Hospital Information Systems
HIS

➢ What Does Patient Mean?

People's bad situation by means of social, physical and spiritual condition

➢ What does Healthcare Organization Mean?

Public or private institutions where necessary treatment and investigations to cure ill people are done.

Primary Healthcare Organizations	Secondary Healthcare Organizations	Tertiary Healthcare Organizations
•Family Healthcare Center •Maternal and Child Health & Family Planning Center •Tuberculosis dispensary •Health Posts	•Public Hospitals (excluding Research&Training hospitals •Private hospitals •Specialty (branch) hospitals • County hospitals • Dental Healthcare Centers	•Research&Training hospitals (including satellite outpatient centers) • Branch and research hospitals • University Hospitals

HIS (HOSPITAL INFORMATION SYSTEM)

All software and hardware used for management and production service of hospitals to provide financial, administrative and medical process is **HIS.**

Programs which are used to provide HIS are named as **MODULE.**

What Do Survey, Treatment and Diagnosis Mean?

All operations which are done to cure patient are **TREATMENT**.

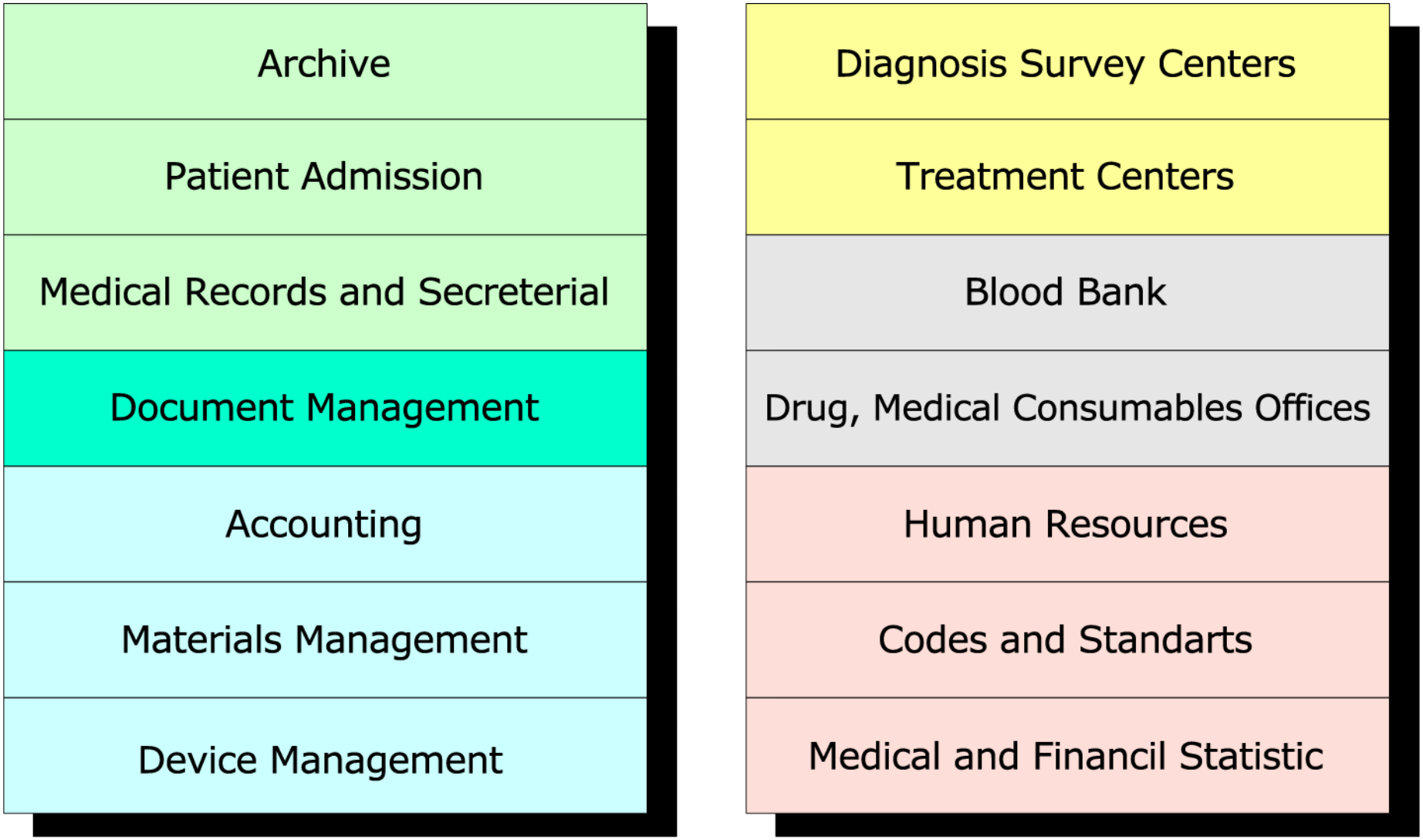
All operations which are done based on specific parameter in laboratory environment is **SURVEY**.

