

CS792

Data Structures and Standards in Health Informatics

UNIVERSITY OF
WATERLOO

uwaterloo.ca

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Informatics in Health Systems



Health Informatics is about Health Data

DR. POLK ANDER MORTON
NO. 15 BAY VIEW AVENUE
ROCHESTER, N.Y.

NEW YORK CITY May 20 1956

Dear Doctor Steigly:

The X ray shows
plainly that there is
stone of an appreciable
size in the kidney. The
hip bones are shown
& the lower ribs and
the lumbar vertebrae
but no calculus.
The region of the kidney
is uniformly penetrated
by the X ray & there
no sign of an interruption by
any foreign body.
Sincerely yours
Dr. Polk

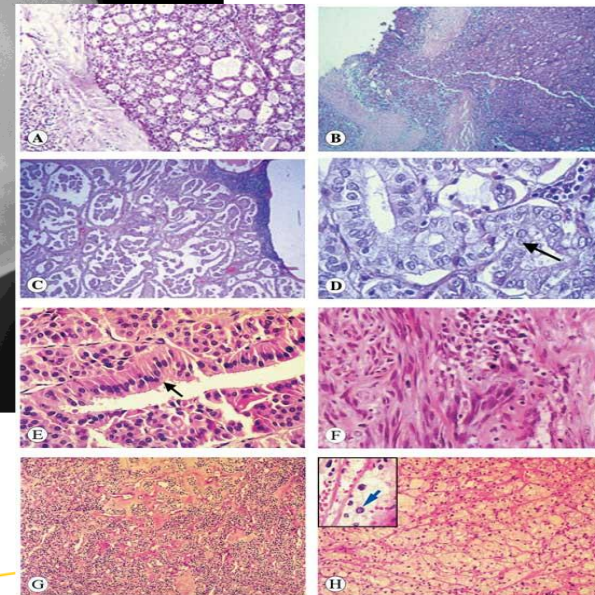
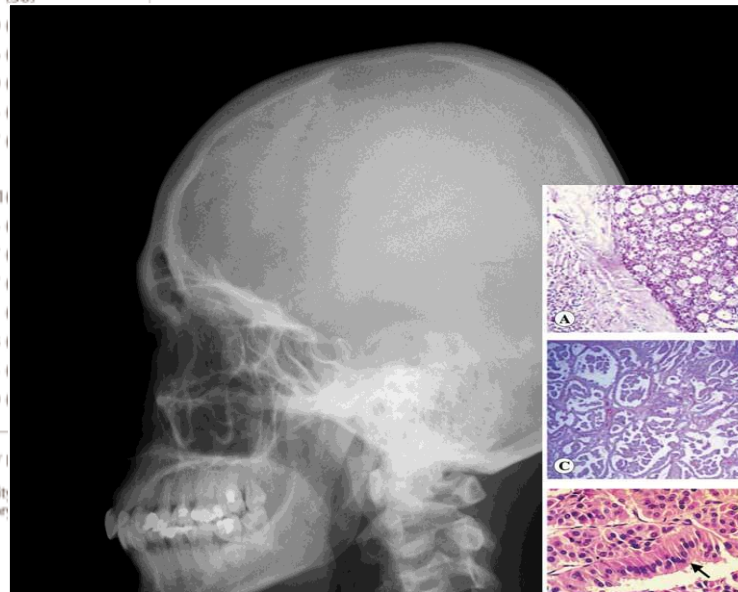
Table 2. Results of Combined Chest and Bone X-Ray Reports by Nonradiologists (n=147)*

| Criteria | Number (%) Containing |
|---|-----------------------|
| Demographics | |
| Patient's name | 144 (97) |
| Unique identifier number | 44 (30) |
| Date of service | 130 |
| Patient's date of birth | 26 |
| Patient's sex | 50 |
| Interpreting physician's name | 104 |
| Interpreting physician's signature | 27 |
| Clinical Information | |
| Indication for examination | 81 |
| Description of examination | 134 |
| Views taken | 67 |
| Description of findings | 97 |
| Comparison to old films [†] | 11 |
| Limitations of examination [‡] | 8 |
| Impression or conclusion [§] | 75 |
| Suggestions for follow-up | 10 |

*This number is not reliable because it is not known how many old films.

[†]This number should be very low because it reflects good-quality

[§]If a report is extremely short then a conclusion is not mandatory



Health Informatics is about Patient and Her Caregiver



What Will You Learn?

- Nature of medical data
- Types of medical data
- Acquisition and storage of medical data in information systems
- Representation of medical knowledge and decision support
- Data communication standards
- Privacy, security and ethics in health informatics

Learning Outcomes

- **Understand** the scope and breadth of Health Informatics
- **Describe** main data format, data models and standards for electronic medical records and health data exchange framework
- **Communicate** informatics ideas, designs and functionalities using proper languages and methods
- **Critique** a selected health informatics research work or technology solution
- **Recognize** the technical, ethical and legal issues related to designing and deploying HI solutions.

How Will You Learn?

- Fully online,
 - 10 self-paced online lectures,
 - interactive discussion forum,
 - one synchronized webex session for project team meeting
 - One synchronized webex session for project presentation
- 2 assignments total 50%
- 1 team project: total 30%
- 2 quizzes: 20%

How to Contact Me

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