# INTEGRATED HOSPITAL INFORMATION SYSTEM



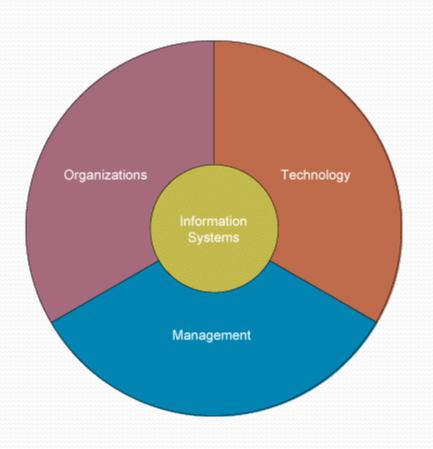
# WHAT IS HOSPITAL INFORMATION SYSTEM?

Hospital Information System (HIS) is a computerbased system that can manage all the information to allow the providers of health care to do their jobs effectively.





# INFORMATION SYSTEMS & ITS COMPONENTS



Any Information System is a convergence of Organizations,
Management and Technology



# BENEFITS OF HIS

- Maintains a secure database of patients. This information can be available at the point of care.
- Provides improved healthcare delivery by providing medical personnel with better access to data, faster data retrieval, higher quality data.
- Improves efficiency, both on the cost and the clinical care perspective. This is achieved by avoiding duplications, repetitions, delays, missing records.
- Helps to force orderliness and standardization of the patient records and procedures in the clinic and increasing accuracy & completeness of medical records of patient.
- Is a good managerial tool providing total, cost-effective access to complete and more accurate patient data.





# WHAT IS UNIQUE?



#### > Integrated Hospital System

- 10 modules within the hospital
- With other systems: HMIS and Name-based tracking

#### **▶** Based on Free and Open Source Software

- Use of cutting edge technologies Global standards
- No license costs in scaling

