ALL INDIA INSTITUTE OF MEDICAL SCIENCES

MOBILE CT for ICU and Emergency Dept.

The mobile CT machine at JPN Apex Trauma Centre , AIIMS has two milestones to its credit: Being the first mobile CT scanner in government facility in India _and_ doing a record 1400 head CTs' in 10 months in the neurosurgery ICU of JPNATC.

It has completed total of 9855 Scans till now. Last year (2013) total scans done were 2702 Scans.

The reasons for purchasing a mobile CT scanner at JPNATC were many:

1. A major challenge was shifting critically ill patients from the ICU to the stationary CT scanner. Most of these patients are hemodynamically unstable, on ventilator, and on multiple drug infusions. During shifting, major adverse events can occur which can endanger the life of the patient

2. Although there is a full fledged CT Scanner at JPNATC, there are times when the scanner is not functioning or busy. Patients with suspected severe head injury who come to the emergency room have to be shifted to main AIIMS which is very time consuming and fraught with danger. A mobile CT acts as a standby CT and can quickly be transported to the emergency room or operating room as and when required

Advantages offered by the Scanner

MOBILITY CT scanner can be moved to patient's bedside and scan done very easily without disconnecting from the monitor, ventilator or drugs.

SPEED Scan is done very quickly with average time of less than 10 minutes from ordering to transmission into PACS.

QUALITY OF IMAGES: The image quality rivals that of high end stationary scanners and is exceptionally good for the scanner of its size

COST-EFFECTIVENESS: The scanner cost approximately 2 crores with 5 year mantainance included and has proven to be extremely useful at JPNATC
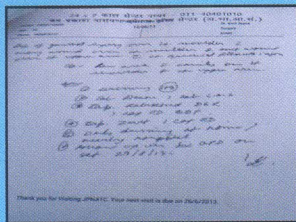
OPD Tablets for E-documentation

Background: Keeping pace with the tradition of using cutting edge technology for patient care, JPNATC introduced for the first time in any public funded hospital, tablet based care in OPD using the widely renowned mcura application. Built on the belief that Healthcare pro- viders/ organizations should have all the relevant clinical data available to them anytime/anywhere, to make the right decision, this innovation is functional since February 2013 after months of research and training. Three Sam- sung galaxy tablets have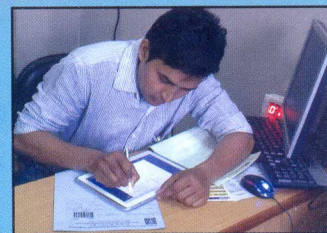 been utilized for this purpose. NIS is responsible for the functioning of the tablets and implementation of the software.

mCura is a complete, scalable, and effective solution for the entire healthcare community with a flexible plat- form that can influence and integrate relevant mod- ules and with external systems too. It initiates a high- performing healthcare system, where all those engaged in the care of the patient are linked together in secure and interoperable environ- ments, and where the flow of clinical data directly enables the most comprehensive, patient-centered, safe, efficient, and effective delivery of care where and when it is needed most – at the point of care.

Benefits:

- Appointments at single screen view
- Accessed by single /multiple front office staff
- Setup/update multiple hospital schedules
- Cancel/Move single slot/Multiple slots
- Block /Unblock single /multiple slot/schedule for hours/days/months
- Simple Patient Search
- Patient Appointment Allocation/Reminders
- Easy capturing of Past History/ Vital Signs/Clinical Parameters

- Patient Medical Records Retrieval
- Medical advice entry
- Lab Tests Review
- Lab Image/Video/Document Retrieval
- Advice & Plans entry
- Image Management
- Image comparison option
- Diagnosis entry
- Drug Reference GuideTest results uploading provision to Lab as Text/Image/Video
- including PACS

This application is truly an example of bringing the most excellent innovations to suit the highly evolving healthcare IT domain. OPD visits are now less grueling for the patients due to this amazing software where all is available at one touch.

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OPEN PACS (http://172.16.23.11/JPNATC.COM/newpage.aspx)

Background: Technologically, at par with the best hospitals in the world, a picture archiving and communication system (PACS) was implemented in JPNATC since November, 2011. It is a medical imaging technology which provides economical storage of, and convenient access to, images from multiple modalities (source machine types).
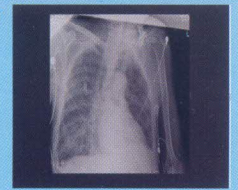
Initiative: Electronic images and reports are transmitted digitally via PACS; this eliminates the need to manually file, retrieve, or transport film jackets. The universal format for PACS image storage and transfer is DICOM (Digital Imaging and Communications in Medicine). Non-image data, such as scanned documents, may be incorporated using consumer industry standard formats like PDF (Portable Document Format), once encapsulated in DICOM.

A PACS consists of four major components: The imaging modalities such as X-ray computed tomography (CT) and magnetic resonance imaging (MRI), a secured network for the transmission of patient information, workstations for interpreting and reviewing images, and archives for the storage and retrieval of images and reports.

Benefits: Combined with available and emerging web technology, PACS has the ability to deliver timely and efficient access to images, interpretations, and related data. PACS breaks down the physical and time barriers associated with traditional film-based image retrieval, distribution, and display.

- **Hard copy replacement:** PACS replaces hard-copy based means of managing medical images, such as film archives. With the decreasing price of digital storage, PACSs provide a growing cost and space advantage over film archives in addition to the instant access to prior images at the same institution. Digital copies are referred to as Soft-copy.
- **Remote access:** It expands on the possibilities of conventional systems by providing capabilities of off-site viewing and reporting (distance education, telediagnosis). It enables practitioners in different physical locations to access the same information simultaneously for teleradiology.
- Electronic image integration platform: PACS provides the electronic platform for radiology images interfacing with other medical automation systems such as Hospital Information System(HIS), Electronic Medical Record (EMR), Practice Management Software, and Radiology Information System (RIS).
- Radiology Workflow Management: PACS is used by radiology personnel to manage the workflow of patient exams.