Diagnosis which is obtained after all the results is **FINAL DIAGNOSIS**

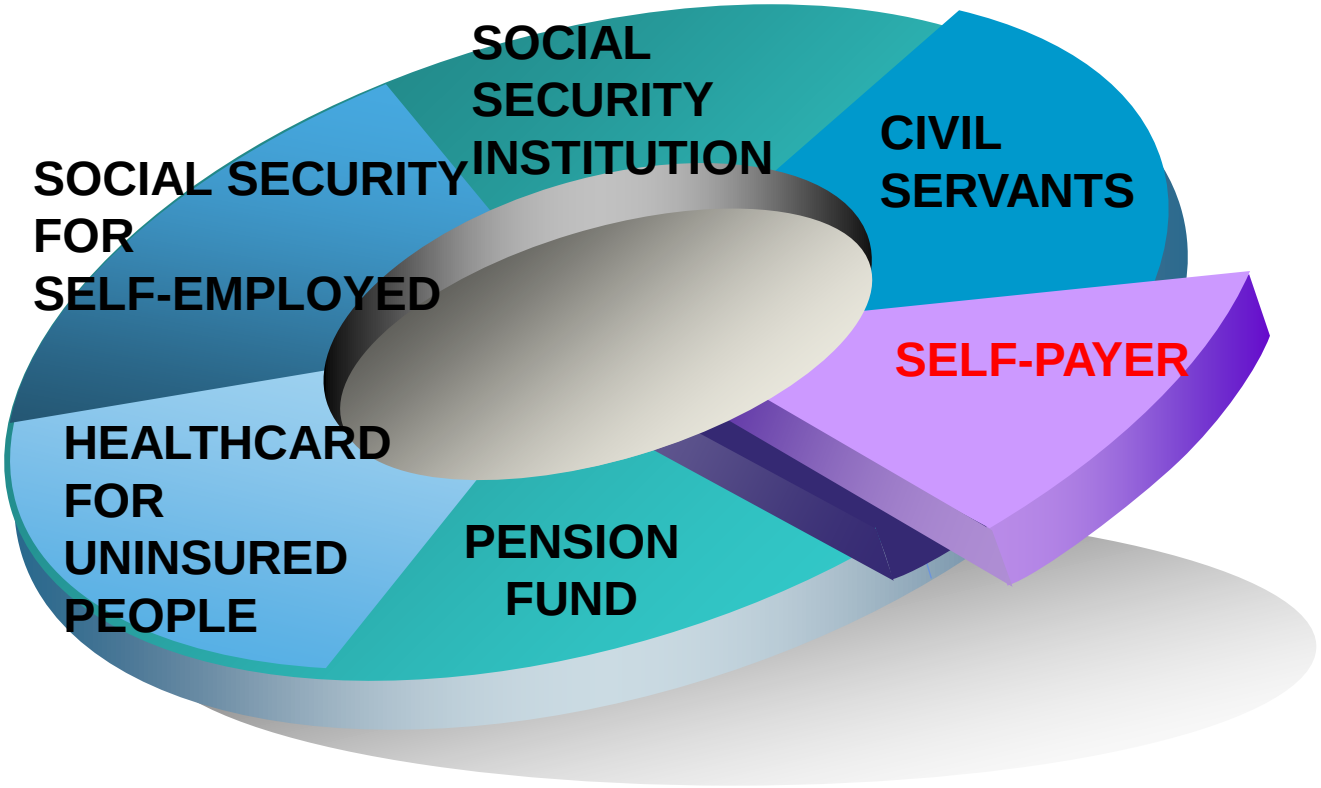
➢ WHAT DOES PROVISION MEAN ?

Obtaining an approval for patient's consultation and treatment from institutions (e.g: social security institution, private insurance, etc.)