### > User driven development and ownership

- Strong focus on participatory design
- Phased and incremental implementation

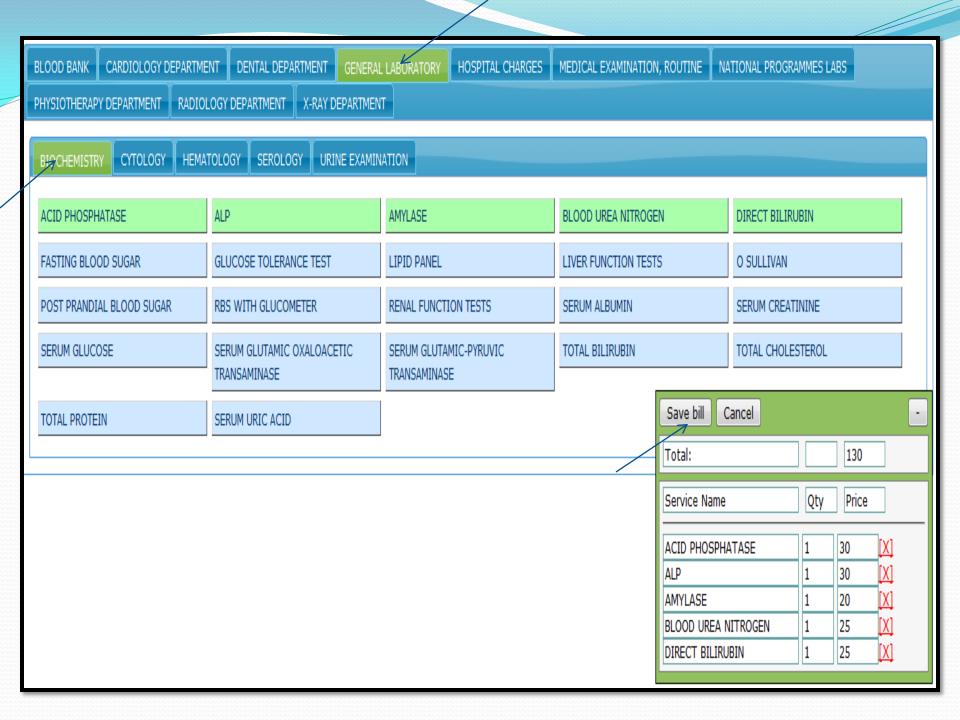


MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
Registration	<ul> <li>•Identification of a patient as new or revisit</li> <li>•Allocating a randomly generated Unique Identification Number</li> <li>•Registering a new patient and issuing an OPD slip based on a unique identification number</li> </ul>	<ul> <li>Output- OPD Slip</li> <li>Reports generated-</li> <li>Patient Load- Daily, weekly, monthly, yearly</li> <li>Patient Load breakup on basis of category, gender breakup</li> <li>RSBY/BPL breakup</li> <li>No. of free, handicapped, government employees, Senior citizens, pensioner</li> <li>Department-wise Load</li> <li>Geographic Distribution of Load</li> <li>Old Patient &amp; New Patient Load</li> <li>Total cash collection -registration</li> <li>Daily Registered Patients- patients registered with ID#, category, age gender.</li> </ul>

#### **Patient Registration** Visit Information Name \* ID Number \* Advance search SHDDU1272751535-4 dd/mm/yyyy Patient category Age Birthdate Gender Demographics \* ☑ General □ RSBY BPL Staff Antenatal Patient Postal Address: Child Less Than 1yr Address District: Chittagong Other Free Tehsil: Rangunia Phone number Referral Information Referred Relative Name \* OPD Room to Visit: \* Please select an OPD room to visit ▼ Reset Save

192.168.0.200:8090/ddu18/module/report/reportRoleList.form

MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
Centralized Billing	<ul> <li>Collection of money from the patients for charged services,</li> <li>Ambulances, Tenders and Student fee and giving them printed receipt</li> <li>Maintenance of records of monetary transactions <ul> <li>receipts and payments</li> </ul> </li> <li>Refund for part or whole of the payment made by patient</li> </ul>	Output- Payment receipt for patient, indicating service paid for and sends order for services to other departments for which payment has been made  Reports generated-  •Total User Charges Collected  •Department wise distribution of Charges  •Consolidated daily cash report- All users  •Total number of bill receipts detailed bill id wise cash collected for a particular time period)  •Daily bills generated (Total bills generated in that day with patient id, bill id and amount)  •Daily Bills Generated (Other free Category) -This report gives details of the bills generated for other free category  •Expenditure on Free Bills: Total amount spent by hospital on free bills (including RKS & BPL patients)  •Void Bill Report – All voided bills



## SEARCH BY BILL ID

Billing Ambulance	Billing Tender	Billing Miscellaneous service
Find Patient(s)		
Name/Identifier		Advance search
Find Patient		
Bill Id 4360		



MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
Laboratory Module	<ul> <li>Lab gets queue of all patients posted for various tests conducted by the lab (blood, urine, stool etc)</li> <li>Sample ID for vial is generated, daily work list for respective sub-lab is generated</li> <li>Consolidated work-list containing all the patients together with their tests</li> <li>Feature to print the work list with and without results</li> <li>Patient results entered and printed patient report</li> </ul>	<ul> <li>Output- Test result summary</li> <li>Reports generated-</li> <li>Lab Abstract- daily, weekly monthly, annually.</li> <li>Aggregate Laboratory Report</li> <li>Lab Stock related Report – Stock Balance utilization, etc.</li> </ul>

#### Laboratory system | Queue | Work List | Edit Result | Print Work List | Patient Report | Functional Status | Add Confidential Test Orders

М

Test Patient

24

AMYLASE

#### See patient List by choosing lab 27/07/2012 Patient ID/Name: Investigation: BIOCHEMISTRY Date: Get patients Reset Reschedule Date Patient ID Name Gender Age Test Accept Sample ID 27/07/2012 SHDDU1011304474-0 24 BLOOD UREA NITROGEN 27/07/2012-B1 Reschedule Test Patient Accepted Reschedule М ACID PHOSPHATASE 27/07/2012 SHDDU1011304474-0 Test Patient 24 Accept 27/07/2012-B2 Save Cancel Reschedule 27/07/2012 24 SHDDU1011304474-0 Test Patient ALKALINE PHOSPHATASE Accept 24 27/07/2012 SHDDU1011304474-0 Test Patient DIRECT BILIRUBIN Reschedule Accept

