

Cost-effective patient information management with convenient and remote image accessibility has been a challenging issue in modern radiation therapy for improving the quality of care. One powerful solution is a web-based system consisting of a dedicated image server connected to generic client computers. This configuration allows interaction with online oncology records from any computer equipped with a standard web-browser and an Internet connection. Traditional approaches to image management consist of dedicated workstations with application software. In a web-based application, images and key information are automatically composed into HTML documents for efficient patient presentation in a web-browser. Patient information, including text (demographics, reports, consultation) and images (diagnostic, simulation, verification), is input through the browser by transferring an electronic file or by use of a document scanner or film digitizer. Images are organized based on the clinical flow, from staging, planning, and prescription to treatment, verification, and follow-up. A treatment-completion report can be generated from selected information. Patient data can be systematically backed up on a server or written as a patient-centric CD. Such a system was evaluated in the clinical environment over the past year. More than 300 patients have been input for review and presentation. Preliminary studies have validated the web-based approach in that the system is easy to use, provides convenient access to images, enables patient archiving, and provides a very powerful tool for collaborative oncology patient treatment evaluation. System enhancements will include optimizing the images for display and streamlining the data input. Supported by Eastman Kodak Company grant.