Introduction to Medical Informatics

Health Information Exchange
Lecture: 4

M.Sc. Mustafa Yousif

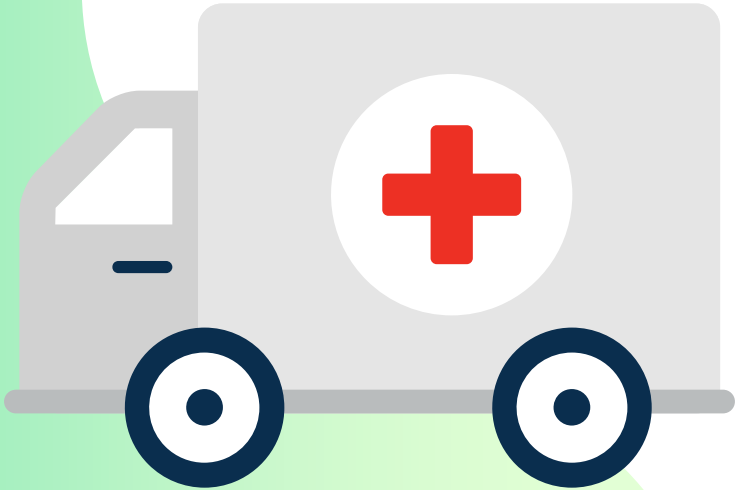
Contents of Lecture

01
What is Health Information Exchange

02
Ttypes of HIE

03
The Benefits of HIE

04
The Challenges of HIE



01

What is Health Information Exchange

Introduction

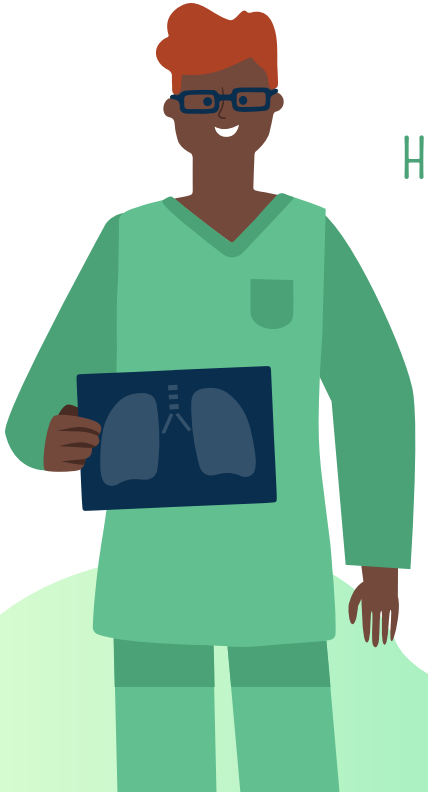
HIE is the electronic health-related information among organizations according to nationally recognized standards.

allows doctors, nurses, pharmacists, other health care providers and patients to access and securely share a patient’s medical information electronically—improving the speed, quality, safety and cost of patient care.

What is HIO & HISP & Interoperability

Health Information Organization (HIO)

is an organization that oversees and organize the exchange of health related information among organizations According to normally recognized standards.

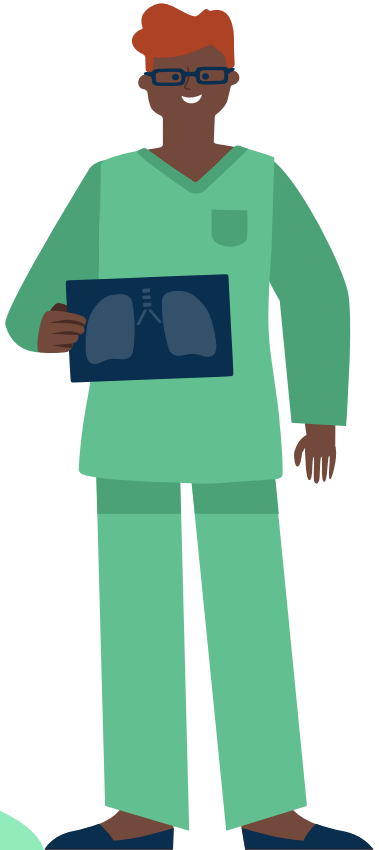


Health Information Service Provider (HISP)

is an organization that provides services and support for electronic exchange of health information.