ELECTRONIC PATIENT WAITING LIST SYSTEM

Background: In a large public sector hospital like AIIMS, there is always huge demand for bed occupancy. It becomes difficult to prioritize admissions and schedule surgery, lingering dilemma about whom to admit and whom to deny.

Initiative: To simplify the process for admitting a patient or scheduling for routine/ priority surgery a unique software was developed called 'Waiting System' in JPNATC, AIIMS. In the Home tab, Admission date registrations can be made for a patient. Options can be selected for surgery planed, Tentative admission date can be allotted. Also blood requirements and cost of implants can be updated. There is an approve tab for consultants with secured ID and password for approving the dates for admission and surgery. On a daily basis, current waiting list can be viewed and the patients are called for surgery according to their waiting number by the SR neurosurgery. Waiting List consists of a detailed list of the patients awaiting admission.

Once all the initial formalities are completed for the surgery, admission form is updated by the tentative dates allotted for surgery.

Benefits:

Complete list of the patients awaiting admission is available at one place.

An organized format for scheduling and allotting dates for surgery.

Patients are called only by the number allotted in the waiting list. This prevents any kind of prejudice.
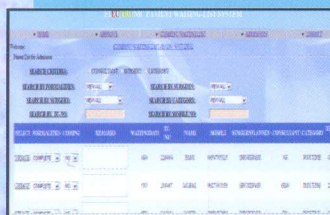
E– BLOOD BAG TRANSFUSION MODULE

Background: The blood banks are responsible for the collection, processing, typing, safety and storage of blood for research and medical purposes. A systematic and vigilant system has to be in place to ensure zero error in this highly specialized component of healthcare. **Initiative:** As a giant leap in this direction, JPN Apex Trauma Centre has successfully implemented an Electronic Blood Transfusion System on 1st August, 2012. To avoid any kind of errors right from the dispatch of blood from the blood bank to the actual transfusion to the patient,
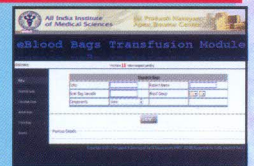
The Electronic Blood Transfusion System requires identification and validation by two types of barcodes:-

1. Barcode on Blood Bag- Once a requisition is made for any blood component; Blood bank enters patient details and carefully issues blood after scanning a unique bar code given on individual blood bags. The blood bag is scanned once only for a given patient.

2. Barcode on patient's ID band- The nurse who receives the scanned blood bag in ward/ICU then rescans the barcode on blood bag and verifies correct blood bag by scanning against the patients ID Band.

Barcodes scanned at these two vital points of care ensure that the correct protocol is followed and that patients receive the right blood as the nurse transfuses blood only when the blood is correctly verified against the patient with the help of the software. dispatch the bag to the related department.

Challenges: The Blood Bank Technicians and Nurses were initially reluctant in accepting the system as it was presumed it is takes extra time.

Benefits:

- improve transfusion safety
- reduced errors;
- Lesser time talen to deliver blood
- improve compliance with regulatory requirements
- The use of barcode integrated with the blood transfusion software has made the blood transfusion safer.
- improve the efficiency of hospital transfusion,
- the rapid availability of blood for those patients who need it urgently,
- less wastage
- improved use of staff time.
- **Compliance:** A relatively new software, compliance rate is roughly around 50% for trauma centre but an amazing 90% in Neurosurgery ICU.

Computerization modules of AIIMS

COMPUTERISATION OF EMERGENCY DEPARTMENT

Computerization of the emergency department started with the implementation of the lab modules which was a great boon to both the residents and the patients. Later on training for other modules like Ehospital, online store management were given to the staff nurses and ward in charges.Training for PACS were given to all the staff and residents, ending the long wait of the patients for their X-rays and CT reports in emergency. Installation of WiFi access point in the emergency has made the patient data access much more easier for the residents.

Filling of printed registration slip by the residents was made mandatory for getting the casualty paper made.A Patient Display System, showing all the subjective details of the patients was put up in all the emergency areas in a view to convey the treatment status of each patient in emergency, therefrorth establishing transparency in hospital care service, in turn leading to efficient patient care and management. A system based registry included in PDS is of great help- in data collection.

Dr Harsh Vardhan Visited AIIMS ED and was

With PDS fully functional in emergency department, another phase has been started with the implementation of doctors duty display, and emergency helpline number, and emergency nurse coordinators.

Doctors duty display displays the list of doctors assigned in different areas of emergency, thus ensuring accountability and transparency in the system.
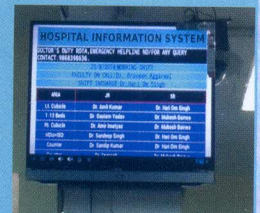
Wifi all over AIIMS !

As Always, AIIMS sets another example for hospitals in India, by setting up mpre than 200 wireless hotspots, across all centres and main hospital. Through WI-FI one can seamlessly roam across AIIMS campus on single network automatically. The wireless network is based on the latest technology and is POE (power over Ethernet) to ensure high availability
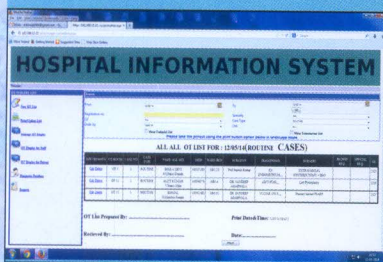
Procedure:

1.For INTRANET Access (PACS, e-Hospital, Library resources) select Access point AIIMS-INTRANET (once only) and you are connected to all above services. No need for any Wifi password etc.

2.For INTERNET access (Email etc) .This facility is made available only for AIIMS faculty. MAC address of each device which needs to be connected to internet needs to be given in prescribed format. Once bound at CF,AIIMS, user can access internet on device on same network.

