Session 7
Conclusions & Recommendations

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Standardization in E-health

Presentations in Session

- MPEG-4 video transmission on image and video coding/ Mr. M. Hashimoto

- Standard encoding protocols on image and video coding/ Mr. D. Lindbergh

- Success of DICOM standard/Mr. C. Loef

- Clinical Study on MPEG-2 Compression Based on the Rec. ITU-R BT. 500-9/ I. Nakajima

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Highlights from Presentation 1
"MPEG-4 video transmission on image and video coding"

■ MPEG-4 video transmission was developed and applied to support real time telemedicine.

■ Using multi-screen and vital data display, medical doctor can obtain realistic sensations at a triage center.

■ An algorithm using the spatial similarity in pictures was developed to recover raster errors and conceal packet loss.

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Highlights from Presentation 2
"Standard encoding protocols on image and video coding"

- ITU-T SG-16, Q.6/16 activities are presented.

- Overview of image coding standards, JPEG, JBIG, and JPEG-2000

- Overview of several video coding standards, especially H.261, H.263, and H.264/AVC

- As regards H.264 (a joint effort of ITU-T SG 16 and MPEG), gains of more than 50% can be achieved over MPEG-2

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Highlights from Presentation 3
"Success of DICOM standard"

- DICOM is well positioned to continue to serve integration needs of medical imaging, including workflow, evidence information recording, effective access to imaging results in the enterprise.

- Active cooperation with other standards assures DICOM objects integration into future EHR – whether by reference, or through well-defined trans-coding mechanisms.

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Highlights from Presentation 4
"Clinical Study on MPEG-2 Compression Based on the Rec. ITU-R BT. 500-9"

- Based on the Rec. ITU-R BT. 500-9, clinical study on MPEG-2 compression was performed.

- It is reported that at least 3 Mbps bandwidth required to transmit MPEG-2 with SD format.

- It is possible to calculate circuit(transponder) capacity based on suitable bandwidth and traffic numbers.

- It is reported that video in ambulance might be effective to save human life and reduce medical cost, if reliability channels are secured.

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Overview of issues in the session

- DICOM is well positioned to continue to serve integration needs of medical imaging, including workflow, evidence information recording, effective access to imaging results in the enterprise.

- Advance video coding (H.264/AVC) might be expected to support telemedicine, not only for video conferencing but also for remote medical diagnosis. Increased compression gains will enable signals with good video quality over lower bandwidth channels.

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Recommendations and follow-up actions

- ITU-T and DICOM should investigate the potential areas where collaboration between the two organizations would be mutually beneficial.
- ITU-T should investigate the application of H.264 for performance of remote medical observation with real cases.
- ITU-T (with support from ITU-R) should develop a suitable video coding for fading channel to support mobile telemedicine, especially ambulatory applications.

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