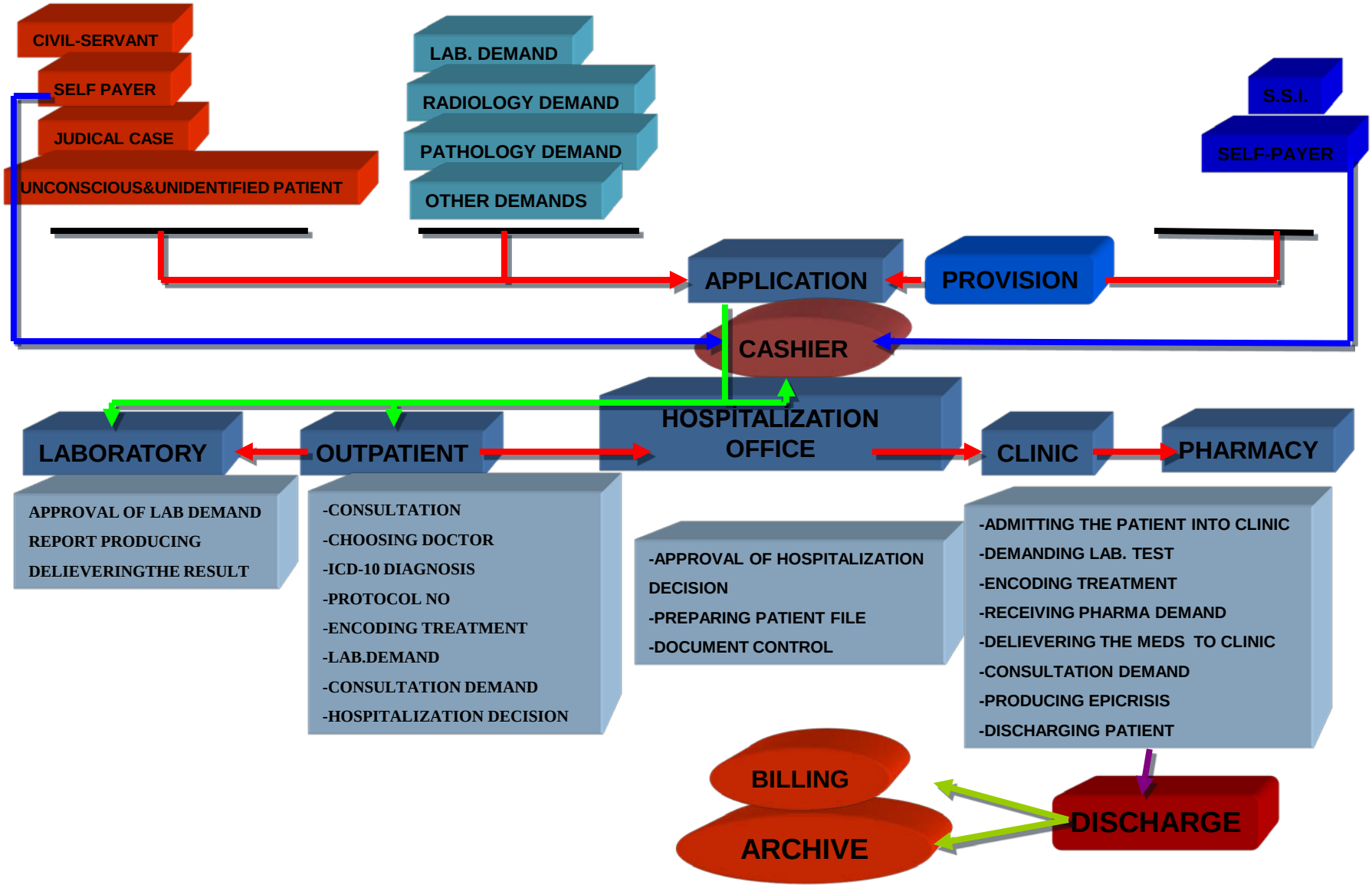
COMPONENTS OF HIS



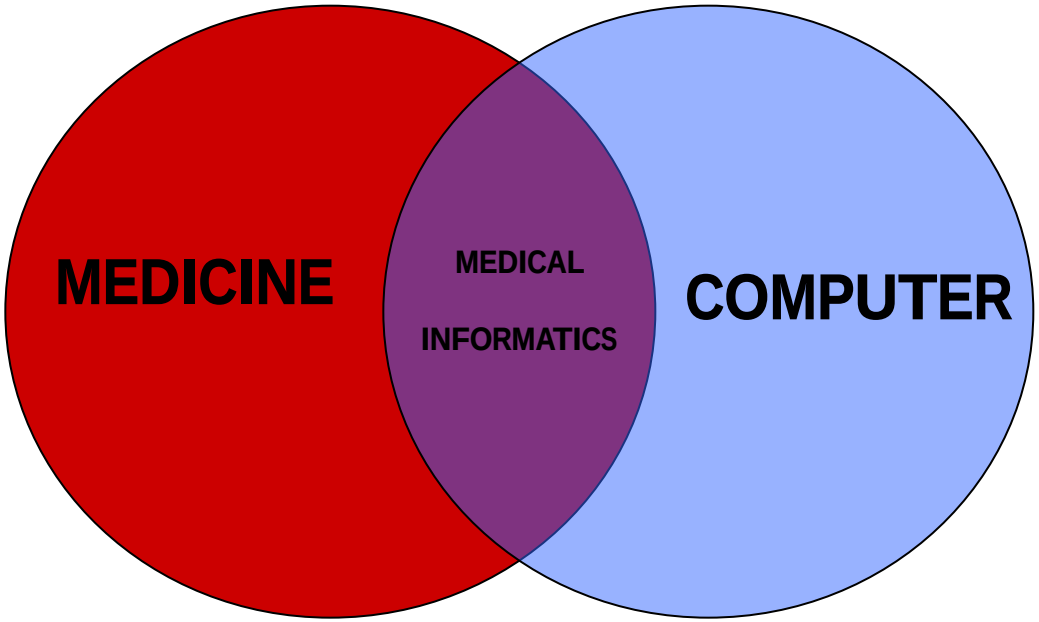
PATIENTS SECURITY TYPES



OPERATION MATRIX OF HIS



WHAT DOES MEDICAL INFORMATICS MEAN?



WHAT DOES MEDICAL INFORMATICS MEAN?

- Solution of Medical Problem
- Techniques of Medical Decision Making
- Biomedical Information
- Data Storage
- Accessing to Information
- Optimized Use of Information

To provide these we need **Medical Informatics**.

