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Volume 7, Issue 7, July 2006, Pages 584-595

Health-care Research

## Role of radiotherapy in cancer control in low-income and middle-income countries

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[https://doi.org/10.1016/S1470-2045\(06\)70759-8](https://doi.org/10.1016/S1470-2045(06)70759-8)

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### Summary

More than half the cases of cancer in the world arise in people in low-income and middle-income countries. This proportion will rise to 70% by 2020. These are regions where the annual gross national income per person is less than US\$9386. Radiotherapy is an essential part of the treatment of cancer. In high-income countries, 52% of new cases of cancer should receive radiotherapy at least once and up to 25% might receive a second course. Because of the different distribution of tumour types worldwide and of the advanced stage at presentation, patients with cancer in low-income and middle-income regions could have a greater need for radiotherapy than those in high-income countries. Radiotherapy for cure or palliation has been shown to be cost effective. Many countries of low or middle income have limited access to radiotherapy, and 22 African and Asian countries have no service at all. In Africa in 2002, the actual supply of

megavoltage radiotherapy machines (cobalt or linear accelerator) was only 155, 18% of the estimated need. In the Asia-Pacific region, nearly 4 million cases of cancer arose in 2002. In 12 countries with available data, 1147 megavoltage machines were available for an estimated demand of nearly 4000 megavoltage machines. Eastern Europe and Latin America showed similar shortages. Strategies for developing services need planning at a national level and substantial investment for staff training and equipment. Safe and effective development of services would benefit from: links with established facilities in other countries, particularly those within the same region; access to information, such as free online journal access; and better education of all medical staff about the roles and benefits of radiotherapy.



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