

# What are Health Data Standards?

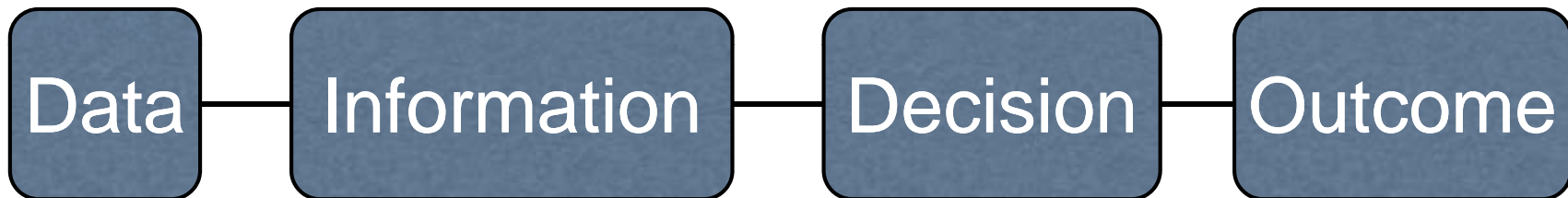
Dr Mohd Azrin Zubir  
IHE Patient Care Coordination

# Key Content

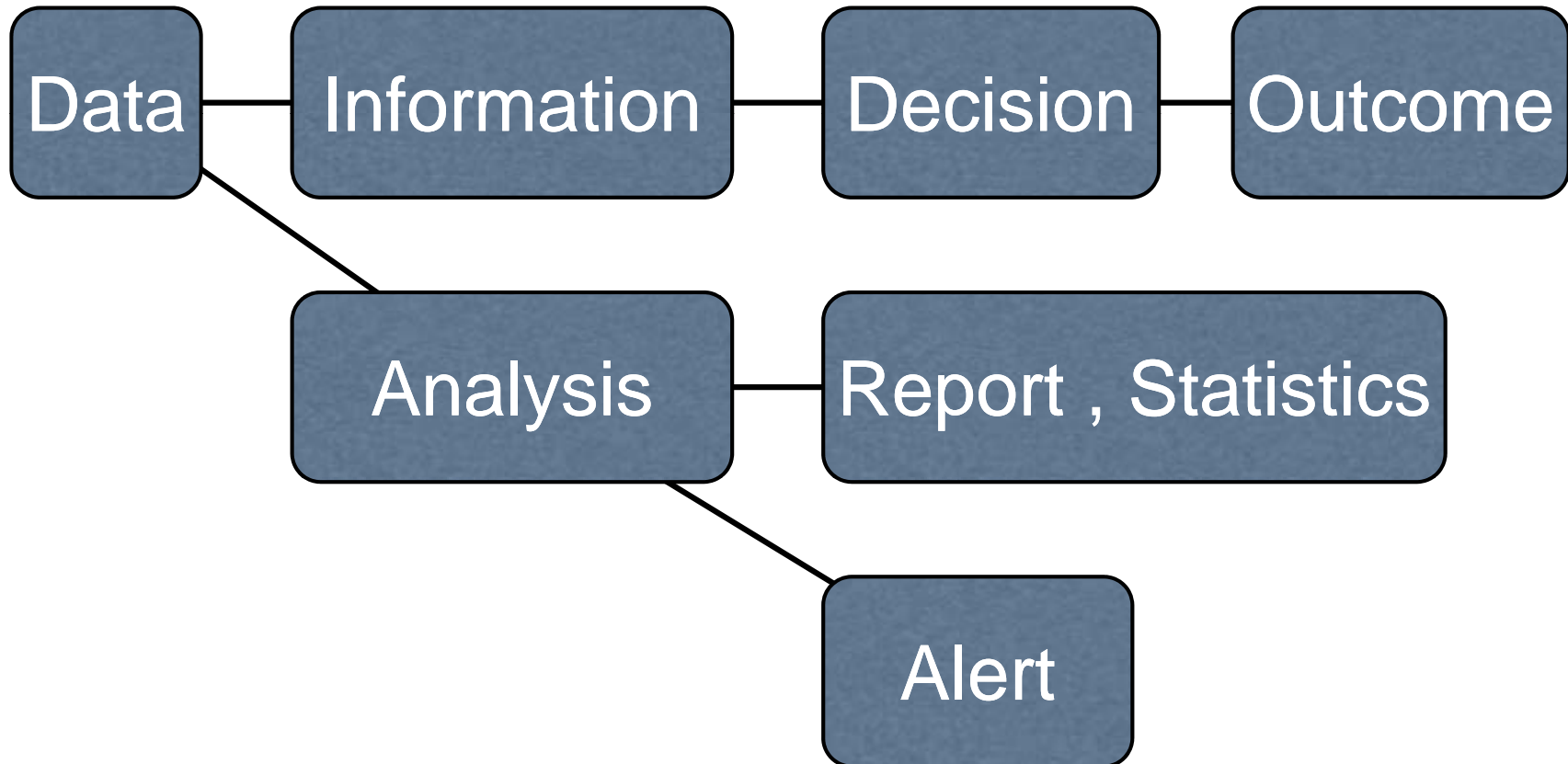
- Common understanding of data and information in healthcare settings
- What seems to be the problem in relation to data in healthcare ICT settings
- Solution

