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## KFSHD experience as the first paperless RadOnc department in the Kingdom of Saudi Arabia

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**Introduction:** The Department of Radiation Oncology at King Fahad Specialist Hospital Dammam (KFSHD) started operation in 2005 with two Varian® LINACS 600 CD and 2300 CD with paper-based documents. All patient documents were required to be printed, signed and archived. In 2015 our department went through a major upgrade where two TrueBeam machines with the state-of-art technology. At that time, the decision was made to transform the department into a paperless environment.

**Methods:** A multidisciplinary task force committee was established with representatives from the whole department with the goal of replacing the existing paper-based documents with an equivalent electronic format. The electronic patient documents were integrated into our patient information system, Aria® 13.6. We have also utilized the patient care path and workflow features of the system. To facilitate the access of patient data from different locations, we increased the number of workstations (hardware), as well as purchased adequate number of licenses (software).

**Results:** Since 2016 we managed to become a paperless department. This transfer allowed for: (1) Tracking of patient treatment progress easily, (2) improving patient file readiness efficiency which reduced patient delays, (3) ensuring patient file completion and reducing the number of missing data, (4) eliminating the space required for storing all printed patient documents and (5) securing patient documents by using digital storage and backup. There are a few features that we are currently exploring, such as, the activity capture and billing system, which are in line with the current vision of Ministry of Health hospitals. In addition we are looking into linking our system with the hospital information system (MedicaPlus) by using an HL7 interface integration solution.

**Conclusion:** In summary, there are many benefits from transforming a radiation oncology department into a paperless or electronic environment. Many departments worldwide went through this transformation. In our opinion, it is better to build and customize your own electronic environment rather than mimicking someone else's experience. This transformation should be done gradually and the participation of all department members, taking into consideration available resources, is essential for success. The department should assess its existing infrastructure before making the transition, which may require a substantial capital investment (hardware, software and network).

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