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## Drug Logistics Information and Management System (DLIMS)

# DLIMS

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Central Medical Stores Organization (CMSO) is an organization under the Health and Family Welfare Department, Government of Gujarat.

The main objective of C.M.S.O. is for the procurement of Drugs, Surgical Items & Medical Equipments to cater the needs of all the Government Medical Institutions of Gujarat State i.e. all Medical Colleges-Hospitals, District Hospitals, Sub-district Hospitals, C.H.C. and P.H.C. On account of Central Procurement all the institutions can avail the qualitative drugs at economical rates.

Activities and functions of CMSO are as under:

- Procurement, storage and distribution of medicines, drugs, injectables, surgical goods and medical equipments on behalf of Health & Family Welfare Department.
- Distribution network covers medical colleges, district and taluka hospitals, community health centers and municipal corporation (457 Direct Demanding Officer)
- Facilitate supply of medicines & drugs at the time of epidemics and emergencies
- Quality assurance of above supply.

## Situation before the Initiative:

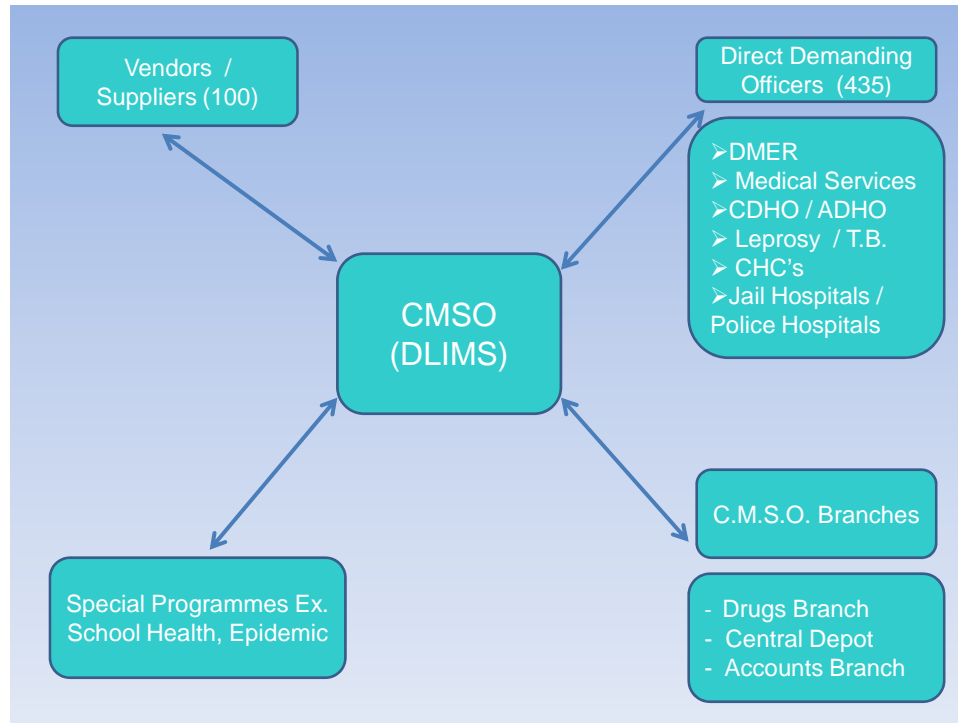
Earlier a DOS based application was in used for entire procurement process starting from tender processing, to placing purchase orders and for stock monitoring and drug distribution. e.g. for getting indent from various indenting offices situated across the state, indent forms were received from all the indenting offices (around 457) and then data entry was done centrally and data was transferred from one machine to another machine using media as per the requirement for different activities of the office. This manual process was consumed more time and cost.