Accept

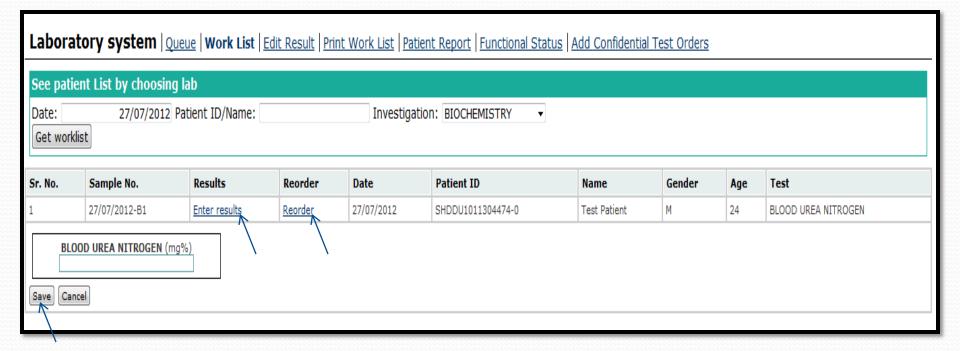
Reschedule

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27/07/2012

SHDDU1011304474-0

5



Laboratory system | Queue | Work List | Edit Result | Print Work List | Patient Report | Functional Status | Add Confidential Test Orders

#### See patient List by choosing lab

Date: 27/07/2012 Name/Identifier Test Patient 🕊

Advance search

Print Show patients

ID. No: **SHDDU1011304474-0** 

Age: **24** 

Gender: Male

Name: Test Patient

Order date: 27/07/2012

Test	Result	Units	Reference Range
BIOCHEMISTRY			
BLOOD UREA NITROGEN	12	mg%	13.0 // 43.0

#### Laboratory system | Queue | Work List | Edit Result | Print Work List | Patient Report | Functional Status | Add Confidential Test Orders

#### See patient List by choosing lab

Date: 14/09/2012 Patient ID/Name: Investigation: CONSOLIDATED LIST ▼

Get worklist

Sr. No.	Sample No.	Results	Reorder	Date	Patient ID	Name	Gender	Age	Test
1	14/09/2012-B8	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	INDIRECT BILIRUBIN
2	14/09/2012-B9	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	BLOOD UREA
3	14/09/2012-B10	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	ALKALINE PHOSPHATASE
1	14/09/2012-B11	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	LIPID PANEL
5	14/09/2012-H5	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	BLEEDING TIME AND CLOTTING TIME
5	14/09/2012-H6	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	PLATELETS
7	14/09/2012-H7	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	COMPLETE BLOOD COUNT
3	14/09/2012-H8	Enter results	Reorder	14/09/2012	ZHMANDI129141233-5	Apte Sushil	M	31	TOTAL LEUKOCYTE COUNT
9	14/09/2012-B1	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	INDIRECT BILIRUBIN
.0	14/09/2012-B2	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	SERUM CALCIUM
11	14/09/2012-B3	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	SERUM ALBUMIN
12	14/09/2012-B4	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	BLOOD UREA
13	14/09/2012-B5	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	LIPID PANEL
14	14/09/2012-B6	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	ALKALINE PHOSPHATASE
15	14/09/2012-B7	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	SERUM GLUTAMIC PYRUVIC TRANSAMINASE
16	14/09/2012-S1	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	C REACTIVE PROTEIN
17	14/09/2012-S2	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	31	HEPATITIS B SURFACE ANTIGEN TEST
18	14/09/2012-S3	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	31	ANTISTREPTOLYSIN O



#### WORK-LIST

Laboratory system   Queue   Work List   Edit Result   Print Work List   Patient Report   Functional Status   Add Confidential Test Orders
See patient List by choosing lab
Date: 14/09/2012 Patient ID/Name: Investigation: CONSOLIDATED LIST ▼ Print worklist  Get worklist ✓ with results



MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
Radiology Module	•Radiology module includes x-rays, ultrasounds, Doppler and contrast studies — respective lab will get queue of all patients posted for various investigation, daily work list for respective sub-lab, patient results entered and patient reported printed • Consolidated work-list containing all the patients together with their tests.	<ul> <li>Reports generated-</li> <li>Radiology Abstract- daily, weekly monthly Annually.</li> <li>Aggregate Radiology Report for Doppler, Ultrasound, Contrast Studies and X-ray</li> <li>Radiology Stock related Report – Stock Balance, utilization, etc.</li> </ul>

# Radiology system | Queue | Work List | Edit Result | Print Work List | Patient Report | Functional Status

#### See patient List by choosing lab

Date: 27/07/2012 Patient ID/Name: test patient Ir

Investigation: ULTRASOUND

Get patients Reset

No 🔺	Date \$	Patient ID \$	Name \$	Gender \$	Age \$	Test	Accept \$	Reschedule \$
1	27/07/2012	SHDDU1011304474-0	Test Patient	М	~24.5 years	ULTRASOUND ANTENATAL	Accepted	Reschedule

«« « 1 / **1** » »»

#### Radiology system | Queue | Work List | Edit Result | Print Work List | Patient Report | Functional Status

#### See patient List by choosing lab

Date: 27/07/2012 Patient ID/Name: test patient Investigation: ULTRASOUND

Get worklist

Sr. No.	Results	Reorder	Date	Patient ID	Name	Gender	Age	Test
1	Enter results	Reorder	27/07/2012	SHDDU1011304474-0	Test Patient	М	~24.5 years	ULTRASOUND ANTENATAL

«« « 1 / 1 » »»



#### $\textbf{Radiology system} \mid_{\underline{Oueue}} \mid_{\underline{Work \ List}} \mid_{\underline{Edit \ Result}} \mid_{\underline{Print \ Work \ List}} \mid_{\underline{Patient \ Report}} \mid_{\underline{Functional \ Status}}$