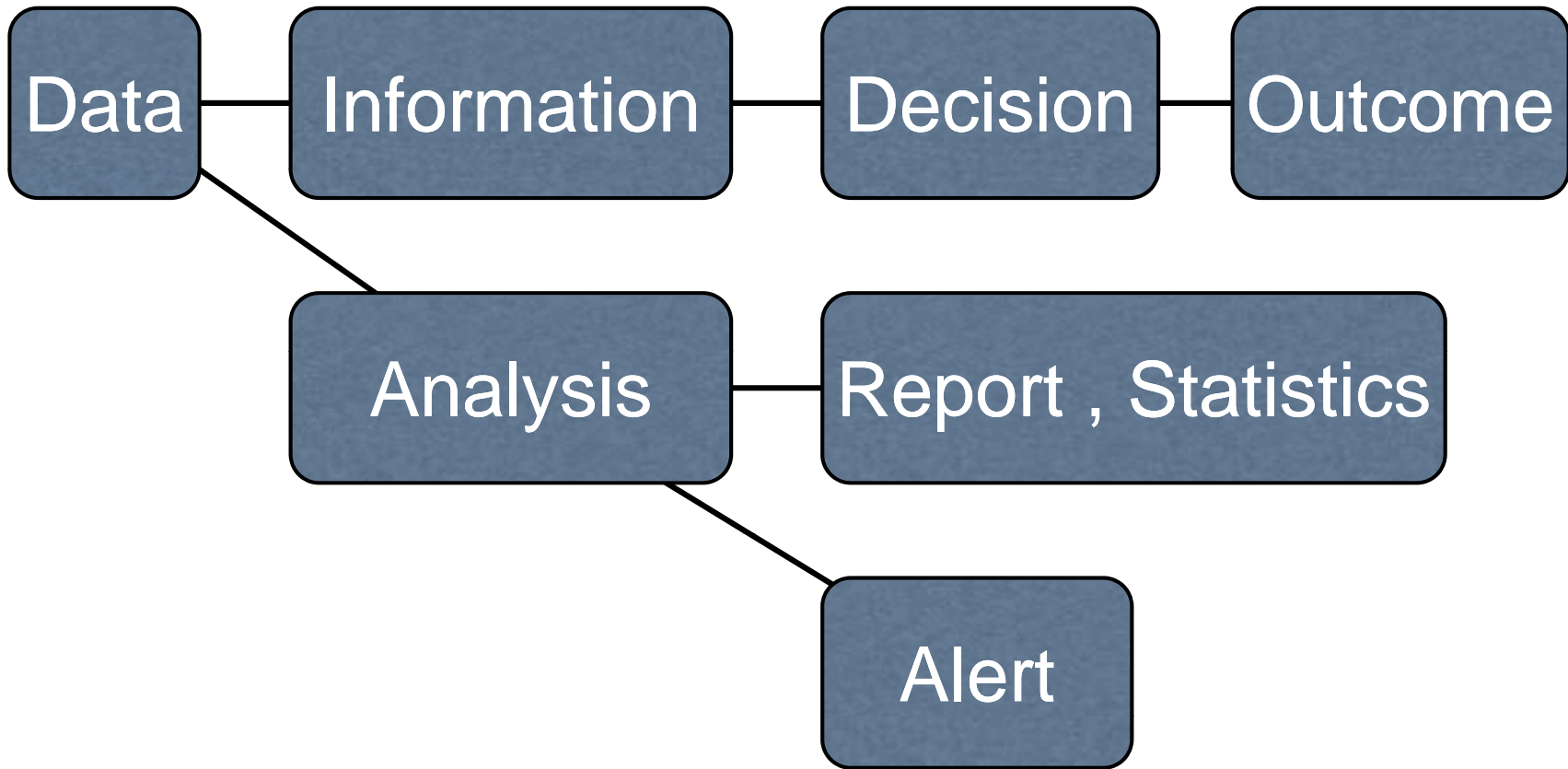
# Health Data

- From Health Informatics perspective

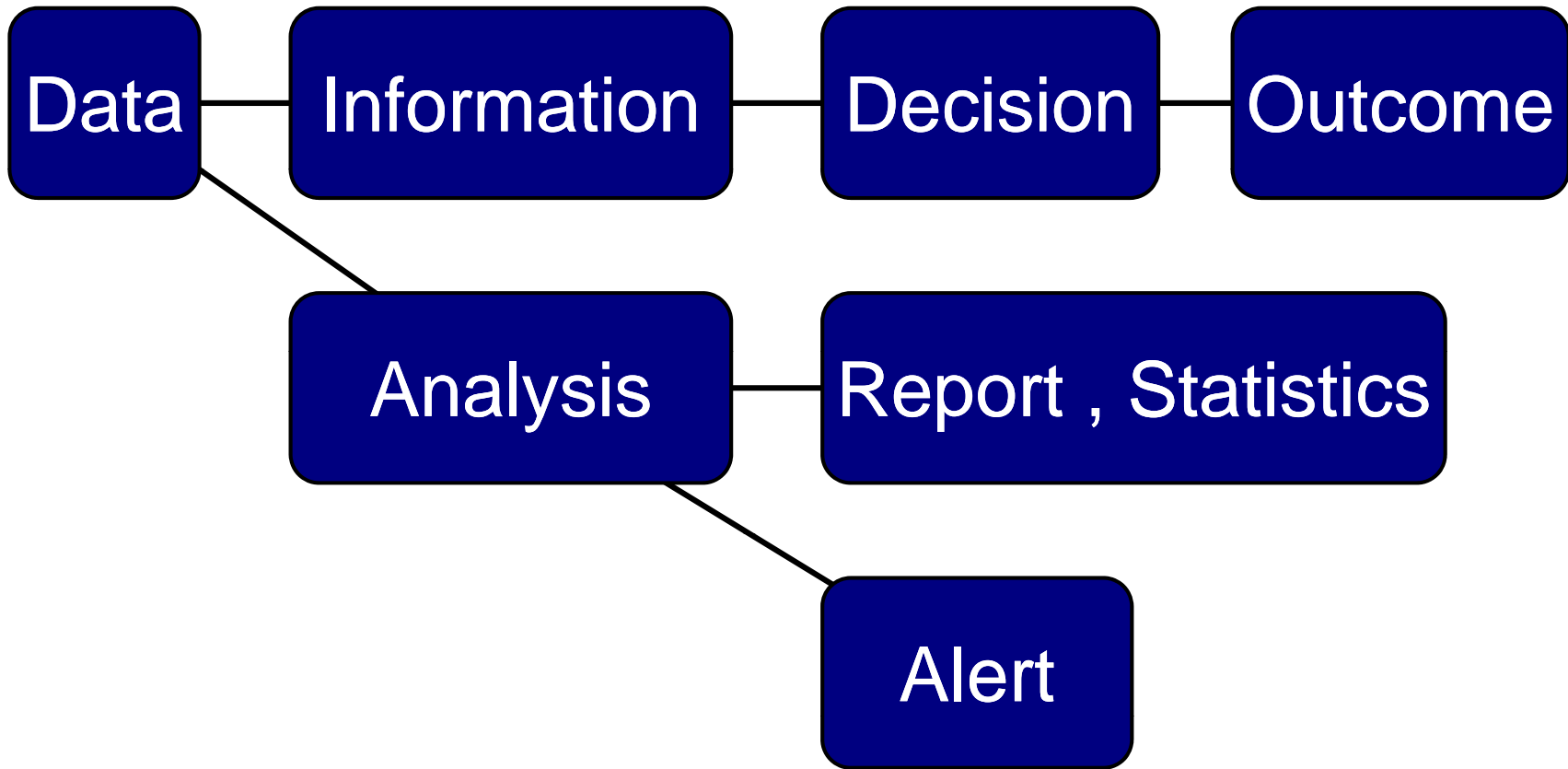


# Health Data





Manual (paper based)



# Computerisation

Are there any  
problems?