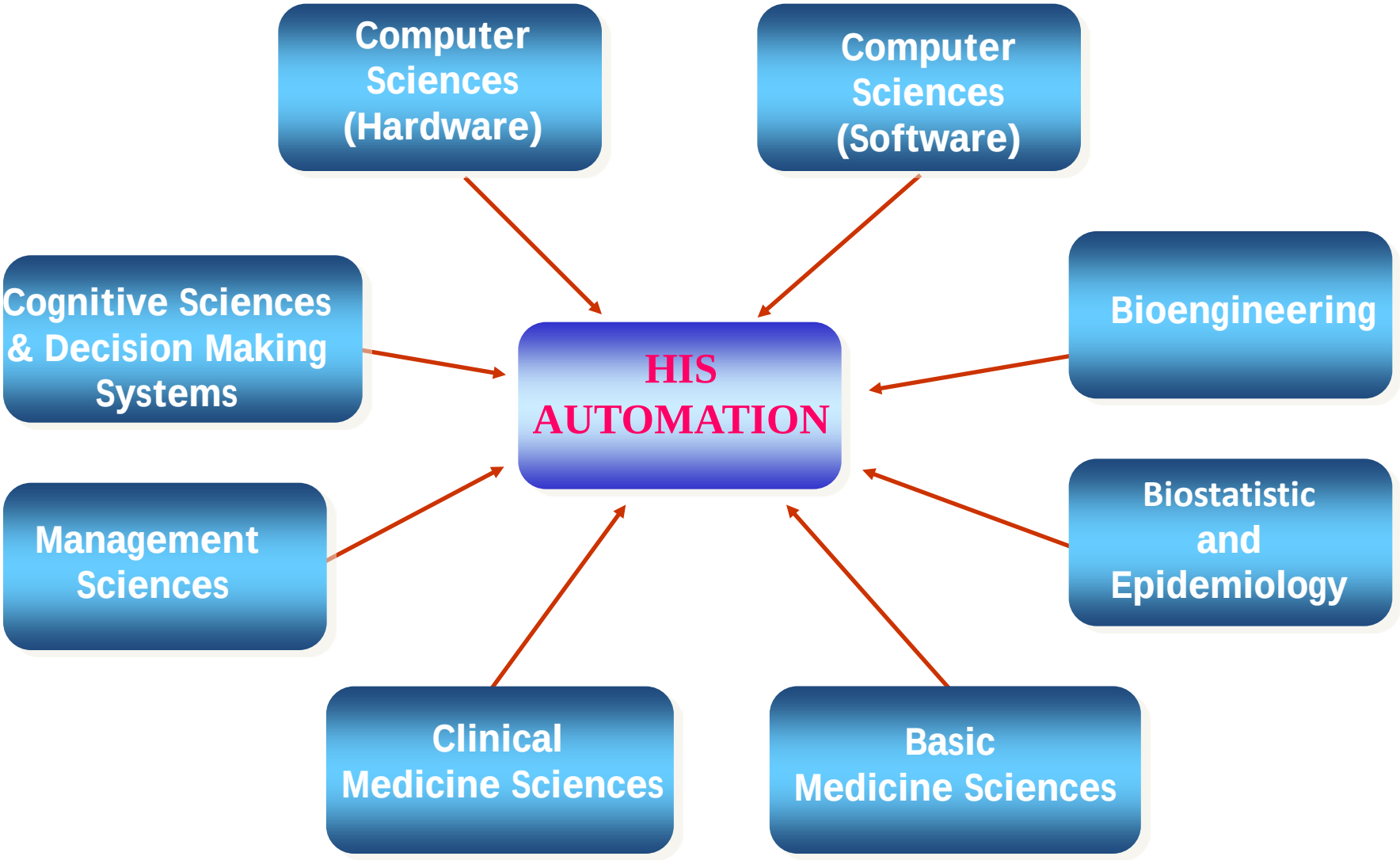
PURPOSE OF HIS

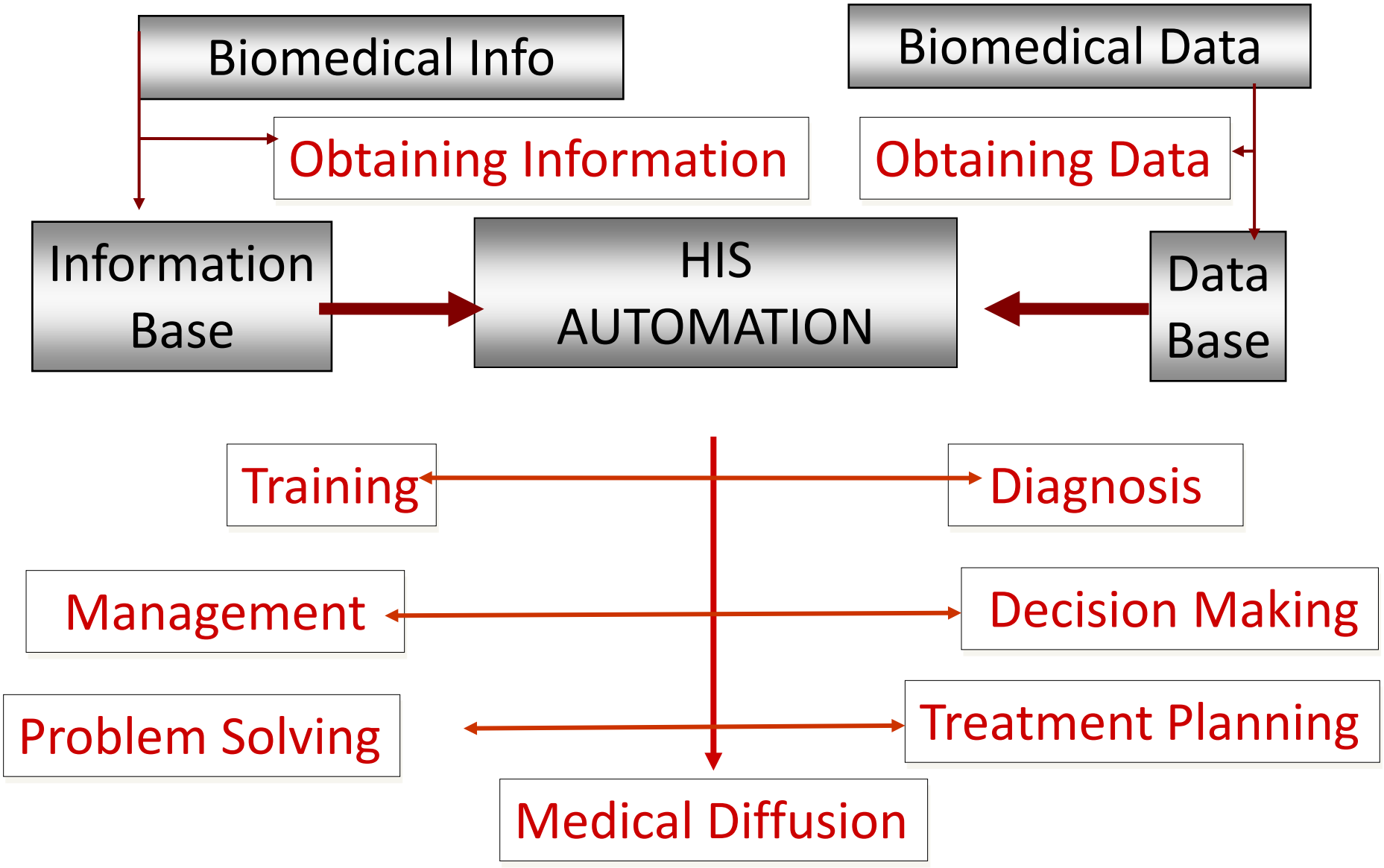
PROVIDING HOSPITAL'S INFORMATION DEMAND CORRECTLY, EXACTLY AND IN TIME.

- HIS provides applications, acceptance, health condition, referral and discharging related to patients.
- HIS provides conditions and management of staff, device and consumable materials related to general management.
- HIS provides accounting, customer debt, taxing etc related to financial operation.