#### See patient List by choosing lab

Date: 14/09/2012 Patient ID/Name: Investigation: CONSOLIDATED LIST ▼

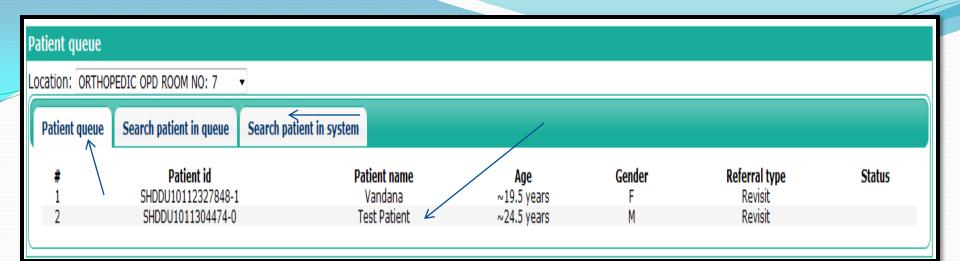
Get worklist

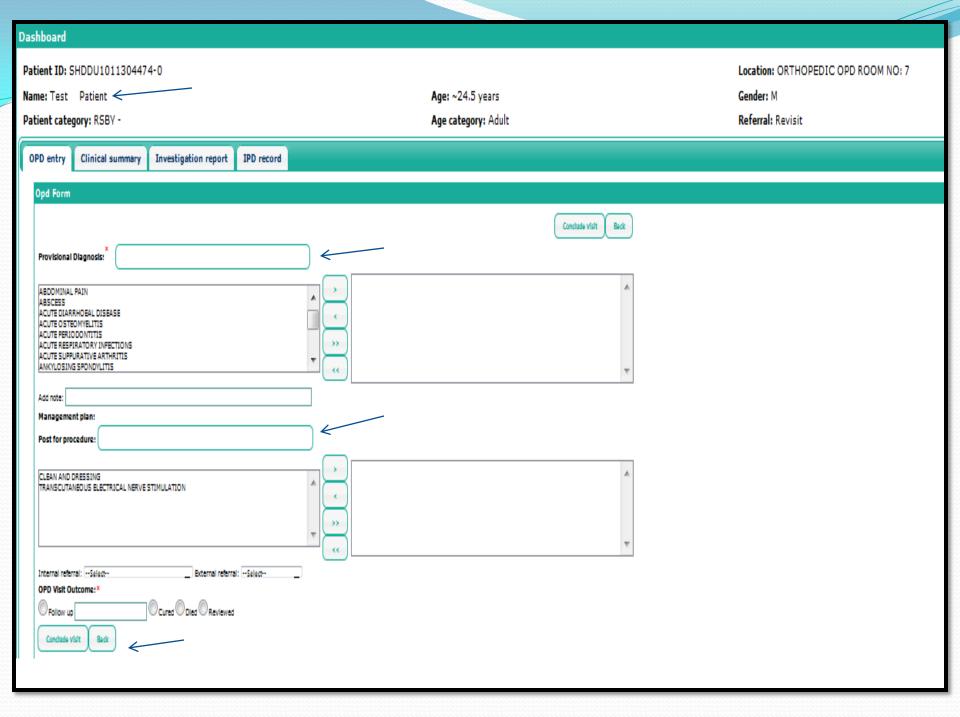
Sr. No.	Results	Reorder	Date	Patient ID	Name	Gender	Age	Test
1	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	~31 years	ULTRASOUND LYMPH NODES
2	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	~31 years	ULTRASOUND ABDOMEN
3	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	~31 years	ULTRASOUND KUB AND PROSTATE
4	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	~31 years	ULTRASOUND SCROTUM
5	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	~31 years	ULTRASOUND BREAST
6	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	~31 years	ULTRASOUND SUBMANDIBULAR GLANDS
7	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	~31 years	CT OTHER PARTS CONTRAST FOR GENERAL WARD
8	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	~31 years	CT HEAD CONTRAST FOR GENERAL WARD
9	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	~31 years	CT HEAD PLAIN FOR GENERAL WARD
10	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	M	~31 years	CT HEAD CONTRAST FOR SPECIAL WARD
11	Enter results	Reorder	14/09/2012	ZHMANDI1291457850-3	Sushil Apte	М	~31 years	CT HEAD PLAIN FOR SPECIAL WARD

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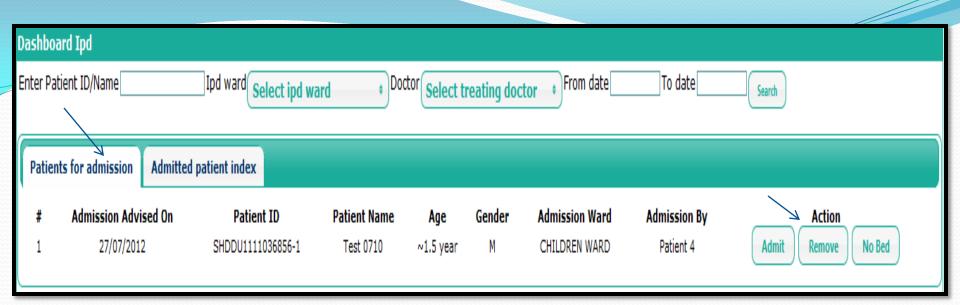


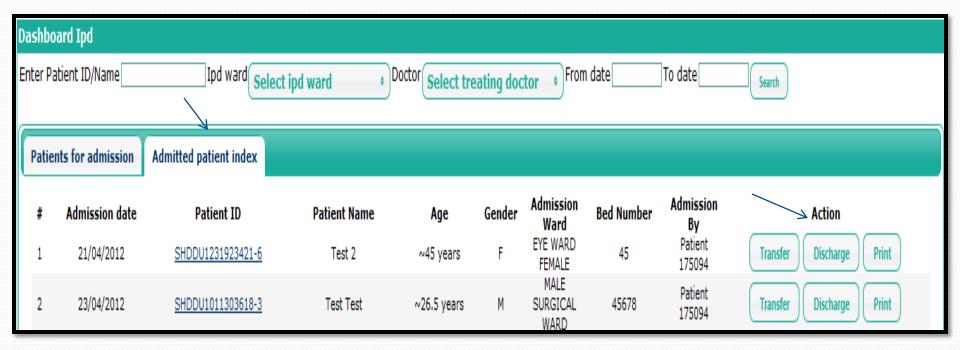
MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
OPD	<ul> <li>•Maintenance of patient records</li> <li>•Allows doctors at the outpatient department to add provisional diagnosis, procedures, add patient specific notes, refer a patient for internal or external referral and send patient for admission</li> </ul>	<ul> <li>Reports generated-</li> <li>Doctor wise patient load.</li> <li>Patients reviewed by Doctors OPD wise</li> <li>Patient load distribution by department- new patient revisit, internal referral (by periods and departments)</li> <li>Diagnosis breakup for each Doctor</li> </ul>





