

# Treatment Not Terror: Africa, Progress and Lessons

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As the number of cancer cases and deaths in Africa continues to rise, African states are racing to get ahead of this wave by acquiring additional radiotherapy machines. In doing so, these countries not only face financial challenges, but considerations of whether to use linear accelerators, which both offer better cancer care and reduce radiological security risks, or cobalt-60 machines, which are inferior on both counts, but often cost less and operate more consistently in more challenging environments.

To be sure, the trend line is clear: better-off African countries, such as South Africa and Nigeria, have moved almost entirely to LINAC based treatment. This shift can be attributed not only to the superior performance of these machines, but rising terrorist attacks and threats in Africa, enhancing radiological security concerns. Nonetheless, more than eighteen African countries still have co-60 machines, while thirty-nine generally poorer African countries lack a single teletherapy machine and may consider purchasing additional co-60 machines.

There currently are hundreds of thousand cancer-related deaths each year in Africa, projections indicate that could rise to a 1.4 million new cancer cases and 1 million cancer deaths in Africa annually by 2030. In light of the increasing terrorist threat, it is becoming extremely difficult to ignore the serious security threat that would be created by countries that plan to address the current shortfall of more than 4000 radiotherapy machines by establishing or upgrading radiotherapy facilities with high-risk cobalt-60 units. The specific current and future radiation therapy equipment needs met by high-activity radioactive sources may over time selectively be met by alternative technologies based on lower activity sources or no radioactive sealed sources at all.

Many governments and organizations in Africa have undertaken initiatives to facilitate the adoption and sustained use of security risk-free LINAC-based radiotherapy machines. Many of the research studies conducted to date on the cobalt-to-linac transition in Africa have been descriptive in nature addressing obstacles and making recommendations, but not instructive. The aim of this paper is to critically describe the transition process and lessons learned from the African experience and perspective. The research data analyzed in this study are drawn from four main sources: the IAEA Directory of Radiotherapy Centres, the Federation of African Medical Physics Organizations, Elekta and Varian (two manufacturers). Our findings have significant implications regarding the impact of introducing alternative radiotherapy technologies to enhance the “treatment” and reduce the “terror” in the treatment not terror paradigm.

## Gender

Male

## State

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