HIS APPLICATION FIELDS

- Clinical Information Systems(HIS, LIS,RIS)
- Medical Decision Making System
- Medical Record Systems
- Integrated Academic Information Management Systems
- Hospital Management Systems
- Computer Supported Medicine Training
- Medical Specialized Systems
- Image procesing and Analysing
- Nursing Information Systems
- Administartive Decisions Systems
- Medical Informations Network (Telemedicine, Internet)
- Health Information Standarts(HL7 ,DICOM)
- HIS Training


Computer Sciences (Hardware)
Computer Sciences (Software)
Cognitive Sciences & Decision Making Systems
Bioengineering
HIS AUTOMATION
Management Sciences
Biostatistic and Epidemiology
Clinical Medicine Sciences
Basic Medicine Sciences


Biomedical Info
Biomedical Data
Obtaining Information
Obtaining Data
Information Base
HIS AUTOMATION
Data Base
Training
Diagnosis
Management
Decision Making
Problem Solving
Treatment Planning
Medical Diffusion

Why do we use information systems and communication technologies?

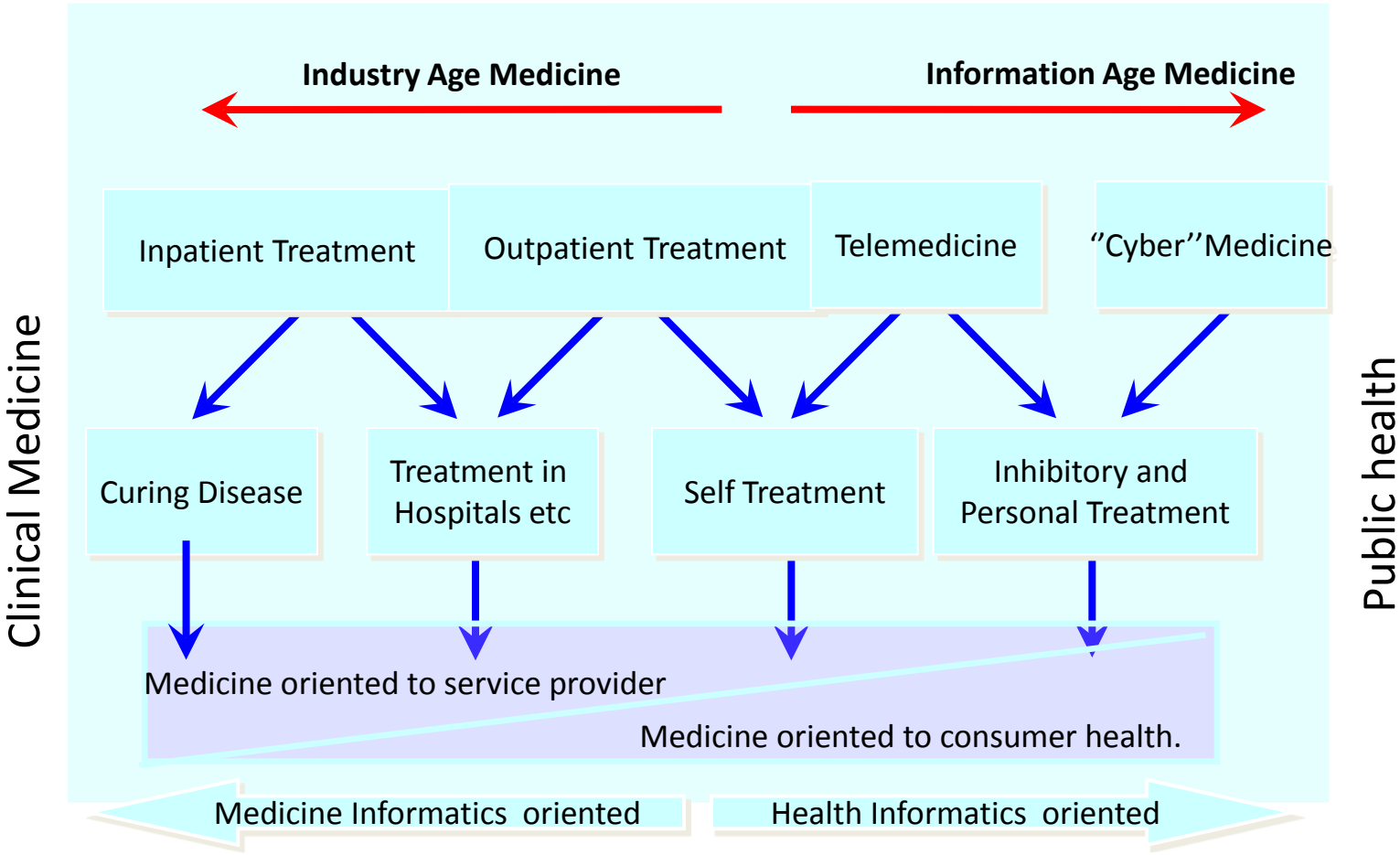
- **Reduce medical errors**
- **Produce better results**
- **Decrease expenditures**

The Greatest Achievement of 21st Century Medicine

- **Penicilin ?**
- **Electron microscope ?**
- **MRI ?**
- **PET ?**
- **Nano technologies ?**
- **Genetic (clonning) ?**

…The gratest achivement of 21st century medicine is to survive with keeping record on paper which has remained from 19th century!