## Strategy Adopted:

- (1) Keeping the objectives mentioned above in mind an integrated system to cover all interrelated activities starting from indenting to distribution was conceptualized by Central Medical Stores Organization (CMSO) and National Informatics Centre (NIC), Gujarat was requested to develop such system. After studying various functionality in depth and using latest available information and communication technology, an online web-based application Drug logistics Information and Management System (DLIMS) has been developed by NIC, integrating various inter-related activities of the office in a phased manner analyzing actual user's requirement and feedback.
- (2) The application hosted in the Central Server of NIC to get the benefit of the technical support to take care of backup, data security, data recovery and other such issues.
- (3) At the time of first round of implementation of e-indenting module to reach out the users located in different district an e-learning session was organized by NIC and demonstration cum operational training was given to these remote users.
- (4) A formal training was given to the users by organizing one day training session with the hands on component in it for a batch of about forty participants each.

## Introduction about DLIMS

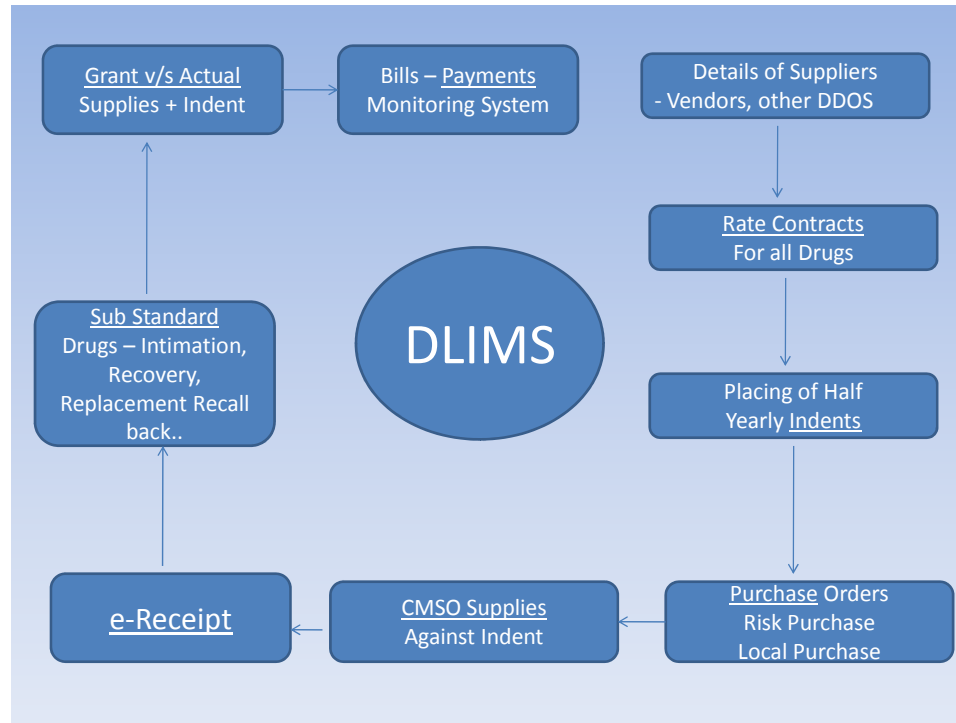
An online web-based application named Drug logistics Information and Management System (DLIMS) has been developed by NIC integrating various inter-related activities of the Centre Medical Stores Organization Office. This application is in operational since December 2006 at Gandhinagar. It provides some selected features for the 457 Direct Demanding Officers (DDO) spread all over the state. DLIMS has plays an important role in monitoring various Govt. sponsored National Programmes such as Anti-Malaria, School Health, Epidemic, Nirmal Gujarat, Anti Rabies, Medical Camps etc. The online DLIMS application is accessed through URL <http://cmso.guj.nic.in> .



## Users of DLIMS

## Objectives of DLIMS

1. To improve efficiency and effectiveness of drug logistics and warehousing system.
2. Using latest information and communication technology to improve various functions like procurement; indenting, placing order, bill payment etc. to serve in a better and effective manner.
3. To facilitate continuous online monitoring of all activities.
4. To integrate all inter-related activities through common database to avoid redundancy, increase accuracy and enhance transparency.



