TELEMEDICINE
• Telemedicine is the use of electronic information and communication technologies to provide and support healthcare when distance separates the participants.

• It is a system that connect primary care physicians, providers, specialists, and patients.
Telemedicine System

- Telemedicine system can be categorized according to on three different features (layer):

  1. Transportation protocol layer
  2. Medical devices layer
  3. Application layer
<table>
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<tr>
<th>Applications</th>
<th>TOPCARE, TeLeCare</th>
<th>DELTASS, REMSAT</th>
<th>Chili, DicomWorks</th>
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<tr>
<td>Devices</td>
<td>Medication dispenser, ECG, glucose, BP, SPO2</td>
<td>ECG, SPO2, BP</td>
<td>Ultrasound, MRI, CT, PET</td>
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<tr>
<td>Protocols</td>
<td>Appropriate P2P, HTTPS</td>
<td>Appropriate P2P</td>
<td>Appropriate P2P, DICOM, HTTPS, email</td>
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</table>
Telemedicine Protocols

- Telemedicine applications have the need to transmit and receive patients records, and Radiological images includes ECG results (heart tracings).
- Transmission may be done in one of two ways:
  1. Real-time transmission
  2. Store-and-forward
• Real-Time
- Immediate feedback. Emergency triage, interactive, treating situation, and meeting.
• Store-and-forward
- Don’t need immediate feedback. Data is stored, forwarded, accessed. This less costly as data can be compressed and batch for transmission.

• Transmission via satellite, or terrestrial media.
• Terrestrial media include microwave, fiber-optic, and conditioned copper cables.
Telemedicine devices

• Alatan yang digunakan dikategorikan kepada 2 berdasarkan jenis maklumat yang diperolehi:
  1. Capture Images – Ultrasound, CT, MRI, dan PET.
Telemedicine applications

- DELTASS
- TOPCARE
- TeLeCare
- CHILI – Digital Radiology
- DicomWorks
- TeleinVIVo
- Telematics/ Interactive Communication
CHILI – Digital Radiology

DICOM-Workstation or Modality (CT, MRI)

DICOM-Send

Teleradiology-Workstation Hospital A

Manual selection of images
Add of other information like JPG, PDF, RTF etc.

mailto://rad@klinikb.de

Internet-Mailserver

SMTP/S

POP3/S

DICOM-Send Archive

Radiologist

DICOM-print

Teleradiology-Workstation Hospital B Radiology

Automatic poll mailbox rad@klinikb.de