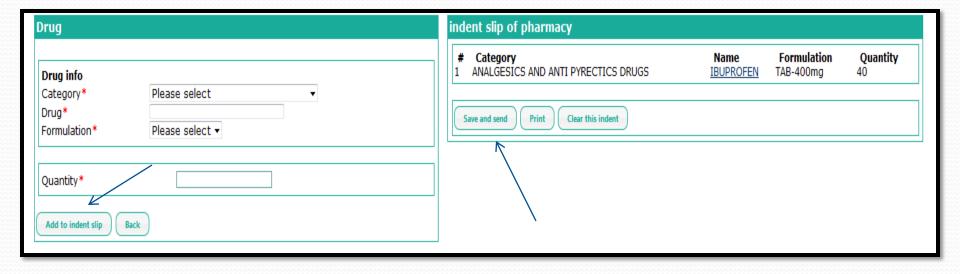
MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
IPD	<ul> <li>Patient admission &amp; bed allocation</li> <li>Ward management</li> <li>In-patient services like bed allocation, doctor details, surgical procedures and discharge summary can be recorded through this module</li> </ul>	Output- IPD admission slip, Patient discharge summary  Reports-  •IPD Abstract 1- Bed Occupancy Rate, gives a status of beds occupied and bed Vacant position per ward  •IPD Abstract 2- Census Report- Gives status of On bed Patient and total discharges, with breakup on basis of Gender and Age and department/OPD  •Both these abstracts are available for Morning (8:00 am-8:00 pm) evening (8:00 pm-8:00 am of next day) and consolidated (8:00 am -8:00 am of next day)  •IPD Admission Report - Report shows all total number of patients admitted in the hospital



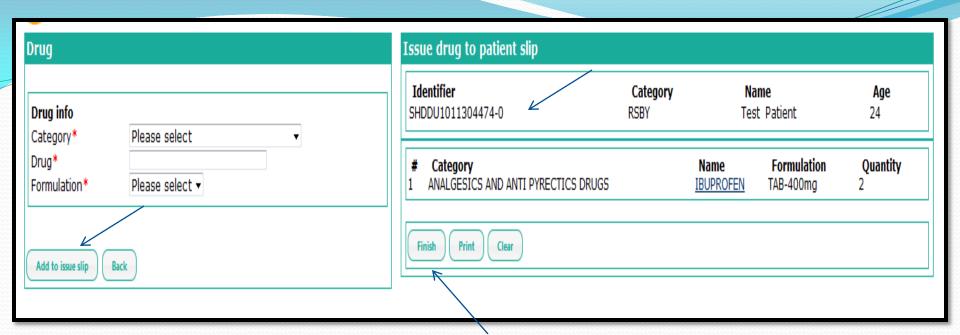


MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
Pharmacy	The pharmacy module is used to manage the inventory of drugs at the pharmacy. Drug dispensing to patient and their current availability can be monitored through this module	<ul> <li>Reports Generated</li> <li>Daily Drug Distribution</li> <li>Drug Distribution Category Wise (General, BPL, RSBY, Poor)</li> <li>Patient Load Summary (Gender Wise)</li> <li>Stock Balance Report</li> </ul>

