Computerized Patient Record: (CPR)

The traditional Physian-Patient encounter consists of

history taking
→ Physical examination
→ Problem formulation and evaluation
→ assisted by laboratory investigations
→ resulting in a management plan which is implemented and followed up.

→ All above activities are recorded and preserved.

EMR - which (essential) necessiates structured data entry in a fixed format

Examples of CPR:

1. legibility
2. Remote access
3. Data Safety
4. Confidentiality
5. Flexibility of layout : display in different lay-outs
6. Integration
7. Data incorporation
8. Continuous Processing | interpreted
9. Assisted search
10. e-mail,
11. Tailored Output
12. Alert - advice
13. Clinical audit
14. Data mining.

History taking by computer!

i) HELP - Health Evaluation through logical
(Medical LDS Hospital CDC)
Processing

ii) COSTAR - 5 - computer - stored ambulatory
Boston record.

iii) RMIS - Regenstrief Medical informat
Indiana System.

iv) RECONSIDER - List that might fit with
UCSF (over 300 diseases)

v) TMR - The Medical Record
Duke U'ty Library of 36000 di
Guide Physician Gath
data: rule in/out Sp
Causes of Problem, assist
management, orders treatmen
Eliminates reliance on
Physician's memory.

vi) ORCA - Open Record for Care
Inst. Med. Info.
Erasmus U'ty. Structured data entry
(SDE) tool
Knowledge based

vii) CMS
Tuem Mun Hospital
Hong Kong

CDF follows clinical logic in collecting disease related information.

viii) CPRs
Computerised
Patient record
System.

GUI facility

ix) OODB/CORBA
based CPR
Protege-2000
System
U/ty of Tokyo

CDR
fast response

x) DOM
(DOcument-
Objective mode)
Java beans

XML-
SGML-QL

MENELAS -
Zweigenbaum

Access system to
medical record
using natural
language.

DIALOGUE WITH THE COMPUTER:

The prototype of comprehensive structured database including history, Physical examination and laboratory tests. (a total of 460 items) given in Appendix

Ex: Auditory
Olfactory
GI
Mouth
Throat
Upper - GI
Lower GI
Neurological
Respiratory
Joint
Endocrine
Blood Sugar
Vision.

Sore
Hurt
Ache
→ Pain

Back Pain → Upper GI
Lower GI
Muscular
Joint

Natural language Processing → Expert System → organ system review.

DEVELOPMENT TOOLS : Pg. No. 101
Text. No. 1.

1) Natural Language Processing and Extensible Markup Language (XML)

INTRANET:

An intranet is a 'small / limited internet' that uses protocol of the WWW to share information resources within an organization / hospital or with Partners and Clients / consumer / Patients.

A dedicated web server connected to HTTP (HyperText transfer Protocol) is the heart of the web server.

The knowledge of Hypertext Markup language (HTML), Programming ~~to the user~~ and database management is useful in authoring a web Page. cookies or scripts to write information in hidden fields ensure security of data.

Common Gateway Interface (CGI), Active Server Pages (ASP), tasks:

- Interfacing databases
- DBMS with web server
- Conforming the user i/f to HTML syntax

CPR in Radiology:

→ Radiological Information System (RIS)
→ Picture Archiving and communication Systems (PACS)

CT -
MRI -

- Calender
- Databases
- Discussion groups
- Memorandums
- On-call schedule
- Personal directory
- Resident Resources
- S/W for RIS and
- Work schedule

DR - Digital Radiography
CR - computed Radiography
X-ray
RIS | PACS | HIS | HMIs
DICOM -

LEGAL, SECURITY AND PRIVACY ISSUES:

APPLICATION SERVICE PROVIDER (ASP):

ASP provides doctors with cheaper H/W & S/W and better maintenance.

Advantages of ASP: Benifits

- Economical
- Info. storing
- offer web hosting
- Access to up-to-date tech. at an affordable price;
- H/W, S/W, upgrading and training hiring (right of)

Risks of ASP:

- non-existent (Power Point Presentation)
- dispute of ASP - deny access
- limited ability to customise & Speed the system.

Cautions:

- trustworthy
- well established
- guaranteed service
- CR-Rom - patient data
- disaster recovery plan.

Chapter - 1
text. No. 2

Computerized Prescription for Patients:

↳ Adverse drug reaction
↳ toxic effects

TPMT (Thiopurine S-methyl transferase
-bone marrow toxicity.

CYP2D6 β-blockers high aldehyd
toxicity Urine
test

Drug-Drug interactions:

How to make Effective Therapy Safer?

Need for computer Prescription:

1. Reduced reliance on memory by using
   Check Lists, Protocols,
   CMD Computers Method in
   Decision Mak
2. Improved info. CPR
3. Error Proffing
4. Standardization of drug doses

Eight key areas have been outlined:

1. Choosing drugs of choice
2. Patient's participation and dialogue with clinician
3. Screening for drug interaction and allergies:
4. Link to the laboratory data
5. Dose and time of dose
6. Patient education
7. Prompting adverse drug effect Surveillance
8. Capturing feed back for the future

Active Strategy:

Barcode Medication Administration (BCMA)

→ e Prescribes' q Rx

Script Lynx

PRODIGY

Alert system:

1. age. 2. Allergy 3. Health condition
4. Dosing error 5. Duplication
6. Intolerance 7. Interaction 8. Toxicity.

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