## Offerings of DLIMS

### Distinctive Features

- Due to centralized data base accuracy increased as all activities are inter-related and using same data base.
- As suppliers are also a part of the system it is a very good example of Government to Business (GtoB) extension of e-governance and also it enhanced the transparency.
- System is hosted in central server of NIC hence data disaster, backup etc. are all taken care by NIC's technical resources.
- Management of drug procurement and supply improved due to continuous online monitoring
- As the system is online and all concern employees and officers uses the system at their own, a different working culture has developed with enhance computer literacy and in turn lead to human resource development.

## Technology Used

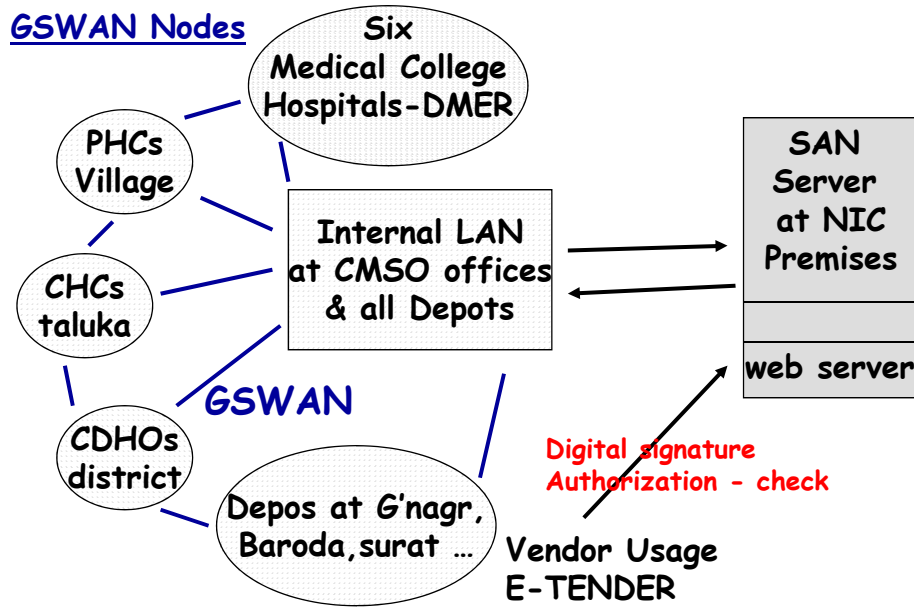
DLIMS application is developed using Microsoft .NET Technology with SQL server.

Following are the nine different modules in the system which covers all services and activities required for core functioning of this organization except quality management system.

1. eIS : e-Indenting System.
2. SPL : Special Programs Monitoring System.
3. PPS : Purchase Order Processing System.
4. SIM : Store Issuable Monitoring System.
5. SRM : Store Receipts Monitoring System.
6. SMS : Stock Monitoring System.
7. BPS : Bill Payment System.
8. MIS : Management Information System.
9. DDO : Module for Indenting Offices (Direct Demanding Offices)

Gujarat State Wide Area Network (GSWAN) infrastructure is being used to connect and access the DLIMS across the State with 2 mbps bandwidth. In Central office there are about 50 nodes covering various sections like depot, drug section, instrument section, account section etc. GSWAN is a dedicated network for the state applications and the application is hosted at the central server of NIC. All indenting offices located across the state (approx. 457) are having access to the connectivity and necessary nodes to access and work with the system. Automation has been achieved in almost all activities as under:

1. Receipt of indents becomes automatic as all indenting offices are sending their indent online.
2. Monitoring of requirement vs. availability of stock is now automatic.
3. Payment orders are automatically gets generated by entering required quantity.
4. Suppliers automatically get intimation of the orders placed.
5. As suppliers enter details of delivery, it automatically reflected to depot.
6. Stock gets automatically updated on receipt of delivery.
7. Activities like generating notices for late supply, risk purchase orders etc. gets automatically generated.
8. Accounts wing receives intimation automatically when depot enters receipt.
9. Stock gets automatically updated on issuing drugs and medicines to indenting offices.



