ICT Facilitated NABH Accreditation - An Approach Paper

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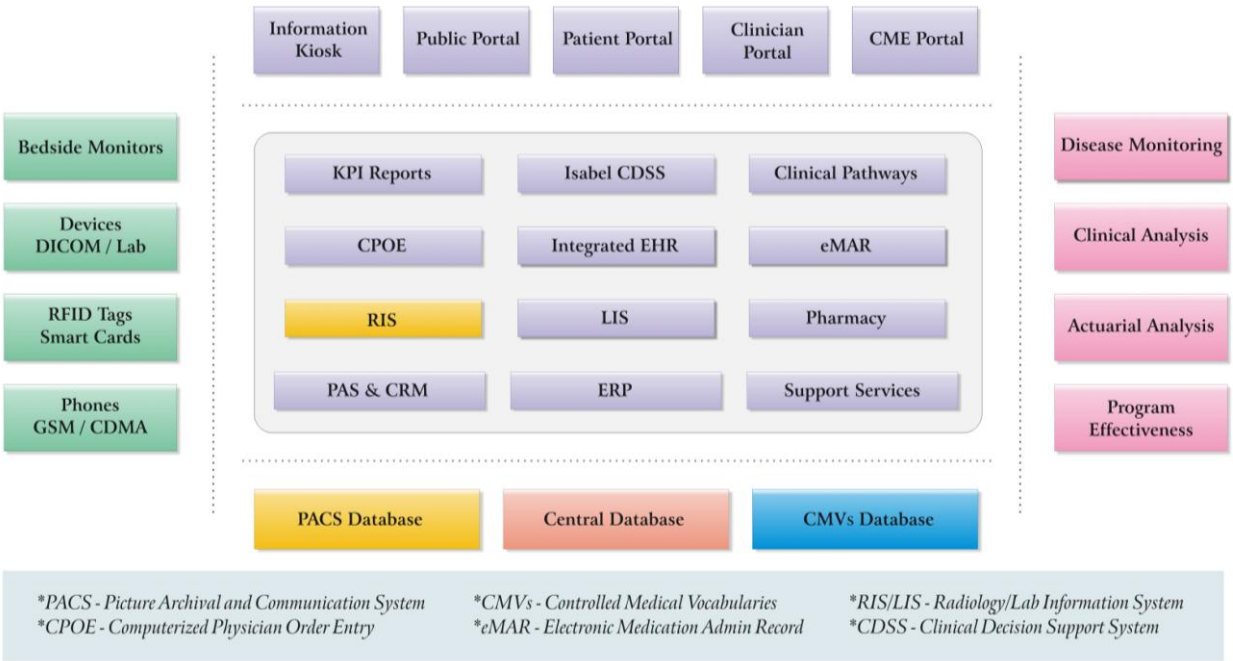
National Accreditation Board for Hospitals [NABH], a constituent board of Quality Council of India [QCI], have come up with standards for accrediting Hospitals with an aim to provide a framework for quality assurance and quality improvement. Intent of the standards is to provide information to patients about the level of healthcare an institution can or can not provide.

NABH standard definition covers 10 criteria groups – first five are patient centric and second five are organization centric.

Relevant ICT technologies/functionalities facilitating compliance to these standards are mentioned below, grouped as per NABH criteria.

1. Access, Assessment and Continuity of Care (AAC) Criteria Group:

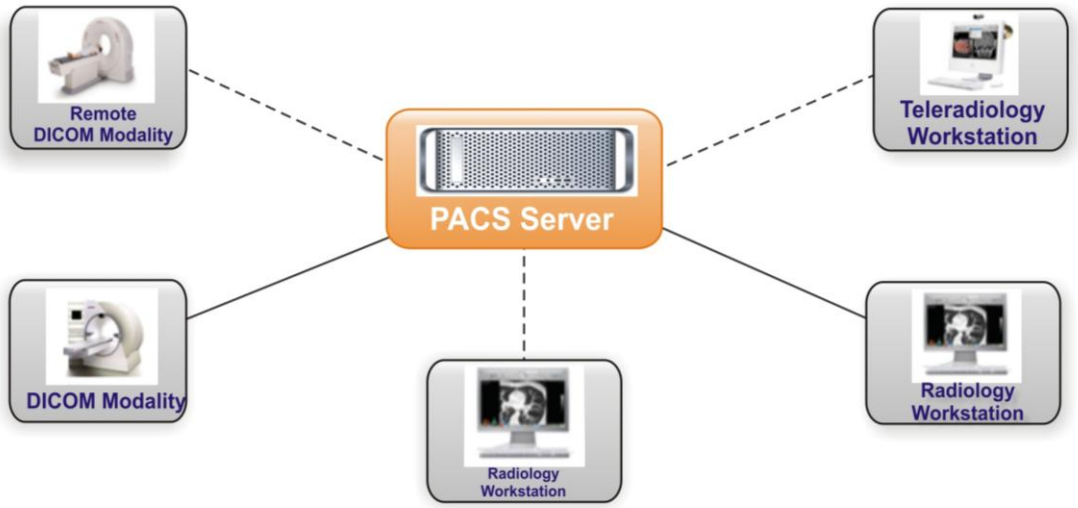
Standards for 'Registration', 'Admission', 'Discharge', 'Transfer' & 'Referral' processes are covered in this group and are properly taken care of using the Patient Administration System [PAS] module of an HMIS. This functionality forms one of the basic blocks of a modern Hospital Management Information System [diagram 1].