Till date we have completed the Director Wing, Main AIIMS Block, all Private wards, CNC and CNTower Areas ,IRCH and Dental building. In the next phase (before Dec 2014) we plan to cover all hostels, residential areas as well as office buildings of AIIMS

ONLINE OT SCHEDULING

On line OT scheduling is now implemented successfully in AIIMS .It enables creation of OT list & scheduling easily   and will less errors as compared to the previous mode of list creation (manual). OT scheduling is an advanced software which help in keeping complete & accurate record along with immediate data availability of all operated patients. This will be a boon for research as searching according to diagnosis and/or surgeon for each specialty is now available at a click of the mouse. Online OT scheduling is introduced in all departments of AIIMS for both routine and emergency cases. NIS (Nurse Informatics specialists) posted in respective areas giving intensive training to all resident doctors regarding online OT scheduling   or scheduling helps in uniformity. Efficient way to communicate the vital information. An accurate & reliable record for the surgeries. An organized format for scheduling helps in uniformity.

Till date 70% OT list are maintained in OT scheduling online. Future plan is to make it 100% to make a uniformity in hospital documents. This is also one more step forward towards our mission to AIIMS computerization

FACULTY DASH BOARD*

Faculty Dash Board is an interface for the **faculty members** of AIIMS where they can find any details related to them including leaves applied, OPD & IPD patients diagnosed, OT details, publications, ACR and the annual report.
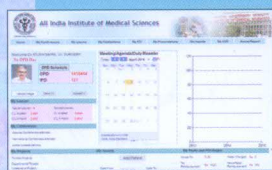

Secure site which can be accessed from anywhere

Internal URL is:
192.168.15.35/dashboard/dash1.aspx
Public/Static URL is:
14.139.245.45/dashboard/dash1.aspx
Username is your PAN number and Password is your Salary Code

The advantages are:-
1. Faculty need not to go to the administration for any query regarding leaves, national/ international conferences. Faculty dash board will provide this detail in a single screen.
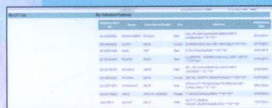
Individual faculty can view patients admitted under them and create folders

2. Annual report which is currently running will enable you to provide details regarding CME's, publications, books published, projects details etc. This will remove an extra which all faculties do when they provide their data for annual report & ACR.

NETWORK PRINTERS

Every organization today whether public or private faces growing challenges in managing printing and document processes in workplace. AIIMS was facing a colossal challenge in managing and maintaining inventory of the present cartridge based printers and was not able to prevent misuse of these printers where each page costs more than Rs 2!!


After the success of network toner drum based printers at JPNATC, it was decided to have them installed throughout AIIMS. These printers have several advantages. As these printers are in on a 'per page' contract with vendor (which includes maintenance and toner) the overall printing cost is only 32 paise/page which is frozen for next 5 years! Moreover a single printer can be simultaneously connected with multiple computers in a location, hence making it an ideal printer for a large setup. Most importantly, the misuse can be dramatically reduced as printing is allowed only from 'whitelisted' applications.

In AIIMS 100 RICOH network printers have been installed all across MainAIIMS, BRIRCH, RPCenter and CARDIO NEURO Centre. All printers are functional and have proved a boon for the computerization of AIIMS. These printers will increase efficiency of in-hospital operations to expand the print and document services and its cheaper cost of service will offer greater value to organization.

NEW APPOINTMENT SYSTEM at RAK OPD, AIIMS

AIIMS again has proved to set a benchmark for catering to the needs of patient by starting the New Appointment System in Main Hospital. Initially lab appointment was introduced in Central Collection Facility in February 2014, later it was followed with
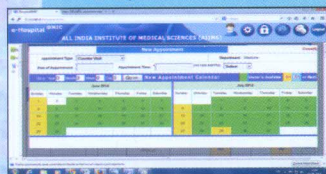
for new and follow up patients in RAK OPD and departmental OPD's respectively on July 2014.

The registration is caped to 75% of the total appointment prior to scheduled date and 25% on current date to facilitate the walk in patients. To strengthen the process the IVRS has been incorporated, in which appointment can be taken on phone by patient with existing UHID No. New patients can now get the appointment for the desired doctors and can get card made on required date of their convenience. The system will streamline the flow of patients shown to each doctor and also reflect the number of patients scheduled next day prior to the concerned doctor. With the commencement of the system single window concept can be fully achieved.

ASR (Automatic Speech Recognition) based IVRS(Interactive Voice Response System):

AIIMS has launched an Automatic Speech Recognition Based IVR system wherein patient can get an appointment with all departments from their homes. There is no need that patient can come to AIIMS for an appointment, they can simply dial a number{09266092660} and can get an appointment .This IVR facility is backed up by Speech Recognition

technology which understand the spoken word and convert into Indian regional languages.

Patient has to dial a number and start text for processing. Currently this is available in 14 speaking with IVR Portal, IVR will ask to say your UHID number and department in which you want an appointment, after successful understanding of spoken command, system will book an appointment and generate reference ID and queue number which patient can get over SMS also. Patient need to showcase this SMS to OPD counter to confirm appointment.
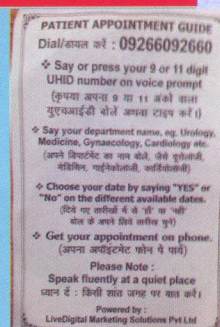
KIOSKS DEBUT AT AIIMS

You must have seen these kiosks all over AIIMS and must be wondering what they are for? These are vandal proof computers with touch and type input placed in public areas of AIIMS for use by Doctors and nurses to view PACS images, lab reports, enter notes on CPRS and patient vitals by Nurses. As ubiquitous access to computers was the biggest hurdle to entry of patient vitals and patient notes, we hope to overcome this handicap with these kiosks. These are also connected to network printers so that printout can be taken from a central location.

E-Exemption

AIIMS sets another example for the country as a forerunner in giving best and low cost treatment to the poor and marginalised sector of the society. For the same, faculties of AIIMS is empowered with the authority to provide exemptions to the needy. To meet this requirement electronically filed applications will be processed from the respective faculties of department with the help of NIC software. It contributes to the furtherance of administration by providing data of department wise, consultant wise and each service wise (CT, MRI, Admission, X-ray etc.) exemptions given by the institute and thereby give transparency to the whole system. There by AIIMS keeps its obligation to society at a large.