Health Informatics :
Final Statement in the World



EHR DEFINITIONS

(Electronic Health Records)

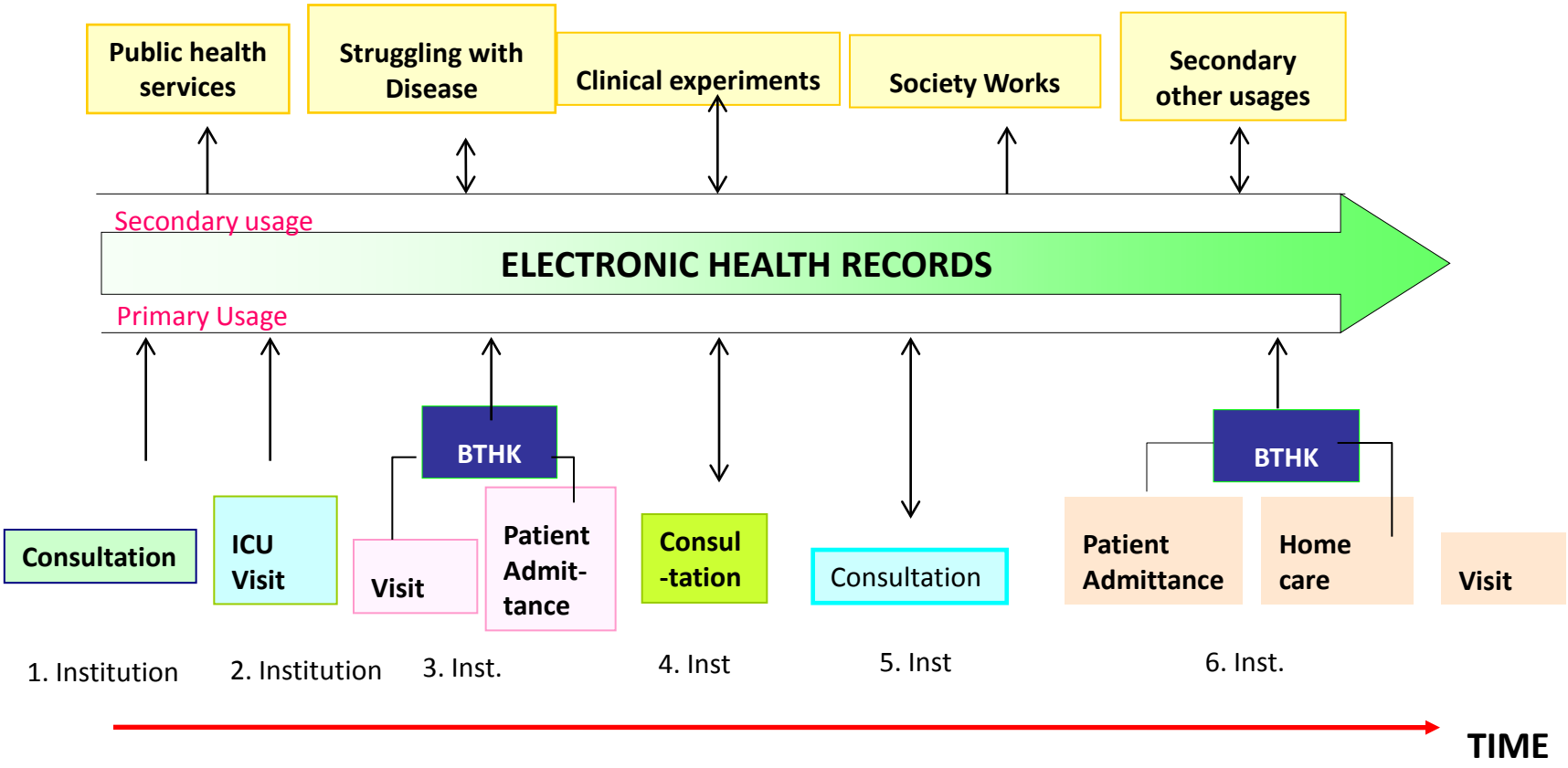
EHR, is an information source for doctors.

- **Patient centered,**
- **Reliable,**
- **Real Time,**
- **Being in the place where service is given,**

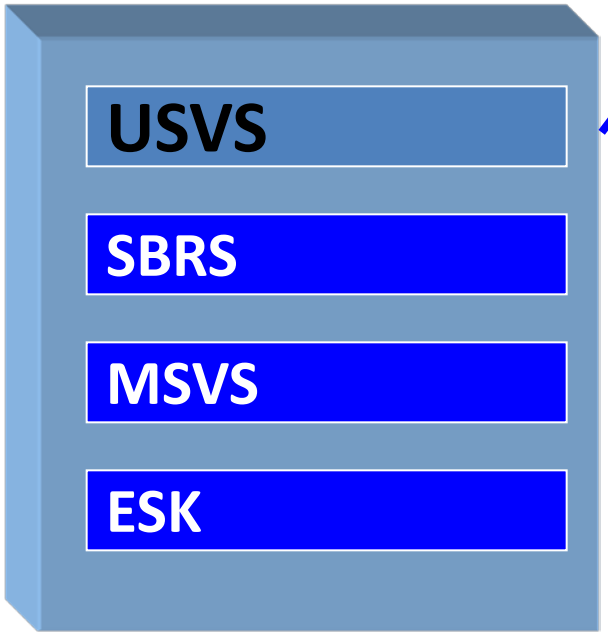
The Standarts Used

- Turkish Republic Identity Number (Doctors, patients)
- Diagnosis of illness (Classification of Diseases ICD-10)
- Classification of Drugs (Anatomical Therapeutic Chemical – ATC)
- Causes of Death (ICD-10)
- Health Interventions Table (SUT)
- Vaccine codes
- Clinical branch codes

Universal EHR ModeL



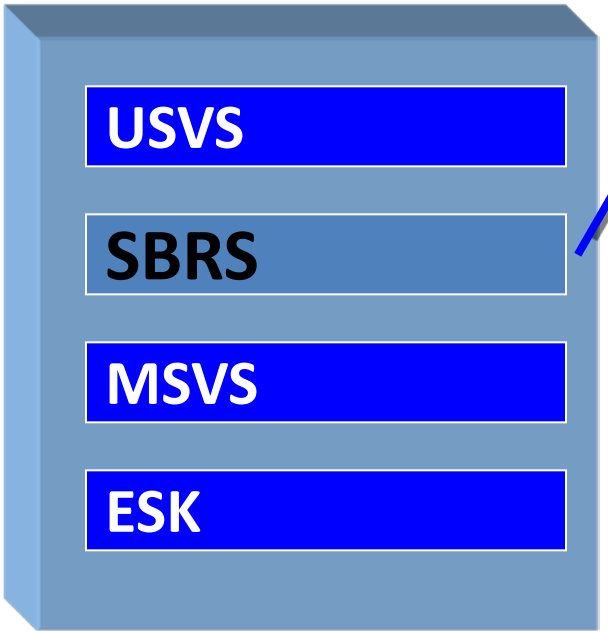
MOBILE SERVICE SERVER
FAMILY DOCTOR
COMMUNITY MENTAL HEALTH CENTERS
HOME CARE
EMERGENY SERVICES
EHR
PHARMACY
OTHER HOSPITALS
COMMUNICATIONS ALONG INSTITUTIONS
SERVICES IN HOSIPTALS
CONSULTANT IN HOME
SPECIAL CENTERS
>> TOMORROW