Network Diagram

## Benefits

1. Efficiency ,Effectiveness & transparency has been increased,
2. Online monitoring of various functions are possible,
3. All activities indenting, procurement, receipt, dispatch, billing etc are integrated in a single database so accuracy is maintained throughout the process.
4. No duplication of data due to central data base.
5. Suppliers are a part of system, which increase the transparency of the process.
6. Due to maximum automation of various activities time and cost saved considerably.

## Success Indicators

Sr. No.	Success Indicator	Before	After
(a)	Online Indenting	About 457 DDO's located across the state were indenting manually. & then data entry was done centrally.	Now they are indenting online leading to saving in time, resources with increase in accuracy.
(b)	Integration of various functionalities	Depending upon the requirement of various activities data was transferred on computer to another computer using media.	Various modules for different activities are integrated and there is a central data base, so it reduces the duplication of entry and time in data transfer hence saves good amount of time and cost and also accuracy of the output increased.

## Impact of the project

There is a great impact on our system. After implementation of this project we have been able to timely procure quality drugs and can constantly monitor the position of availability of drugs all over the state and hence the end user i.e. patient has not to suffer on account of non availability of drugs. It has considerably increased the prestige of Govt. Hospital and more and more people are taking advantage of it, which have not to face the problem of non availability of drugs and they have not to purchase it from stores, which are costly for common people.

### A. Impact on organization (CMSO)

- No inter branch paper correspondence.
- Data back ups not taken as we were doing in the past.
- Online indenting through internet by D.D.O.'s
- e-receipt generation.
- Late supply penalties, Risk purchase order generation.
- Grant supply monitoring.

### B. General Impact

- Timely procurement of quality drugs at affordable rates.
- Monitoring of status of drugs improved significantly.
- Optimum utilization of budget as DLIMS helped in proper inventory management like FIFO.
- Successful management of epidemics like leptospirosis.
- C.M.S.O. with help of DLIMS purchases drugs under Central Schemes like NRHM also.

- With timely supply of quality drugs along with other measures by health department there is significant improved in all parameters like IMR, MMR, Malaria Control and institutional deliveries etc.

## Future Planning

The process of going ahead to extend DLIMS to serve decentralized distribution through regional depots.

1. Integration of e-tendering process with DLIMS.
2. Maintaining just in time inventory.
3. E-Payments.
4. Auto generation of purchase of order.

## Quality Control

- DLIMS helps in quick retrieval of data of companies whose products are declared as not of a Standard / Sub Standard.
- With click of mouse by entering batch No. quantity and details of D.D.O.'s (Hospitals) who have received particular drug can be retrieved which before DLIMS started used to take lot of time.
- With the help of DLIMS we are able to trace out list of hospitals who have received and direction like stop usage & stock recall are given immediately.
- So far 34 samples failed and with using DLIMS we have stopped usage & recall of stock done successfully.

## Screen Shots



The screenshot shows a Microsoft Internet Explorer browser window displaying the DLIMS (Drug Logistics Information & Management System) website. The browser's address bar shows the URL <http://dlims.guj.nic.in/>. The website header includes the DLIMS logo and the text "Drug Logistics Information & Management System" and "Government of Gujarat". A navigation menu on the left contains "DLIMS" and "ERP". The main content area features a central collage of medical-related images, including pills, a human anatomy diagram with labels for "Lung", "Heart", "Kidney", "Stomach", "Liver", "Spleen", and "Gall", a doctor, and a woman with a child. To the right of the collage is a login form titled "LOGIN PLEASE" with fields for "User name" and "Password", and a "Submit" button. The footer of the browser window displays "Designed and Developed by National Informatics Centre Gujarat" and the "NIC" logo.

## Web Corner

DLIMS

<http://dlims.guj.nic.in>

*For electronic subscription to the  
bulletin, please email us with  
your email address at:*

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*or visit us at:*

*[www.gujaratinformatics.com](http://www.gujaratinformatics.com)*

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