[Diagram 1: HMIS Functionality Stack]

Standard Clinical Assessment, including alerts for Allergy, ADR & Critical Problems is greatly assisted by ICT usage. Life critical information related to Allergy or ADR once captured is available across all the points of care in a hospital, thereby improving standards of care to great extent and also preventing life threatening mistakes.

Standardised Lab & Imaging services are covered through Laboratory Information System [LIS] & Radiology Information System [RIS]. RIS systems either stand-alone or as a part of a modern HMIS, consist of a Picture Archival & Communication System [PACS] Server which is connected to different workstations [diagram 2].



[Diagram 2: PACS Server integrated with RIS]

2. Patient Rights and Education (PRE)

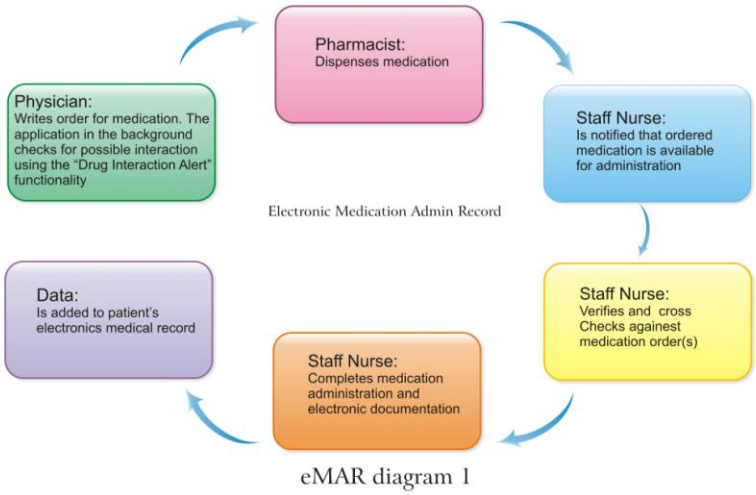
Standards related to 'Consent Recording/Archiving' are an important constituent of this group. Using ICT, not only situation specific consent forms can be printed [using the templates saved in the application] and used; but the signed forms can be scanned and saved in the application too, making them available across time and space.

3. Care of Patients (COP)

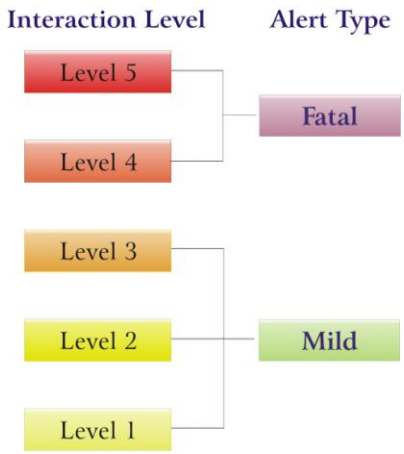
By using specialty specific 'Clinical Form-sets', ICT ensures a standardized delivery of clinical care across all locations & departments of a Hospital. Using Clinical Process Guidelines [CPG] modern EHR systems provide a 'workflow template'; using which Health Care Professionals traverse a pre charted path and thereby ensuring a standard model of care.

4. Management of Medication (MOM)

Health care professionals need assistance while choosing a medication from a large list of medications available with respect to Drug Interaction and 'Individual Sensitivity'. This is usually very difficult to achieve if the process is manual and the consultant is relying totally on memory. Modern HMIS take care of this need through a 'Pharmacy' module working closely along with a 'Medication Interaction Alert' module and an 'Electronic Medication Administration Reconciliation [eMAR] module. [Diagram 3 & 4]



eMAR diagram 1



eMAR diagram 2

[Diagram 3 & 4: eMAR & Drug Interaction Alert Modules]

5. Hospital Infection control (HIC)

Two important HMIS modules which cover the standards covered in this section are 'Central Sterilisation & Store Department' [CSSD] module and 'Bio Medical Waste management' Module.

