Introduction to Medical Informatics

What is medical informatics?

- Medical informatics is the sub-discipline of health informatics that directly affects the patient-physician relationship.

- The goal of medical informatics is to ensure patients have access to critical medical information at the exact time and place needed to make medical decisions.

- Medical informatics also focuses on managing medical data for research and education

The most important areas of medical informatics applications and fields of work

- ➢ Medical informatics is a fast-growing field that involves the collection and analysis of healthcare data, and professionals in this field are breaking new ground in an area where computers and caregivers work together. The most important areas in which medical informatics is applied:

- Clinical informatics

- Pharmacy or nutrition informatics

- Informatics analyst

- Nurse informatics

- Informatics specialist

- Informatics manager

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The main positives of medical informatics

> Among the most important advantages and advantages of using medical informatics:

- Reduce the cost

- Enhance coordination

- Store patient records better and more efficiently

- Patient empowerment

- Improve results

- Patient privacy

The most important disadvantages of medical informatics

> Among the most important negatives and problems facing the use of medical informatics:

- They require time to quickly adapt

- Excessive reliance on technology

- Hacker threats on the internet

Medical Informatics Term

The term medical informatics dates from the second half of the 1970s and was borrowed from the French expression informatique médicale.

> Before that time, other names were used such as:

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- Medical computer science,

- Medical information science,

- Computers in medicine,

- Health informatics, and more specialized terms such as

- Nursing informatics,

- Dental informatics, and so on.

- Knowing the underlying principles that govern these information and communication systems and describing them,

- Creating interventions that can enhance current communication and information systems,

- Creating techniques and guiding principles that enable the design of such interventions, assessing how these interventions affect how people or organizations work or the results of their work.

Why Learn Medical Informatics?

- Computers are fast and affordable today.

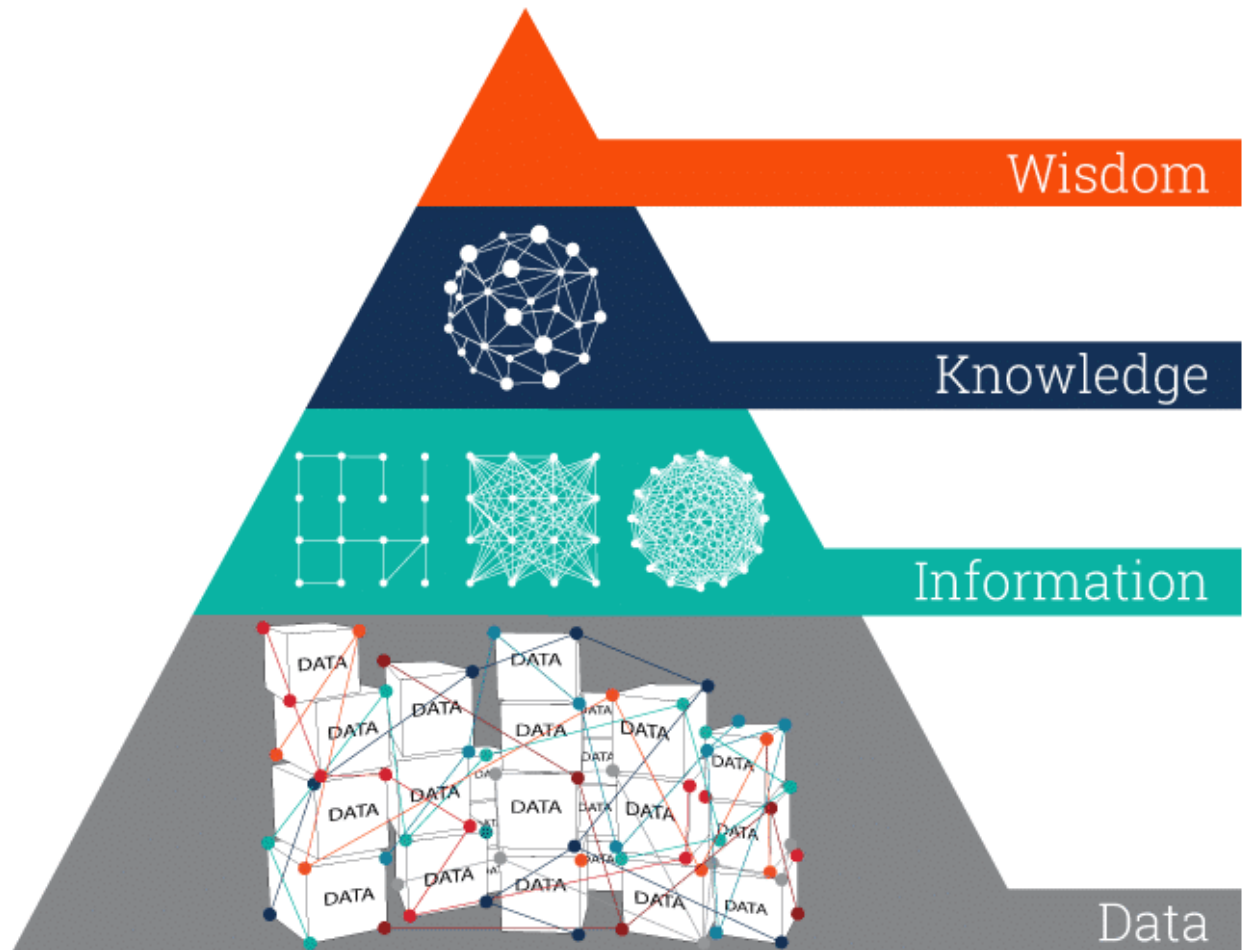- And we want computers and IT shape our future now!