#### View Stock Balance | View Stock Balance Expiry | Indent drugs | Issue drug to patient | Issue drug to account



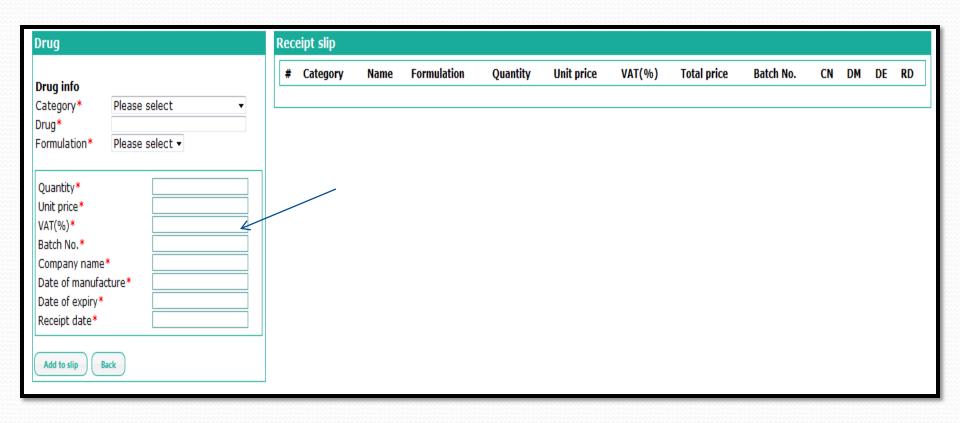


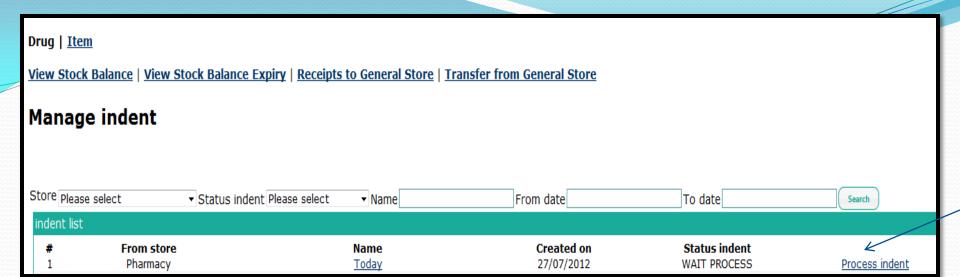


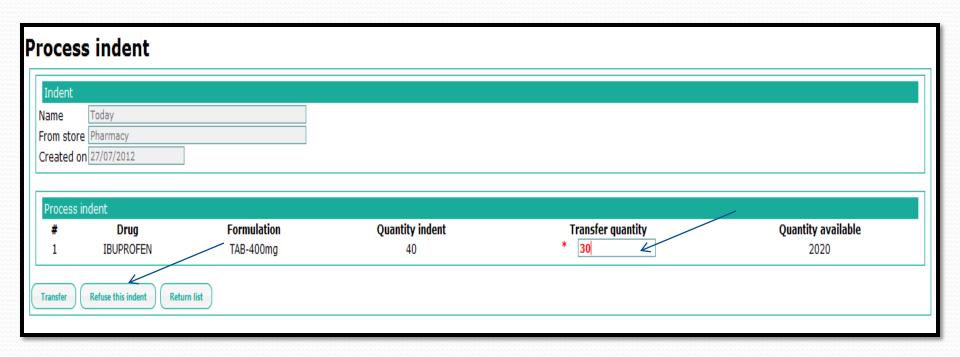
MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
Inventory	The inventory module records transactions pertaining to receipts in the Main store followed by transfers on basis of indents to various sub stores	Output- Transfer of Items and Drugs to various Sub Stores on basis of indents raised Reports generated- •Drug Expiry Report •Stock balance Report •Substore/Item wise Consumption report

#### Drug | Item

<u>View Stock Balance</u> | <u>View Stock Balance Expiry</u> | <u>Receipts to General Store</u> | <u>Transfer from General Store</u>