Online Inventory Management in AIIMS

AIIMS started online Indent in January 2014 with the help of store module software (e-Hospital –NIC). Initially online indent started from clinical departments than move forward to non-clinical departments. The manual format was replicated electronically in the software, intervention based changes were made in the existing modules. In 8 months we achieved 100% target of paperless indent with in
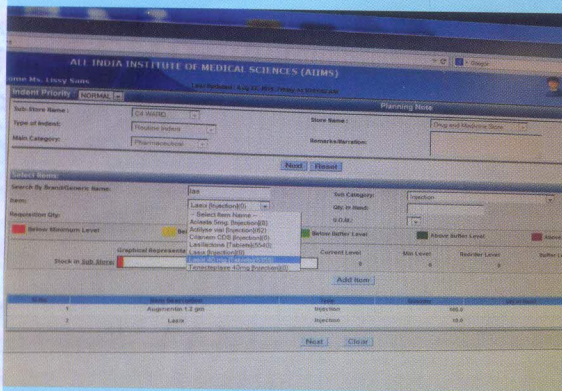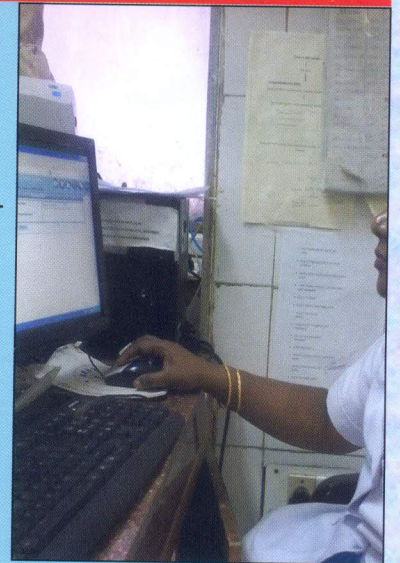
AIIMS and adjoining centers like CNC, CDER, IRCH, RPC, Ballabgarh and NDDTC. Online store utilization also started from 1April 2014 in each wards and OPDs of Main AIIMS, CNC,IRCH, RPC and CDER.

Online Indent and stock utilization simplified the work of Sister Incharges and significantly reduced manual labour and errors.

NIS has played an active role in the implementation of online Indent process. They involved in providing training to all Sr Incharges, DNS and Duty officers.

Advantages-1.Transparency to the system ,less time consuming, reduced manual labour and errors, automatically pull expired.

Admission Blocking

Admission blocking is a programme in which admission of any department will be blocked, if the patient of that department retained for more than 48 hrs in Emergency/Peripheral ward. Earlier admission blocking was done by duty officers manually.

This has been made possible with the help of NIC software. This feature helps duty officers to identify which departments' admission is about to be blocked due to the delay in transfer of patients from the Emergency/Peripheral wards and can take necessary actions, there by enables the smooth functioning of Emergency admission process.

Single Window System-OPD

Single window system is a concept where the patient can perform all his hospital related task at a single go .Admissions, bill payments, lab appointments ,reports, doctors appointment, follow up visits and radiological appointments and results from a single window. It was first introduced in Cardio Neuro Centre (CNC). It got a good response and In future it will be introduced in all over AIIMS.

ADVANTAGES Patients can take appointment for any department from a single window ,It will save the time and money of the patients., It will decrease stress on the patients., Efficiency of health services will increased., Increase in the level of patients and relative satisfaction., Efficient use of hospital resources will be done. It helps in the economy of time, money and material, It is a way which helps the hospital functioning to move in a systematic way, Decreases the time consumption of the patient by reducing the crowd., The comfort and satisfaction level of the patient will be increased
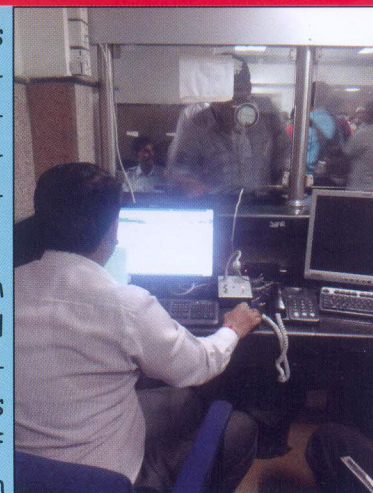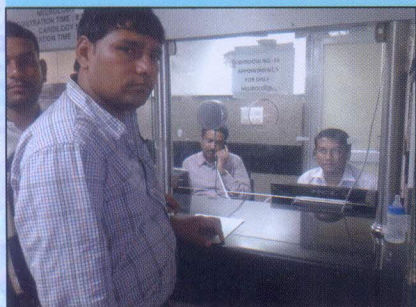
Cash card- An end to the queue system

We introduced a smart card service for the patient in Aiims to pay their invoices. A cash card is a smartcard that provides identification, authentication, data storage and convenience in billing process. We conducted a pilot study on patients who are admitted in surgery disciplines. For that we provided pre- paid cash card for the patients through the admission counter card reader was installed in the surgical ward to pay the patients invoices and training were given to selected nursing staffs. Traditional cash billing services are time consuming and require patients to carry large sums of money. Cash card services enable patients to pay their bill immediately in the inpatient nursing counter and offer greater security and convenience.

PNEUMATIC TUBE SYSTEM

Background: At Jai Prakash Narayan Apex Trauma Centre, AIIMS Pneumatic tube system are highly complex systems, which perform a great variety of tasks. It is an automated guided vehicle which delivers on-demand items weighing up to 7 lbs. at speeds up to 25 feet per second. This allows the transfer of items over 280 mm in diameter and almost 500 mm in length. Materials such as blood and tissue samples can arrive at the lab in seconds.

Initiative: This simple machine uses a blower or vacuum that produces either suction or positive pressure, which is efficient because only one end of the tube is required to do work in order to transport the carrier. . One of the latest innovations for vacuum tube systems is tracking the cylindrical carrier as it transports medications and other supplies. With a hospital pneumatic tube system, laboratory samples, units of stored blood or patients' files reach their destination quickly. This simple machine uses a blower or vacuum that produces either suction or positive pressure, which is efficient because only one end of the tube is required to do work in order to transport the carrier. Tube system creates a direct connection between all hospital wards, such as blood banks, outpatient departments, nursing wards.