National Health Data Dictionary: Data's;

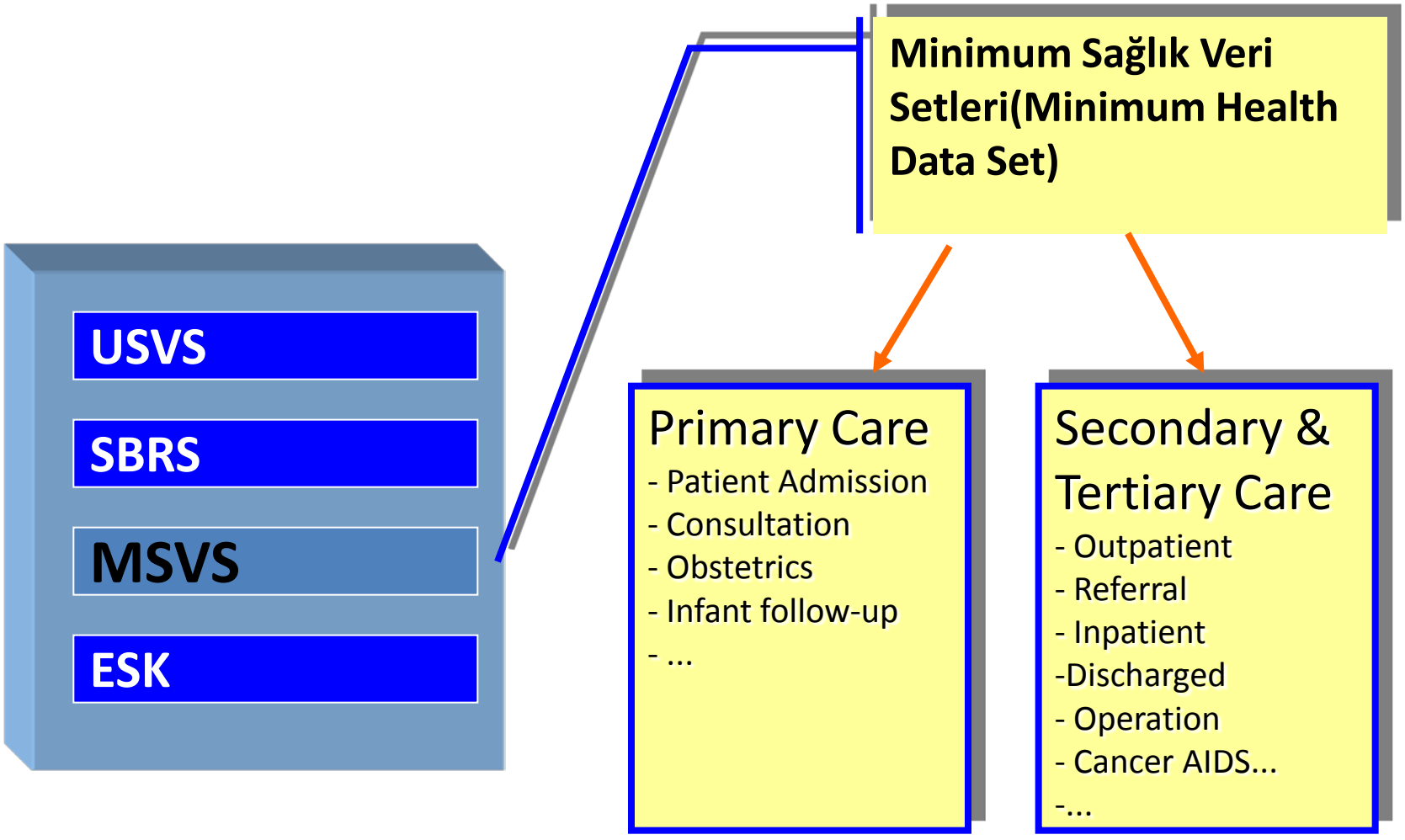
- Name, definition, type
- Valid value range
- Validation rules
- Background, aim of use
- Accumulation methods
- Institutions
- …

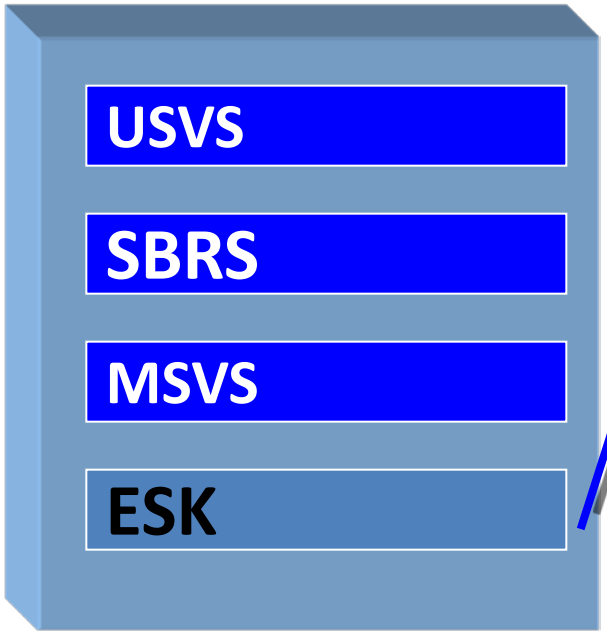
ISO/IEC 11179



Sağlık Bilgi Referans Sunucusu (Health Informatics References Server):

