Introduction
Course structure

- Lectures
- Display wall
- Mid-term
- Final project
- Office hours
- Communication
Why this course?

- Your goals
- My goals
- Opportunities
Figure 8.1. Some of the actors involved in healthcare delivery, administration, policy-making, and regulation, each of whom may have a stake in an evaluation study. (Source: Friedman & Wyatt, 1997a.)
The Process of Patient Care

- Patient presents with a problem
- ID, CC, HPI
  - Ask questions

  - Initial hypotheses
    - More questions
      - HPI, PMH, FH, Social, ROS
      - Refine hypotheses

      - EKG, etc.
      - Select most likely diagnosis
      - Laboratory Tests
      - Radiologic Studies
      - PE
      - Examine patient
The Process of Patient Care

- Patient presents with a problem
  - ID, CC, HPI
  - Ask questions

- Patient is better; no further care required
  - Observe results
  - Chronic disease
  - Treat patient accordingly

- Patient dies
  - Select most likely diagnosis
  - EKG, etc.

- Initial hypotheses
  - More questions
  - HPI, PMH, FH, Social, ROS
  - Refine hypotheses

- Examine patient
  - PE
  - Laboratory tests
  - Radiologic studies
Functions of computers in medicine

- Data acquisition and presentation
- Record keeping and access
- Communication and integration of information
- Surveillance
- Information storage and retrieval
- Data analysis
- Decision support
- Education
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Types of doctors

• Primary care provider
  – Internist, family practitioner, pediatrician

• Specialist
  – Medical
  – Surgical

• Hospital based provider
  – Anesthesiologist
  – Pathologist
  – Radiologist
Types of health interaction

- Healthy visit
- Chronic visit
- Diagnostic visit
- Acute care
Locations of health care and documentation

- Office
- Hospital
- Home
- Chronic care
- Other hospitals
- Abroad
- Etc.
Types of information

- Textual
- Trend
- Lab data
- 2/3D images
- Administrative
- Billing
Admission Note

10:15 a.m. admission for this 18 year old Mexican American female patient. 

History of Present Illness

2 weeks ago, patient was sick with cough, sore throat, and fever. She consulted her primary care doctor and was diagnosed with a respiratory infection. She was prescribed antibiotics, but her symptoms persisted. She returned to her primary care doctor, who prescribed another antibiotic. However, she continued to experience symptoms of coughing, fever, and malaise.

Physical Examination

The patient appears well-appearing and in no acute distress. Vital signs are within normal limits: BP 120/80, HR 72, RR 18, T 36.8°C. There are no abnormal findings on physical examination, including lung fields, heart sounds, and abdominal examination.

Medical History

Patient denies any history of allergy, asthma, or eczema. She has no known history of any chronic medical conditions. She is not on any regular medications. She and her family have no history of infectious diseases or neurologic conditions.

Social History

The patient is a 18 year old student attending local high school. She lives with her parents and has a younger brother.

Family History

The patient's parents are in good health. There is no family history of any significant medical conditions. The patient's sister is 15 years old and is in good health.

Review of Systems

Patient reports no history of headache, photophobia, or neck pain. There is no history of seizures, weakness, or numbness.

Previous Hospitalizations

None.

Other Information

Patient was referred by her primary care doctor. She lives in a rural area and has access to public transportation. She is currently employed as a cashier in a local supermarket.

Final Diagnosis

Respiratory infection with concomitant symptoms

Plan

Patient will be admitted to the hospital for observation and further evaluation. Antibiotics will be prescribed as directed by the attending physician. Patient will be followed closely in the hospital and will be discharged once symptoms improve.

Signature

[Signature]

Date: [Date]

[Initials]
FIGURE 2.2. A physician's hand-drawn sketch of a prostate nodule. A drawing may convey precise information more easily and compactly than a textual description.
PAST EYE HISTORY:

GEN. MEDICAL HISTORY (F.H.):

ALLERGIES:

OCULAR EXAMINATION:

VISUAL ACUITY:

REFRACTION:

Present (glasses)

Manifest

Cycloplegic

\[
\text{FIGURE 2.3. An ophthalmologist's report of an eye examination. Most physicians trained in other specialties would have difficulty deciphering the symbols that the ophthalmologist has used.}
\]
<table>
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| 10/01/16 | - Ecto -  
|         |   - Stomach: Ly poles  
|         |   - Rectum: Brighten  
|         |   - Urethra: pene a stich  
|         |   - Rectum: a pene rectum  
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**Figure 2.8.** Written entries are standard in paper records, yet handwritten notes may be illegible. Notes that cannot be interpreted by other people may cause delays in treatment or inappropriate care.
• 2 and 3-d data sets
  – Echocardiography
Surname, Forename M. admitted 3.24.93

Right lower lobe pneumonia, hallucinations, new onset diabetes, history of manic depressive illness

1yr 3.24 4.4.93

WBC 11100 c/mm
Psychosis 0
Glycol 237 mg/dl
Mood 0

4.4.93

T 98.6°F
Haloperidol 6.0 mg
Reg Tresolin 5 ml

4.4.93

R 18 mg/min
Lorazepam 0 mg
Glyburide 5 mg

4.4.93

Ca 8.7 mg/dl
Tranylcypromine 0 mg

4.4.93

Carbocystine 3.5 g
Output fluid 250 ml
Na 135 mmol/l
Cl 100 mmol/l

4.4.93

Clindamycin 900 mg
Input fluid 1050 ml
K 5.1 mmol/l
CO2 32.7 mmol/l

Discharge. PM MD 1900 4.4.93
No delirium. JT MD 900 4.4.93
Enema given. PM RN 1100 4.3.93
Will treat for probable constipation.
MBM 2245 4.2.93
Vomited three times. RN RN 2130 4.2.93
Left lower lobe infiltrate or atelectasis.
AL MD 1500 4.2.93
Alert and oriented. No complaints.
PM RN 1100 4.1.93

Attending to activities of daily living.
PM RN 1400 4.4.94

Ambulates with assistance. Week.
PM RN 1400 3.30.93

Still coughing. Breath sounds diminished at right base.
PM MD 1000 3.30.93

Discontinued steroids. MM RN 1500 3.29.93
Follows directions. DB RN 1500 3.28.93

More relaxed. UM RN 700 3.26.93
Drowsy and sleeping. MI RN 2130 3.27.93

Out of restraints. JMT MD 1310 3.17.93
Left conjunctivitis, treat with gentamicin ointment.
DUG MD 1230 3.2.93

4-point restraints and stirrups removed.
PM RN 1300 3.26.93

4-point restraints required. Delirious.
Switching to half normal saline for hydration. Parathyroid hormone test results pending.
UMG MD 900 3.26.93

Pulled out IV twice. Halucinations.
Attempted to drink call light.
CM RN 700 3.30.93
NUMERO ASSOLUTO dei NATI VIVI
MASCHI
I loro superstiti classificati per età secondo i risultati dei Censimenti
in SVEZIA
1750-1875

Linee di età
Linee dei censiti
isolomiche
Linee dei superstiti

SCALE
25° per 100 anni di età e per 100 d'osservazione
75° per 50 000 individui

Le ordinate verticali rappresentano il numero dei maschi, le ordinate orizzontali indicano i tempi di osservazione e gli anni di età.

SISTEMA D'ASSI

100 000 Individui

50 000