Pneumatic tube systems are comprised of user stations, carriers to contain and transport lightweight unit-load materials, and a strategically designed network of piping and traffic control devices to ensure optimal performance. This system is currently operational in Blood bank, Routine Lab, Emergency room, OT, ICU and all Wards

Benefits:

- The pneumatic tube system transports a multitude of small and medium-sized items.
- laboratories can be centralized.
- Helps increase efficiency since the staff is no longer busy running errands, allowing the wards to stay occupied all the time.
- High speed, light unit material transport on demand
- Saves time and space
- Reliable air-cushioned transport of delicate items
- Improved efficiency and productivity
- Long-distance transport overhead, underground, between buildings
- easy-to-read, illuminated display
- Indication of destination name and number
- Search key and address list
- Individually programmable destination numbers and addresses
- Indication of system status and operating sequence

Challenges: A great amount of planning and training was required to fully integrate the system both in the infrastructure as well as the daily routine of the staff.

Compliance: This system is one of the best technologically advanced systems implemented in JPNATC as less time is spent in sending samples and receiving reports. It is used extensively

eMLC (http://172.16.23.11/jpnatcMLC.com/)

Background: AIIMS implemented an electronic medical record system with the objective of creating a tamper-proof eMLC that could be printed in a format mandated by law thereby satisfying all legal requirements

Initiative: A simple IT implementation with potential to bring much needed transparency in medico legal system which in India is known to be vulnerable to abuse from people with 'connections'

If you are a movie buff, then you would recall a scene from the famous movie 'Munna Bhai MBBS' where an emergency patient is denied medication for not filling a 'form'. Movie may (or may not) have exaggerated the issue but in reality there is an involvement of 'Medico Legal Case sheet' (MLC) for all trauma & suspected poisoning cases in India. Manual entry in this form of judicial importance is both time consuming and prone to tampering, and even if it is filled by time constrained doctor in the Trauma center, more than often it is illegible thereby becoming a major road block in resolving cases.

The famous 'Baby Falak' case had an eMLC made and the eMLC was available to media and even printed in various news reports

To come out of this dilemna, AIIMS implemented an electronic medical record system with the objective of creating a tamper-proof eMLC that could be printed in a format mandated by law thereby satisfying all legal requirements.

Challenges: The biggest challenge in implementing this sort of a system was to make eMLCs legally acceptable. As format and layout of the MLC is legally defined by a gazette notification, it can't be modified. Also, there was a question on the legal validity of electronically prepared document in healthcare in India. This difficulty was mitigated by taking legal opinion from lawyers, judges and police prior to implementation. Another challenge was to make the system secure to guarantee the authenticity of the prepared document. The technology used for implementing this project is fairly simple. It's built on the .NET framework with SQL database at the backend running on a couple of Dell blade servers and HP thin clients at the front-end.

Benefits: The implementation of this system has simplified the work of doctors, police and the judiciary. Doctors no longer have to waste time entering demographics of the patient because all medical details in eMLC are easy to enter as they are template driven. Plus, it also prevents duplication of work. The police and judiciary are both extremely happy with this system, because they get documents that are tamperproof (authentication can be done online), legible and fully filled. All relevant details that are required for evidence are present there. There are occasions when there is a doubt on the authenticity of the MLC and by virtue of eMLC, one could easily check the scanned record and verify the authenticity immediately. **Compliance:** The system is used for every case that lands into JPNA Trauma Centre, AIIMS, New Delhi. On an average, there are about 100 to 175 such cases every day. The system has recorded more than 50,000 cases till date, which are being used for generating reports for further decision making.

Background: A **medical certificate** is a document stating either that a person has passed a medical examination, or that a person is unfit for work for a stated period of time. **A fitness certificate** on the other hand certifies a person is fit to join for duties from a designated time described on the certificate.
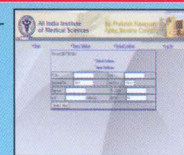
Initiative: In this direction, yet another feat achieved by JPNATC is the implementation of the **electronic medical and fitness certificate or eCertificates** which came into effect from **12th July, 2012.**

For accessing the system, the senior resident is required to login with a unique id and password provided by the Nursing Informatics. After logging in, the Home Screen shows the name of the doctor issuing the certificate. Patient details are automatically updated by entering the TC No of the patient. Various fields are incorporated for filling the certificates like Issuing Department, diagnosis, number of days of leave required and EHS No for staff. Data is then submitted and saved into the software which automatically opens the print page. Then 2 copies of the certificate are printed.

Total number of entries made till date can easily be obtained by the software developer from the database. **Challenges:** Initial reluctance to adopt a new system by the Senior Residents was soon overcome by rigrous training nand motivation. **Benefits:**

- Ensures facilitation of easier, user friendly software for creating and printing medical/ fitness certificates as compared to the certificates made manually.
- Only correct, required number of certificates are issued by authorized personnel.
- No misuse as it prevents issuing of any false, misleading or inaccurate certificates.

Compliance: The system is implemented and running successfully across JPNATC. No manual certificates are issued currently. Thus, this system ensures no false certificates are made and inculcates transparency into a system misused generally.

ELECTRONIC DEATH CERTIFICATE
(http://172.16.23.11/JPNATC.COM/)newpage.aspx

Background: Documentation of the death forms is a tedious process involving filling up of a large number of forms consuming a lot of precious time of the physicians

Initiative: On January 1, 2012, a web-based application called the Electronic Death Certificates was implemented.

This application includes valuable features to simplify the collection of death information and store it in a centralized database. Just a single entry into the home page is now required. Once the TC No. is entered, patient details are updated automatically. Only one single form on the home page needs to be filled which automatically feeds the data into a centralized system from which all the other forms that is death card, death certificate, police application, death report and OPD Note can be obtained.