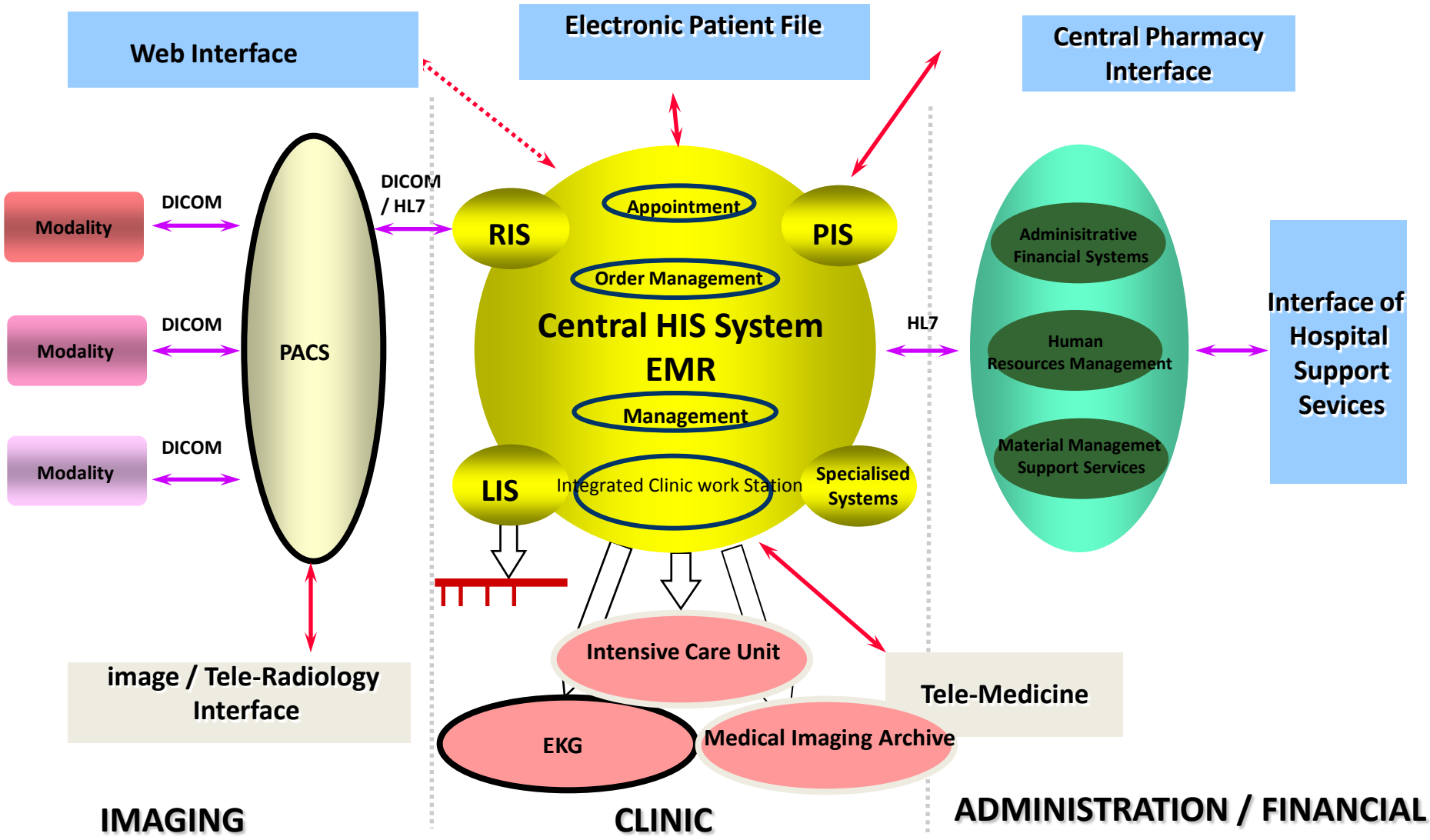
- Doctor information bank
- Institutions
- diagnosis class
- Death Causes
- Notifiable disease
- Medicine Codes
- Clinic/Branch codes
- Speciality codes
- Vaccine Codes
- ...


Minimum Sağlık Veri Setleri(Minimum Health Data Set)
USVS
SBRS
MSVS
ESK
Primary Care
- Patient Admission
- Consultation
- Obstetrics
- Infant follow-up
- ...
Secondary & Tertiary Care
- Outpatient
- Referral
- Inpatient
-Discharged
- Operation
- Cancer AIDS...
-...



Elektronik Sağlık Kaydı(Electronic Health Records):
EHR is Health data which is formed from prenatal to postmortem minimum data sets.

HOSPITAL INFORMATION SYSTEMS(HIS)



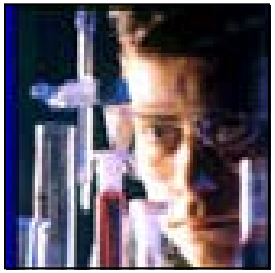
Electronic Health Records(EHR)

PACS
INTEGRATION

Internet

Compiled Patient Informations

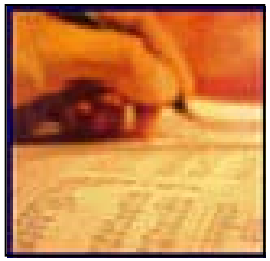
Laboratory Results

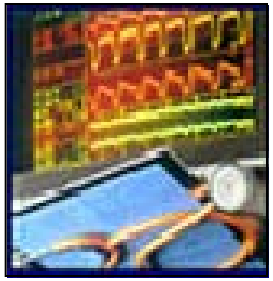


EHR

Integration of all important informations

Reports





Intensive care units

Nursing Infos
Medical Indication

Thanks