Interoperability

refers to the secure exchange of health information between different healthcare systems, applications, and devices. It enables various workers within the healthcare ecosystem, such as hospitals, clinics, laboratories, pharmacies, and insurers, to share and access:



Interoperability

01 Patient data

02 Clinical information

03 Population health data

04 Administrative and billing information

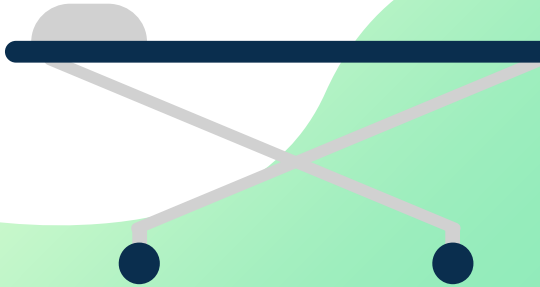
Patient Medical History

- Age: 25
- Gender: female
- Allergies: none
- Location: Madrid, Spain
- Habits: smoking disease

- Age: 25
- Gender: female
- Allergies: yes
- Location: Madrid, Spain
- Habits: smoking disease

02

Types of Health Information Exchange



Types of Health Information Exchange

Directed Exchange

Query-Based Exchange

Consumer-Mediated Exchange

Directed Exchange

- This type of health information exchange allows medical professionals the ability to send and receive secure documentation over the internet using secure, encrypted messaging.
- Using this method, information that can be shared includes lab results, discharge summaries, patient cases, and more.
- This kind of information exchange is critical in interoperability for all kinds of clinical conditions across many different entities.

Query-Based Exchange

- When healthcare providers need further information on a patient and their medical history, this approach allows them to request information from other medical professionals.
- This information exchange tends to be used during emergency care situations.
- If a provider is unsure about the situation surrounding a birth, operation, or other medical event, they can use a query-based information exchange to better understand what happened at one entity or another.
- If a doctor needs to understand the symptom that lead to a lack of oxygen or a seizure, they will ask another provider to exchange the information so they know what other care options they should pursue.

Consumer-Mediated Exchange

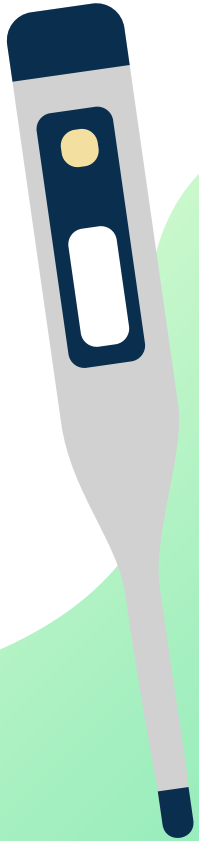
- Patients are granted the internet access they need to manage their own health
- information, allowing them to transfer their information as needed to their provider of choice.

- They can also correct and update their own personal information as needed and use their medical information to help them maintain their health.

- This kind of health information exchange helps with interoperability and allows patients to take control of their public health and EHR.

03

The Benefits of HIE



The Benefits of HIE

Improving communication between departments and care providers.

Connecting with electronic health records (EHRs).

Reducing unnecessary testing.

Making the facility operate more efficiently

Boosting public health reporting.

Timely sharing of patient information to avoid medical errors and improve diagnoses

The Challenges of the Health Information Exchange

Privacy and security concerns, as the digital format can be vulnerable to cyberattacks and account breaches

Patients withholding information, as some may be reluctant to share their private medical history on a digital platform

Sharing information across state lines, as differing privacy rules could make it difficult to comply when trying to share patient medical history across the country

Communication issues between facilities who may not keep the same kinds of records or have incomplete records

Thanks

Do you have any questions?