The software consists of the following components:-

Home:-Consists the format in which the concerned SR fills all the information related to the patient

Once the details are updated on home screen by the SR on duty, nurse can obtain the required number of print outs

- 2 copies of print card (not for ED patient)
- 2 copies of print death certificates
- 1 copy of print police application for duty constable
- 2 copies of print death report
- 2 copies of print opd note (only for ED and OPD patient)

Challenges: One of the most successful softwares implemented in JPNATC, Electronic Death Certificate was readily accepted by the Doctors and Nurses. The only problem was to train the nurses on how to obtain the print outs. The gap was filled by NIS who were available round the clock for any assistance.

Benefits:

- This system reduced the documentation manifold as only one form needs to be filled on the computer.
- Simplified system of obtaining the death records
- User Friendly Format
- Easy accessibility of records on a fly.
- Accurate maintenance of the records as there is little scope of errors as compared to manual entries.

Compliance: The system is now mandatory in JPNATC. NIS (Nursing Informatics Specialist) provides training to the doctors to create the electronic death certificates It was started in ED initially but slowly was implemented in all other wards. This technology has made once thought impossible, the manual entering of death form as obsolete.
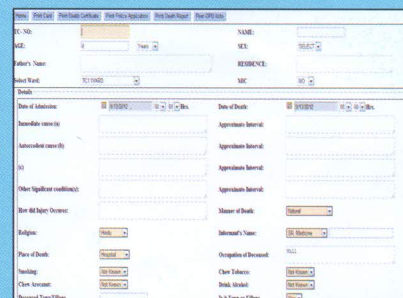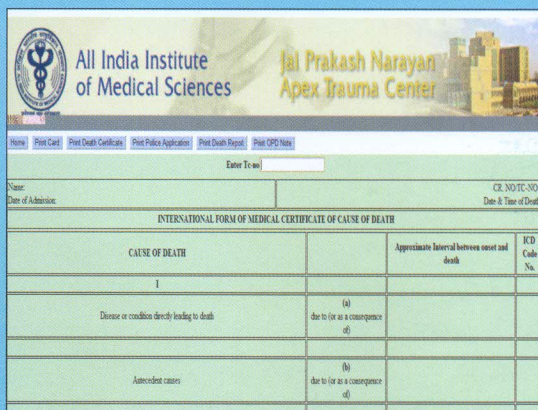
An electronic health record (EHR), or electronic medical record (EMR), is a systematic collection of electronic health information about an individual patient or population. It is a record in digital format that is theoretically capable of being shared across different health care settings. Compared to the traditional paper
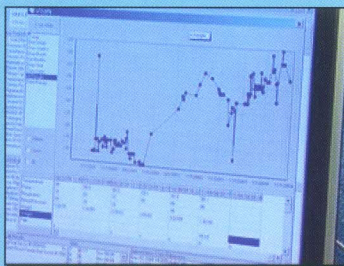
Lab Value in Graphic format

JPN Apex Trauma Center is the only center in AIIMS where 100% CPRS Is Implemented.

records system, EMR has its own benefits like reproducibility, security, flexibility etc. It was started in JPNATC from 2008 Since NOV. 2013 We are using VISTA CPRS as an EMR in Main AIIMS. We started with discharge note template in the different departments of AIIMS. Later onwards We also made transfer out note, casuality note, death summary and admission notes templates in CPRS which are now in the implementation phase. Our future plan is to make all the notes re-

Cover Page of CPRS

lated to patient including admission note, progress note, nurse's note, rounds note through CPRS.

Challenges Faced: Initial resistance by the nurses and the doctors to use the new system but eventually the staff is now more comfortable in computer documentation as the realization of its utility has slowly crept in.

Advantages

CPRS is flexible.

Input process may be facilitated if linked to other data storage devices.

Usable for both individualized patient care and management needs, plus public health demands.

Better accessibility than paper record.

Better legible, and better organized.
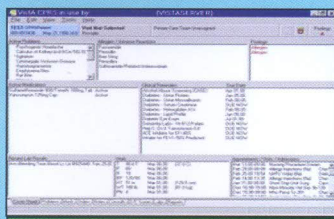
Interactive control of completeness and accuracy.

Reusability of data, e.g. in discharge letters.

Status of CPRS In AIIMS

DEPARTMENTS	ADMISSION NOTE	DISCHARGE NOTE	OPERATION NOTE	TRANSFER OUT NOTE	DEATH SUMMARY
NEUROLOGY	Not started	100%	NA	25%	60%
NEURO SURGERY	100%	100%	100%	60%	100%
ENT	60%	70%	Not started	100%	Not started
UROLOGY	Not started	Not started	Not started	100%	Not started
NEPHROLOGY	NIL	NIL	Not started	100%	Not started
ORTHOPEDICS	NIL	100%	100%	60%	Not started
PSYCHIATRY	NIL	NIL	Not started	100%	Not started
DERMATOLOGY & VENEROLOGY	NIL	20%	NIL	100%	Not started
ANESTHESIOLOGY	NA	NA	NA	100%	Not started
SURGICAL ONCOLOGY	NIL	NIL	NIL	100%	Not started
MEDICAL ONCOLOGY	NIL	100%	NIL	100%	Not started
RADIATION ONCOLOGY	NIL	100%	NIL	100%	Not started
ANESTHESIOLOGY IRCH	NIL	100%	NIL	100%	Not started
OBSTETRICS & GYNECOLOGY	NIL	100%	NIL	30%	Not started
MEDICINE	NIL	NIL	NIL	25%	Not started
PULMONARY MEDICINE	NIL	100%	NIL	100%	Not started
GERIATRIC MEDICINE	NIL	100%	NIL	100%	Not started
PEDIATRICS	NIL	100%	NIL	100%	Not started
ENDOCRINOLOGY	NIL	100%	NIL	20%	Not started
CARDIOLOGY	NIL	100%	NA	Not started	Not started
CTVS	NIL	100%	100%	Not started	Not started

## Creation of Nursing Informatics Specialists (NIS) in AIIMS–Ms.Metilda Robin

In a major thrust towards Electronic Medical Records (EMR) implementation in AIIMS, a new cadre of nurses, designated as NIS were formally deployed in all wards in Main hospital w e f November 2013. The NIS cadre was for the first time created in the country at JPNA Trauma Centre and is inarguably one the important reasons for the success of computerisation in the trauma Centre. At the trauma centre, NIS staff is present in ED round the clock and ensure 100% compliance in the e MLC system, PDS (Patient display system), DDDS (Doctors duty display system) as well as CPRS (Computerised patient record system). They also collect compliance statistics in the wards and are the bridge between doctors, nurses & the IT team. Currently there are 10 nurses who are undergoing intensive training in Trauma centre.