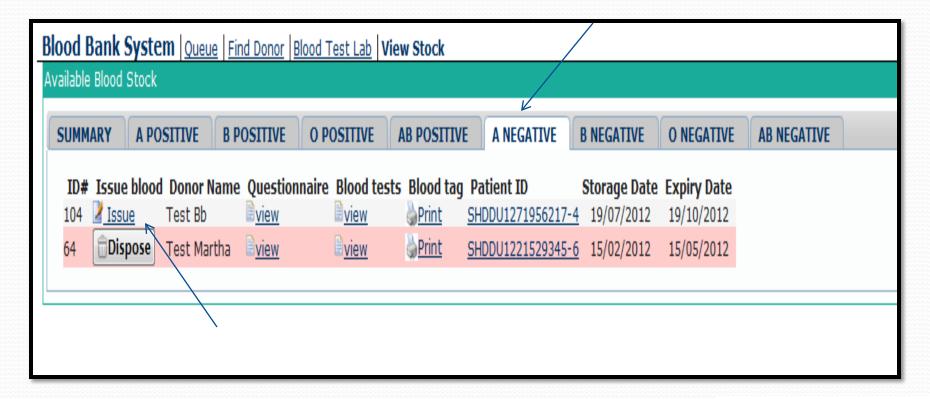






MODULE	PRIMARY FUNCTIONS	OUTPUT/ MANAGEMENT REPORTS
Blood Bank	•The blood bank management module is used for recording donor details, inventory of blood, patient request, issue of blood unit and all tests conducted at blood bank lab	<ul> <li>Output- Blood issue slip</li> <li>Reports generated-</li> <li>Blood donor records (by period, age, sex)</li> <li>Blood request reports (by periods &amp; departments)</li> <li>Blood collection reports (by period)</li> <li>Blood stock report (with stock out details)</li> <li>Expiry report (details of blood stocks with expiry dates)</li> </ul>

Blood Bank System | Queue | Find Donor | Blood Test Lab | View Stock | Edit properties

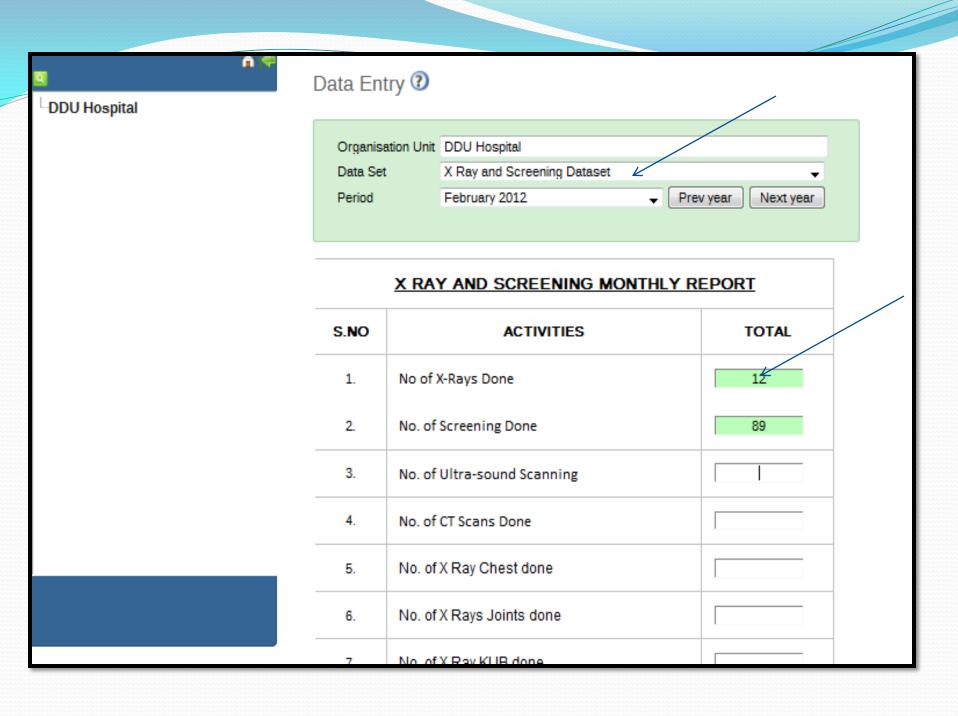




MODULE	PRIMARY FUNCTIONS
SDMXHDExport	The SDMX-HD is a Statistical Data and Metadata Exchange (SDMX)-based data exchange format intended to serve the needs of the Monitoring and Evaluation. The data is imported into DHIS to extract information from the data.



# OUR SYSTEM













# Thank you!

