

# SPECIAL FEATURE



## Having A PACS is A GOOD START, but the JOURNEY is STILL LONG..... NIMHANS has been through THAT..... SEE HOW ??

It was the morning of 2012, when a patient walked into the OPD of NIMHANS, the premier teaching and research institution with a disease, which would be called a very standard problem, being tackled by the institute on a regular basis. In this case this happened to be the second time patient was visiting the hospital after having been diagnosed and treated few weeks back.

The doctor, realizing that this was his second visit, wanted to see his previous records. The institute as such had A Picture Archiving and Communication System (PACS) for the last few years but unfortunately, none of the records were ON LINE. Also the institute had a very rudimentary Hospital Information System (HIS), which was neither spread across the hospital nor was connected with the PACS.

What it meant was that the consultant had some documents in the paper form with some sketchy information about the patient's last visit and had to now ask the PACS administrator to get him / her the patients images / reports. The next step, made PACS administrator once requested go the PACS room, identify the particular CD where the patients images were stored ON, Load it into the PACS and images would now be ready to be viewed on the workstation in the Radiology department. Consultant would now walk to the department look at the images, Make their judgment and decide the next course of action for the patient. The patient would have to wait for at least an hour if not more.

It so happens, that the patient requires another MRI to be done. While the consultant writes what

needs to be done on a paper and hands it over to the patient, patient now heads to the radiology department, where after being attended at the reception desk, is told to visit next week at 11.00 am for the scan. When patient visits next week and goes to the radiology department and to the MRI scanner, his name, id, age etc is all entered into the machine by the technician, Scan is done and he/ she is sent back home. Scans are loaded into the machine, the concern radiologists interpret them, write the report, which goes into the patients file, which heads back to the referring physician. It is probably the next day, when the patient visits his physician again that after seeing the report / images, the physician tells the patient next course of action. Important to keep in mind is that treatment has still

not begun.

It was in this scenario, that Meddiff, a leading company in the arena of RIS / PACS was selected by the institute to replace their existing PACS and take the Patient Care to an entirely new level. This project was being directed directly by none other than the Director of the Institute personally, who besides the revamp of the PACS had also initiated the implementation of a modern HIS, through NIC, as well.

Meddiff team came in and studied the existing workflow, the Network Backbone, the hardware in terms of computers, servers and storage, had discussions with various users / stake holders across the hospital and NIC. The result was a totally new way of working with focus on improving the quality of patient care in the shortest pos-

sible time. This was easier said than done and it took almost 6 months of work with Meddiff, NIC and NIMHANS persons working together as a large team. Lots of Technical jargons were at play during this period. Terms like RIS ( radiology information system ) MWL ( modality work list ) , VRs ( Voice recognition ) systems, BARCOs , High resolution medical grade monitors, HL 7 ( health level 7) HIPAA ( health insurance portability and accountability act ) , VNA ( Vendor Neutral archive ) , Blade Servers, Clusters, TBs ( Terra Bytes ) ST and LT ( short term and long term ) , migration of data, GB ( Giga Bit ) network, Search engines, which sounded

strange in the beginning but subsequently became part of the common vocabulary of every one.

The end result was a New Scenario which had the following highlights:

- When patient came to the Physician in the OPD, doctor already had all his past records and images on his workstation
- When physician wanted to order another scan for the patient, he could see the availability of the next slot from his desk itself and plan / schedule it accordingly
- When the patient went to the MRI department, his details were automatically transferred into the machine

- The moment scan was done and the report made, it was simultaneously available to the referring physician and
  - Next course of treatment could begin immediately
  - Doctors could view the patient history / images anywhere in the hospital on real time basis
  - Students and Professors were able to mine the data and derive information with tremendous ease and speed helping them in their research work and delivering higher quality of treatment / care to the patient
- Patient waiting times came down drastically. Hospital has gone Filmless and Almost Paperless , leading to huge savings in costs as well.

Today, NIMHANS is one of the most modern DIGITAL Institutions not only in the country but in the world. Institute also has plans to connect this with NKN ( National Knowledge Network ) and the Backbone for the same has already reached the Institute.

One will see more interesting stories coming from here. Watch Out for them.



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