Similar to the trauma centre model, each NIS in main AIIMS are now deployed on every floor of the main Hospital as well as in the centres (RPC,CNC, IRCH & Dental) and they are responsible for the wards on that floor. Additionally, four NIS will be posted in shifts (24x7) in Emergency Dept who will be coordinating the emergency workflow and to ensure 'hands-on ' experience on the patients journey at AIIMS. We are confident that the presence of NIS in AIIMS will go a long way towards improving patient satisfaction and outcomes by being the bridge between Information Technology and the healthcare workers as well as patients. Presently there are 59 NIS posted all over AIIMS which is now an integral part for implementing EMR and revolutionising the work system of AIIMS.

New Faculty Induction Programme regarding Computerization in AIIMS conducted by Nurse Informatics, AIIMS
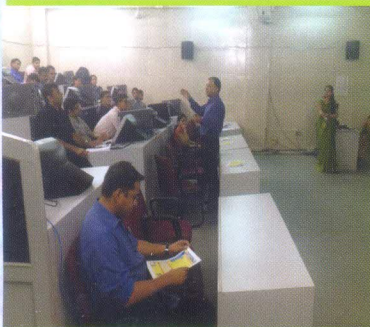
It was an archetypal effort made by the nursing fraternity of AIIMS rendered to the newly appointed faculty as an orientation to the premier institute of our nation, AIIMS. The program was effectively and efficiently executed by the NIS team on 21st June 2014 at CMET hall, AIIMS under the guidance of Dr Deepak Agrawal Chairman of Computerization Committee. More than 45 faculties attended the program. This was also the first time ever that nurses (NIS) took the classes for faculty on various aspects of computerization and it was well appreciated by the faculty. A Personality development and communication skills workshop (PDCP) was also part of the session in a view that these young faculty are the biggest asset for AIIMS who require constant nurturing, mentoring and support. Another message emerged out of the induction program was that NIS could be an excellent resource pool for holding such induction program for all healthcare professionals.

Workshop on Research ,Ethics And Publications (REAP) For Nursing Informatics Nurses under the guidance of Dr Deepak Agrawal. A major goal of this course is the ability to conduct research and development of effective technical writing skills . Last Reap was conducted on 17th July2014. in CMET educational Hall. AIIMS

ACTIVE ROLE OF N.I.S IN ORGANIZING CONFERENCE, WORKSHOP AND C.M.Es at JPNATC

Department of IT and Nursing Informatics Specialists have been actively involved in organizing various conferences, workshops and CMEs on regular basis for Doctors, nurses as well as technicians under the eminent guidance of Dr. Deepak Agrawal ,Additional Professor and Head of IT department.

Some of the training programs initiated and conducted by NIS include :

Cost Effective use of Technology Emergency Healthcare.-

Conducted thrice till now in the years

2011,2012,2013,2014

AIIMS PDCP ;Workshop o Personality Development ,Communications and presentation skills for Doctors and Nurses .This workshop has bee conducted 6 times till date including a special session for delegates fro Sri Lanka . Now the workshop is decide to conduct ,3rd Saturday of every month .

AIIMS-REAP: Workshop on Research ,Ethics And Publications For Nurses .A major course to search ment tech-skills .

cations For Nurses .A goal of this is the ability conduct re-and develop-of effective nical writing Last Reap was conducted on 15 th march 2014.

AIIMS –KISS. Keep it Simple Sonography is a workshop on ultrasound for Neurosurgeons & Neuro Nurses .It was conducted on 10 th December 2013 Under the aegis of NSI CON organized by Neurological Society of India ,at Mumbai and on 28th February ,2014 under the aegis of NSSICON organized by Neurological Surgeons Society of India ,at Rishikesh, AIIMS

Operative Workshop and Symposium On management of Complex Spinal Trauma :this workshop with a unique teaching format consists of case discussion with experts, discussion of pertinent anatomy, review of JPNATC experience for each case type ,live operative session .Conducted four times till now 2011-2014.

RECOGNITIONS.......

JPN Apex Trauma Centre's m-health initiative of decreasing queues and chaos in OPD using innovative technologies and the ubiquitous mobile phone was awarded the prestigious **mBillionth award south Asia 2010 in M-Health.**

Within one month, JPNATC added another feather in its cap by winning the eIndia 2010 jury's choice award in mGovernance. Dr Deepak Agrawal, Incharge IT, JPNATC and Mr Rohit, CEO, SM Telesys Ltd received the award on behalf of AIIMS in Hyderabad. **Prof Misra, Chief, JPNATC** said he was extremely happy with the performance of the IT department in JPNATC & this proved that government hospitals can provide leadership in IT in India. Moreover this year again we won **the Best Jury award for Online health-care provider for the project 'Integrated online portal for AIIMS Trauma centre'** at E-health world Expo 2011, 1-3 August , New Delhi

Year 2011-2012 was not far behind in carrying forward the legacy of winning awards like the eINDIA 2011 Award for the Best ICT-enabled Hospital of the Year.

The winning streak continues as Trauma centre is named the best Hospital one after the another in various conferences held across India.
JPN Apex trauma Centre is the proud recipient of eIndia Awards yet again. The award was conferred for the Innovative Use of Technology by the Hospital for the project- **Automated Tablet based Clinic(OPD) with messaging system and web portal – Mcura** in the eINDIA health awards category. The award ceremony was held in the Pearl city of Hyderabad on 24th July,2013. Ms Metilda Robin, Incharge Nurse Informatics received the award on behalf of Trauma Centre.

