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Innovative Solution to the Intelligent needs of healthcare Enterprise

Tele Health Information System

When the Doctor cannot meet the Patient and the patient cannot meet the doctor the technology makes the meet..



- Web Based System
  - Store & forward and two way interactive real-time system
- Extesnive Graphic User Interface
- Context sensitive help
  - Privacy ensured thru data security and access controls
- java based Multi-tier architecture
  - Hub and spoke model
- Conforming to international standard
- \_\_\_ DICOM 3.0 for images
  - ICD 10 codification for disease
- ICD-10-PCS codification for medical and surgical procedures
  - HL/7 Interface to Hospital Information System
- Payment gateway
- Interface to medical equipment
  - Electronic Medical Record
- Tele Education





Telemedicine is the practice of medicine over distance with the use of information technology and telecommunication. Telemedicine brings a specialist located hundreds of miles away into the actual examination room to look at the patient via a live interactive system. The interaction can be between the specialist and the patient or the referring physician, or a collaborative peer review / analysis.

Store & forward and Two-way interactive system are the most commonly used technologies in Telemedicine. The store and forward system is more suited for normal prognosis and the two-way interactive system is used in acute, difficult to diagnose and emergency cases.

The data can be transmitted by any mode of telecommunication ranging from VSAT, ISDN lines to ordinary telephone lines.

Almost all specialties of medicine have been found to be conducive to this kind of consultation. Several peripheral devices such as ECG, X-ray, Ultrasound, CT-Scan, MRI, Mamograph, Nuclear Scans, etc. can aid in an interactive examination.

# Healthcare future in Your Hands

Health departments, hospitals, correctional facilities, residential care centers, nursing homes and other health care providers can join the telemedicine network and monitor high-risk patients and help empower patients. establishes connectivity between primary health care centers and expert centers. The arrangements can be the hub and spoke model or a mentoring institution driven link.



The system broadly comprises of the following features:

- · Electronic Patient Records
- · Medical Imaging (DICOM and non DICOM Images)
- · Medical Equipment connectivity
- Expert Consultation
- · Videoconferencing

Depending on the medical equipment, the information in the form of records or in streaming mode can be linked up. The modalities may be one or more of the following

- Radiology (X-ray, Ultrasound, CT-Scan, MRI, Mammography, Nuclear Scans etc.)
- · Pathology Microscope, Lab Analysers
- · ECG/EKG, Echo Color Doppler
- · Stress Test, Coronary Angiographs
- · Digital Stethoscope, Bed side monitors

Patient
Primary Healthcare Center
Expert Center / Specialist
Medical Administrator
Expert or Doctor

who would use the service
which has trained medical personnel
Involved in consultations
who administers the network
who gives opinions and interacts with the patient

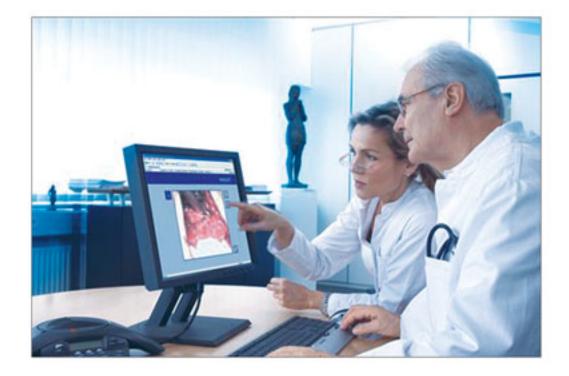






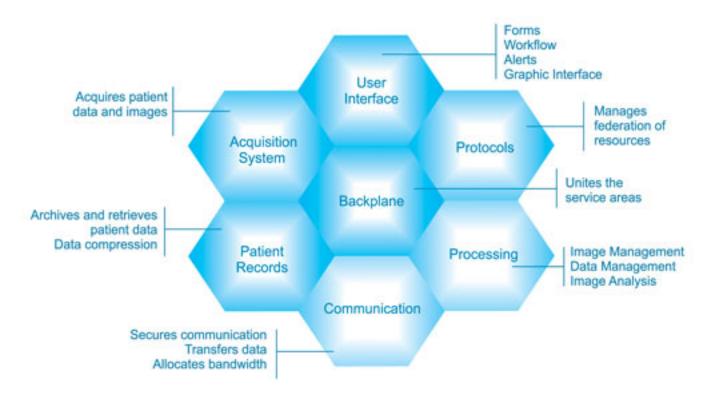
## The logical flow.

- ➤The patient approaches the PHC or any of the residential care centers, nursing homes and other health care providers
- Demographic details, vitals, preliminary medical examinations, complaints, observations, diagnostic reports related to the encounter/visit are noted at the PHC
- Depending on the need the PHC technician / Para medical staff chooses the store and forward or two-way interactive process
- >The Medical Administrator who maintains the network.
  - Classifies the case according to speciality
  - . Defines the workflow route of the case from a list of standard workflow routes
  - Assigns the case to the specialist who will review the case or interact with the
    patient. This process can be automated or predetermined. Search and help features
    are incorporated for user ease



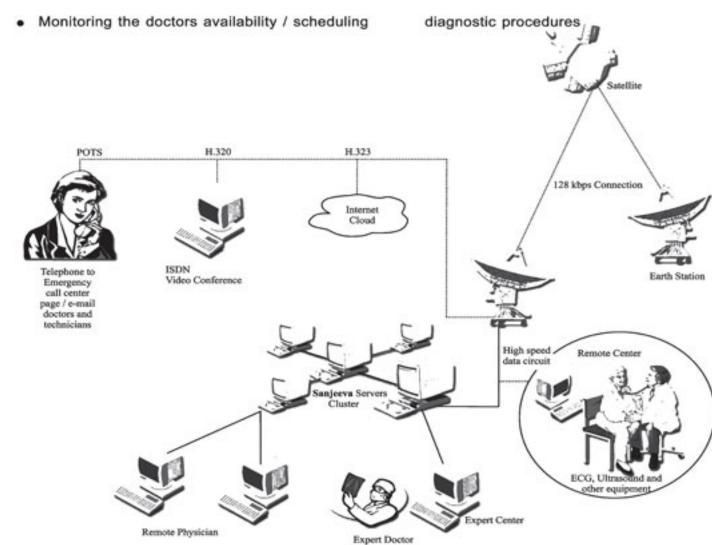
- ➤ Expert center / Expert doctor is presented with a list of cases and depending on the nature of the case the doctor will advise further course of action such as medication, investigation and therapy
- ➤ A case classified as store and forward, is posted to the PHC for communicating the results of the encounter to the patient or, the case is forwarded for opinion to some other specialist on the panel
- >In case of emergencies experts take the above actions immediately on-line

# **Overview of the Architecture**



#### Standards conformance

Application Standards	Medical Standards
HL 7 exchange of data with other applications	DICOM 3.0 Imaging
Open Platform	ICD-10 Classification of Disease
Payment Gateways using EDI	ICD-10-PCS Procedure Classification System
	SOAP



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