Hospital Information System (HIS)

- **Support of Clinical and Medical Patient Care Activities in the Hospital**

- **Administration of the Hospital's Daily Business transactions (financial, personnel, payroll, bed census etc.)**

- **Evaluation of Hospital Performance and Cost , and projection of the long-term forecast**

HIS Business & Administration Components

- **Material Services**
- **Accumulate payments**
- **Recharge**
- **Budgeting**
- **General ledger**
- **Patient ADT/Billing/Account receivable**
- **Payroll**
- **Cost accounting**

HIS Operation Components

- **OR scheduling**
- **Nursing management**
- **Clinical appointment**
- **Dietary**
- **Doctor ID system**
- **Employee health system**
- **Medical record system**
- **Pathology system**
- **Patient ADT**

HIS Operation Components (Cont.)

- **Pathology system**
- **Patient ADT**
- **Pharmacy system**
- **Radiology system**
- **Referring doctor system**
- **Cancer registry system**

Radiology Information System (RIS)

- Process patient and film folder records
- Monitor the status of patients, examinations, and examination resources.
- Schedule examinations
- Create, format and store diagnostic reports with digital signature
- Track film folders
- Maintain timely billing information
- Perform profile and statistic analysis

HL7 V 2.3 Principles

- **Application – to – application interface**
- **Event driven communication : real world events (e.g. ADT) cause appropriate messages to flow between applications**
- **Abstract messages vs. actual string messages**
- **Definitions of the data to be exchanged, the timing of exchanges, and reporting of application-specific errors between applications**

HL7 V 2.3 Message Format

- **Messages composed of segments**
- **Segments are identified by a predefined unique 3-letter code**

- **MSH**   **Message header segment**
- **EVN**   **Event type segment**
- **PID**   **Patient ID SEGMENT**
- **NK1**   **Next of kin segment**
- **PV1**   **Patient visit segment**

HL7 V 2.3 Example

- **Message header segment**

  MSH||STORE|MISSION|MIME|LAUREL|199801181007|security|ADT|MSGG00201|||<CR>

- **Event type segment**

  EVN|01|199801181005||<CR>

HL7 V 2.3 Example (Cont.)

- **Patient ID segment**

  **PID|||PATID1234567||Doe^John^B^II||
  19470701|m||c|371 MAIN AVE^SAN
  FRANCISCO^CA^94122-0619||
  415-681-2888|||||||<CR>**

HL7 V 2.3 Example (Cont.)

- **Next kin segment**

  NK1|Doe^Linda^E||wife|<CR>

- **Patient visit segment**

  PV1|1|I|100^345^01|||| 00135^SMITH^WILLIAM^K||SUR|ADM| <CR>

HL7 V 2.3 Example's Meaning

Patient John B. Doe, II, male, Caucasian, born on July 1, 1947, lives at 371 Main Avenue in San Francisco, was admitted on January 18, 1998, at 10:05 am by Doctor William K. Smith (#00135) for surgery.

The patient has been assigned to Room 345 bed 01 on nursing unit 100.

The next of kin is Linda E. Doe, wife.

The ADT message was sent from system STORE at the MISSION site to system MIME at LAUREL site on the same date two minutes after the admit