275 radiation remedy technologists as of June 2020. It was estimated that to meet the current cancer burden the country would need a aggregate of 162 radiation remedy oncologists, 121 medical physicists, and 323 radiation remedy technologists and to increase the number of radiation remedy technologists, radiation remedy oncologists, and medical physicists to 491, 246, and 184, independently, to meet the complaint burden by 2035 (cases per time) [1].

Cancer has come a major public health problem in the world. According to Global Cancer Observatory in 2018, the prevalence rate was 236.9 and mortality was 125.2 per person-times for all cancers. Although millions of people die from cancer each time, high- income countries have achieved a drop in prevalence and mortality owing to impacting factors similar as threat control, early discovery, individual approach, and timely treatment [2].

In Colombia, according to Globocan in 2018, the prevalence rate was 215.9 and mortality was 102.5 per person- times. Among the main causes of cancer death in the country are lung, colon, rectum, stomach, prostate, and bone. The precedence problems that hamper comprehensive cancer care and negatively affect the drop in cancer prevalence and mortality in the country are lack of specialized and subspecialized mortal coffers in oncology; underdevelopment of palliative care and support services for families and caregivers; fragmentation of service delivery; and lack of articulation between preventative and restorative services; deficient system of regulation,

monitoring and control of the force of services, use of oncological drugs and quality of care; delicate control of care costs due to fragmentation, constricting and payment modalities, concession of rates, and force of drugs; and corporeality of integrated critical care routes. Achieving comprehensive cancer care for cases depends on the articulation of the different medical, surgical, and radiation remedy oncology specialties and the effective commerce between services of individual and social support that are reciprocal [3].

### Cancer Thapery

In high- income countries where the burden of cancer complaint is high, the cancer care is concentrated in comprehensive treatment centers that allow multimodal operation with radiation remedy, surgery, and chemotherapy. The high volume of cases at these centers improves the medical experience and clinical issues [4].

Specialized services similar as radiation remedy are essential in the comprehensive treatment of cancer. The application rate of radiation remedy varies extensively internationally but roughly 50 of all cases with cancer must admit radiation at some point during their treatment. In Colombia these technical services are concentrated in the 5 large metropolises, and it isn't known if the number of outfit and radiation remedy centers are sufficient according to the cancer complaint burden. The study seeks to estimate the force and demand of radiation remedy services in the country and to estimate unborn requirements according to the cancer complaint burden in the Colombian population in 2035 [5].

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