The concept which won the award was the innovative use of Samsung tablet (with stylus) and intuitive software. it is now possible for clinicians to see the appointments for the day, individual patients previous hospital records, take clinical photographs & videos with built in camera, see PACS & lab reports, write notes & prescription using the stylus and get print out of the 'handwritten' notes for the patient from a single device.

Best Jury award for Online health-care

PCQuest
Best IT Implementation of The Year 2011

CERTIFICATE OF APPRECIATION 2013 PRESENTED TO JPN APEX TRAUMA CENTRE FOR "NATIONAL EYE BANK &CORNEAL TRANSPLANTATIONS SERVICES"

डा॰ राजेन्द्र प्रसाद नेत्रविज्ञान केन्द्र
Dr. Rajendra Prasad Centre for Ophthalmic Sciences
अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली
All India Institute of Medical Sciences
28th National Eye Donation Fortnight
Certificate of Appreciation
is hereby granted to:
Trauma Centre AIIMS
for outstanding performance and lasting contribution to
National Eye Bank & Corneal Transplantation Services
Awarded: Sep 2, 2013

Prof. Radhika Tandon
Officer-in-charge
National Eye Bank

Prof. Jeewan S. Titiyal
Officer-in-charge
Cornea Services

Prof. Raj Vardhan Azad
Chief
Dr. R.P. Centre

Roshni ki Umeed   Roshni ki Umeed   Roshni ki Umeed   Roshni ki Umeed   Roshni ki Umeed

JPN Apex Trauma Centre is the proud recipient of " Certificate of Appreciation 2013 " For NATIONAL EYE BANK & CORNEAL TRANSPLANTATIONS SERVICES". This award is granted to JPNATC for outstanding performance and lasting contribution to Eye Bank & Corneal Transplantation Services.

Golden peacock award for IT implementation at AIIMS Delhi

"All India Institute of Medical Sciences" has been declared as the Winner of "Golden Peacock Innovative product /service Award" for the year 2014 (for innovative and Extremely cost Effective Use of ITC for e-Governance) by the Awards jury under the Chairmanship of Justice P.N.Bhagwati, former Chief Justice of India. The award was presented by Her Excellency Smt. Sheila Dikshit, Hon'ble Governor of Kerala.

AWARD-elets e-HEALTH

All India Institute of Medical Sciences" has been declared as the Winner of elets eHealth award for Best use of IT by Govt Sector. The award was presented byDepartment of Public Health Maharashtra Govt. on 11 July 2014, Pune

All India Institute of Medical Sciences

Jai Prakash Narayan Apex Trauma Center

PHILANTROPIC WORKS BY DEPARTMENT OF INFORMATION TECHNOLOGY

Life Size Glass Painting by famous Painter in JPNATC

MS. MANU SINGH

"A thing of beauty is a joy forever". A hospital ambience goes a long way in encouraging a patient and their relatives in times of difficulties. An understanding smile by the staff, an empathetic attitude and a calm and peaceful environment can ease the pain and suffering..

To provide a ray of hope and peace to the patient's relatives , beautiful life size glass paintings have been put up along the waiting hall near the ambulance bay. These masterpieces were made by the Famous painter Ms. **Manu Singh** .

She completed her post graduation from University of Lucknow and joined the University of Geneva (Design &Art Dept), Switzerland. Her works have been selected in the Annual Exhibition of AIFACS in 2009, Annual exhibitions organized by Camlin in the Professional Category in 2009, 2010 and Switzerland Contemporary Design & Art FAIR 2011. She has awards from Institute of Art & Design, Geneva, Switzerland(20100 to her credit. Presently she is settled Delhi & conducts various art Camps.

The paintings were made as a donation and a token of love to JPN apex Trauma Centre and accident victims.

JPN apex trauma Centre would be forever indebted to Ms Singh for her kind gesture.

GREEN SOLACE

Plants make you feel good. You only have to look at one, run your fingers through its leaves or smell its flowers to know that. Studies have shown that plants Clean the air by absorbing toxins, reduce the physical symptoms of stress and reduce dust pollution. Moreover, scenes of nature lower stress levels, facts that have both economic and healthcare implications.

Beautiful flowering and non flowering plants and ferns have been placed in the corridor and waiting area of neurosurgery ICU to infuse an environment of hope, peace and healing. Not only do these green friends improve the landscape but also are a source of solace for the grieving patient's relatives.

These plants are well maintained by the staff of Neurosurgery ICU.

All India Institute of Medical Sciences — Jai Prakash Narayan Apex Trauma Center

PHILANTROPIC WORKS BY DEPARTMENT OF INFORMATION TECHNOLOGY

POSTERS– PEARLS OF WISDOM AND A GLIMMER OF HOPE

Man can live about forty days without food,
About three days without water,
About eight minutes without air,
but only for
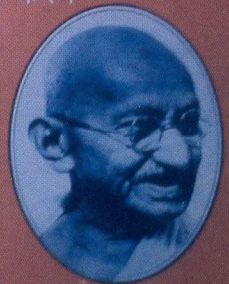One second without hope.

Motivational Massage outside Neurotrauma ICU

All India Institute of Medical Sciences — Jai Prakash Narayan Apex Trauma Center

For your loved one, will you accept
Spurious Medicines ?
Substandard Equipment ?
Untrained Doctors ?

आपके अपनों के लिए, क्या आप स्वीकार करेंगे
नकली दवाएँ ?
घटिया उपकरण ?
अप्रशिक्षित डॉक्टर ?

Pledge to say no to corruption- TODAY!

आज ही शपथ लिजीये – भ्रष्टाचार नहीं करना है।

JPNATC- For a Corruption Free India

जे प्र न ए ट्रौमा सेन्टर- भ्रष्टाचार मुक्त भारत के लिए।

Be the Change You Want to See in the World

जगत में बदलाव देखने के लिए पहले खुद बदलें।

Poster displayed in front of OT depicting an important message of JPNATC against corruption