Health informatics

- Health informatics is the practice of acquiring, studying and managing health data and applying medical concepts in conjunction with health information technology systems to help clinicians provide better healthcare.

- Health informatics, sometimes known as healthcare informatics, has grown as an evolving science with the expansion of electronic health records (EHRs) and health data analytics systems.

Notice that there is much more data than information, knowledge or wisdom. As data are consumed and analyzed the amount of knowledge and wisdom produced is much smaller.

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Each step up the pyramid answers questions about the initial data and adds value to it.

1- Data

Data is a collection of facts in a raw or unorganized form such as numbers or characters.

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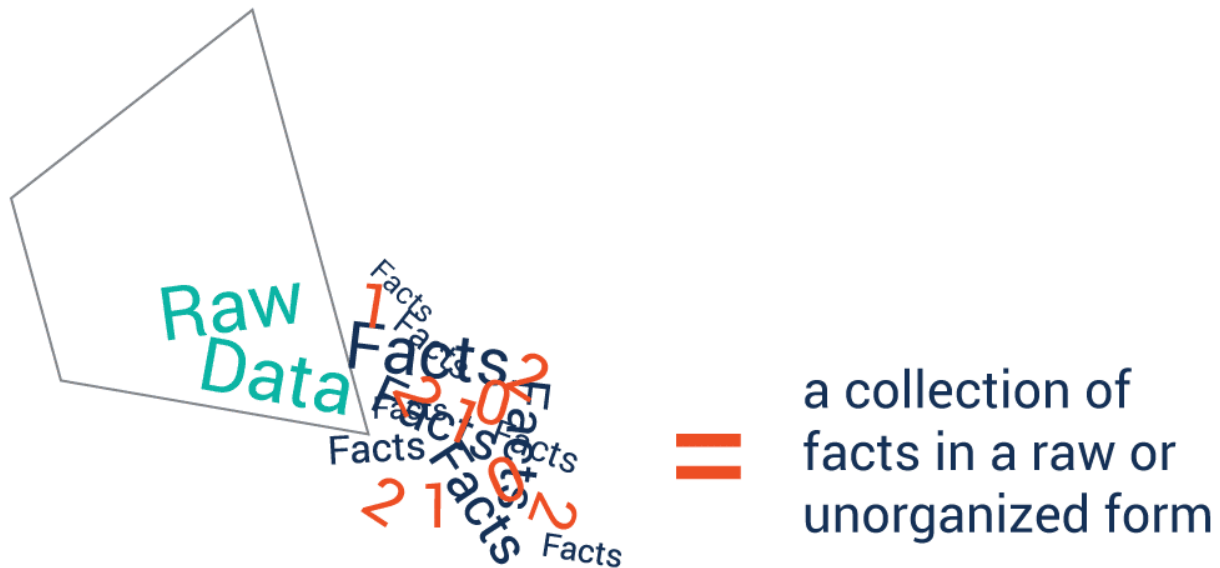Lecturer: Dr. Ali Kareem Abbas
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= a collection of facts in a raw or unorganized form

2- Information

Information is meaningful data or facts from which conclusions can be drawn by humans or computers.

= easier to measure, visualize and analyze data for a specific purpose

3- Knowledge

Knowledge is information that is justifiably considered to be true.

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HOW

pieces
of information

pieces
of information

pieces
of information

connected to other pieces help us understand how to apply information to achieve our goal

4- Wisdom

Wisdom is the critical use of knowledge to make intelligent decisions and to work through situations of signal versus noise.