Including Oncological Image Data From CD-ROMs into the Normal Workflow

To the Editor: As posed by Blayney,¹ many oncology departments run into problems nowadays with the patient image data are frequently presented to the physician on CD-ROM. Common problems lie in the inability to use the CD-ROMs because of security measures by the local Information Technology department prohibiting start-up of the software contained on the CD-ROM or the inability to read the images altogether. Furthermore, when the software on the CD-ROM does display the images, it presents the physician with an unfamiliar interface, thus hampering the easy evaluation of the data.

Problems with reading image data from CD-ROMs can lead to repeat scans, which increases the burden on the patient as well as the radiation dose to which the patient is exposed.

To overcome these problems we developed a novel procedure in our institution using in-house–developed software tools that allows for easy and fast inclusion of all image data contained on the CD-ROMs into the normal workflow of the hospital.

Our procedure started using commercially available tools but currently uses an in-house developed software tool (DICOMUploader) to enable the upload of CD-ROMs by the recipient (eg, the oncologist) onto a central system at the radiology department.² During this process, the DICOMUploader user will put the CD-ROM into the drive, manually enter a valid patient ID, and then all DICOM data as contained on the CD-ROM will be transferred automatically.

Subsequently, the data will be handled by dedicated staff at the radiology department who will first enter a valid

EXTERNAL DATA entry for the patient into the radiological information system (RIS). Next, the data is linked to this study and transferred either to PACS or to the institutional web server. During transfer relevant fields, such as the patient ID, in the DICOM header will be replaced by entries valid in our own institution. Data inside the PACS will be stored permanently and data inside the institutional web server for about 2 years.

The same software tool can be used to follow the status of the different requests during which the radiology staff will see all requests and the DICOMUploader users will only see their own requests.

After this procedure is done, the data will be available throughout the hospital through the electronic patient record of that particular patient using the usual viewers and tools.

The procedure developed at our institution works very efficiently and allows easy access to the data. This was evaluated for the first version of our procedure using a user questionnaire.³ This showed that from the respondents, 63% rated this procedure excellent and 38% as good when compared with reading the CD-ROMs by themselves. The overall satisfaction with the procedure was scored on a 5-point scale and resulted in most ratings good (38% of the respondents) and excellent (54%).³

The use of the procedure is shown in Figure 1 where the number of CD-ROMs processed is shown from January 2006 until March 2008. The graph was calculated at March 19, which explains the lower amount of CD-ROMs for that month. The increase in the CD-ROMs processed from 400 to 500 per month in 2006 to 800 to 900 in 2008 is clearly shown.

One main advantage of the DICOMUploader procedure is that the images become available in the familiar environment

Figure 1. Number of CD-ROMs processed per month from January 1, 2006 to March 19, 2008.

where they can be easily accessed. Furthermore, the CD-ROM remains with the owner, so when the upload is delayed, the CD-ROM can always be used when necessary in case of emergency.

Currently, new developments are finding their way into clinical practice. For example, the Integrating the Healthcare Enterprise (IHE) profile for portable data for imaging, a protocol which aims to give rules on how to structure media containing DICOM data so any CD-ROM created can be read everywhere and by every software tool. However, compliance to IHE profiles is not obligatory and will only find its way into clinical practice when the users demand it from the vendors.

Furthermore, protocols for web-based transmission of data are also developed and implemented to eliminate use of portable media such as CD-ROMs altogether. One example is the IHE XDS-I profile which describes rules for the cross-enterprise data sharing of image data. A big advantage of these

profiles is that they also cover the exchange of non-image data, such as, lab reports and ECGs. Currently, the first implementations using these profiles start to emerge, but probably portable media will still be around for the coming 5 to 10 years.

Using software tools, the problems currently caused by the use of portable media for exchange of image data between institutions can be overcome. Our solution provides an easy and quick way to extract the image data from the CD-ROMs and provide them to the physicians within the familiar environment of the electronic patient record.

Peter M.A. van Ooijen, MSc, PhD, André Broekema, BSc
Department of Radiology, University Medical Center Groningen, University of Groningen, the Netherlands; e-mail: p.m.a.van.ooijen@rad.umcg.nl.

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ERRATUM ERRATUM **ERRATUM** ERRATUM ERRATUM

The March 2008, Current Clinical Issues article entitled, "Reproductive Health Issues in Women with Cancer" (*J Oncol Pract* 4:101-105, 2008) contained an error. Ashlesha A. Patel, MD, Mini Sreedevi, MD, Rachana P. Sutaria, MD, Monique Brown Schoenhage, MD, Ashok R. Patel, MD, Erika K. Radeke, and Howard A. Zaren, MD, should have been listed as the authors of the study. All corrections have been made as of April 1, 2008.

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ERRATUM ERRATUM **ERRATUM** ERRATUM ERRATUM

The May 2008, Clinical Research article entitled, "Collaboration Between Cooperative Groups and Industry" (*J Oncol Pract* 4:140-141, 2008) contained errors. The author order should be Linda R. Bressler, PharmD, and Richard L. Schilsky, MD. In the first paragraph, line 18, the commas after the words "event" and "analysis" were deleted. In the third paragraph, line 4, the "s" in "tensions" was deleted. In the fourth paragraph, line 6, a space after "network" was added. On the second page, bottom left paragraph, third line, "are" was changed to "is." On the second page, next to last paragraph, second to last line, the "to" between "Subscription" and "by" was deleted. All corrections have been made as of June 19, 2008.

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