6. Continuous Quality Improvement (CQI)

An intelligent HMIS, which is capable of reporting 'Key Performance Indicators' assists in achieving the standards mentioned in this section.

7. Responsibilities of Management (ROM)

It is very difficult to achieve these functionalities without ICT. A modern HMIS is capable of creating a hierarchy of 'Roles' with robust 'Role Based Security Rules' thereby ensuring proper accountable Hospital Management.

8. Facilities Management and Safety (FMS)

A 'Materials Management System', which includes Stores Management, takes care of all the processes related to Equipments and Devices life cycle.

9. Human Resource Management (HRM)

A standard functionality mapping to a HRM module in a HMIS is necessary to meet these standards.

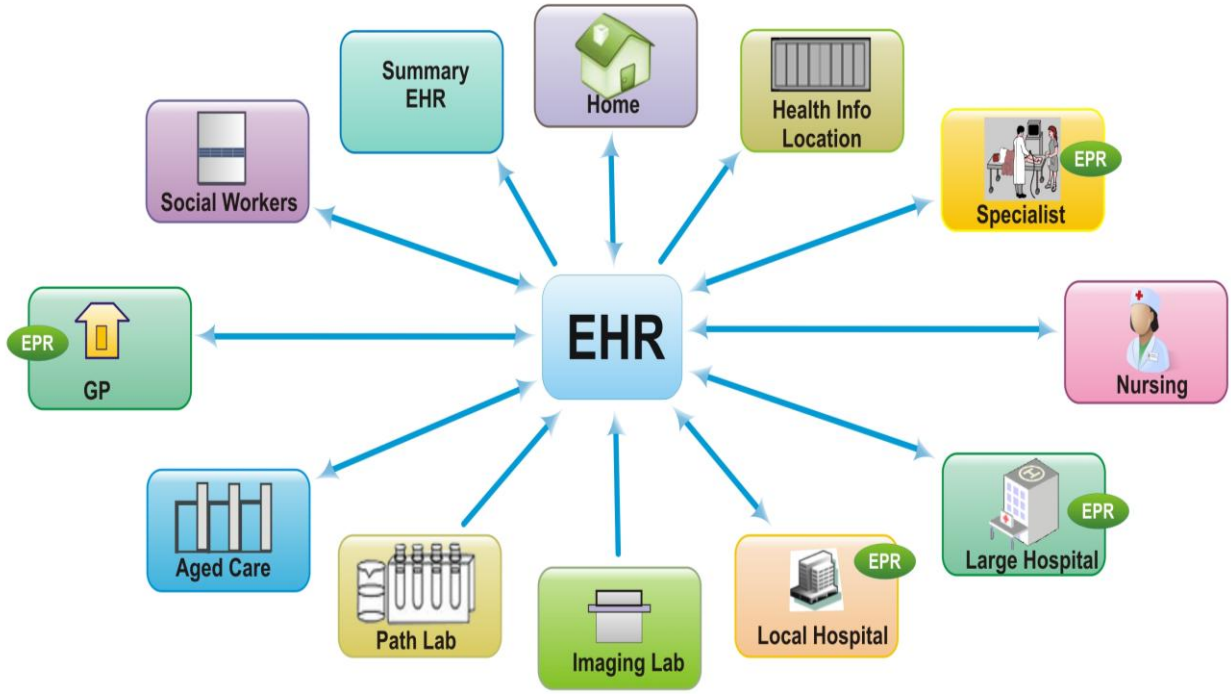
10. Information Management System (IMS)

A modern HMIS takes care of the information needs of the care providers, management of the organization as well as other agencies that require data and information from the organization.

Some important advantages of an electronic HMIS are:

- Complete and accurate medical record is maintained for every patient, which also covers 'Continuity of Care'.
- Confidentiality, integrity and security of information are maintained.
- Policies and procedures related to retention time of records, data and information can be enforced.
- Medical Audit can be performed.

EHR functionality integrated with an HMIS is shown below [diagram 5]



[Diagram 5: EHR in the centre of Healthcare universe]

About the author: *Dr Vinoy Singh trained himself as an IT professional by acquiring a MCA degree after a very successful teaching career in General Surgery. He brings to his current Health Informatics Consultancy role, more than a decade of experience in clinical care, genetic research and medical education. His cross domain skill-set allows him to function as an unique professional, who is an International authority in Healthcare Informatics. He is one of the very few UK CHIP Level 3, the highest level, accredited Health Informatics Professional in the world. He also has to his credit, many international publications. He currently heads Health Informatics at Srishti Software. He can be contacted at <vinoy@srishtisoft.com>.*

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