**short video**

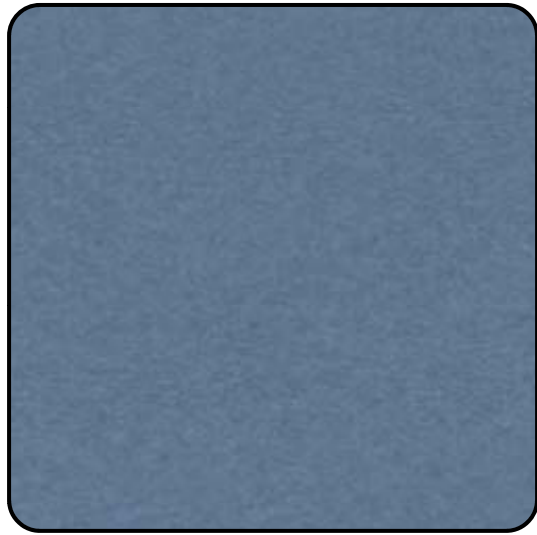
- Each individual
  - own way of thinking
  - define our own words & sentences
  - own way of structuring information

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**in clinical practice?**

So, is there a  
problem then?

It will be a problem  
when we want to  
share information

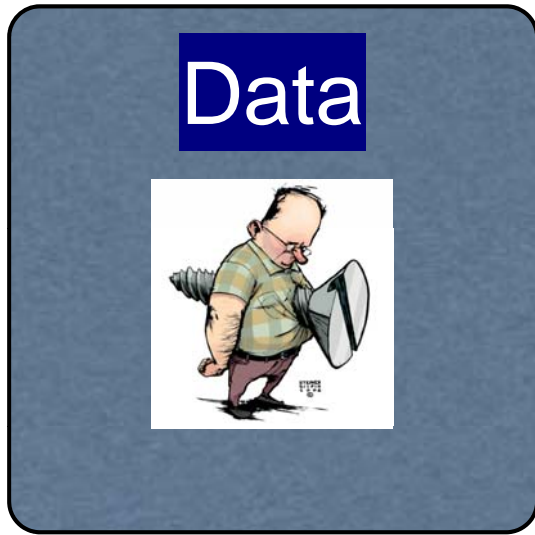


Hospital

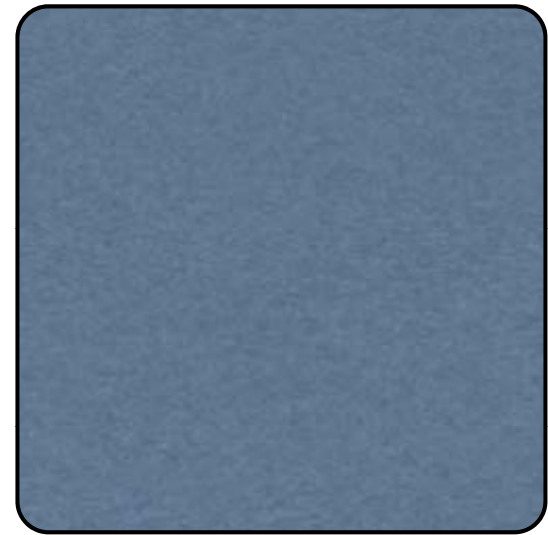
Data



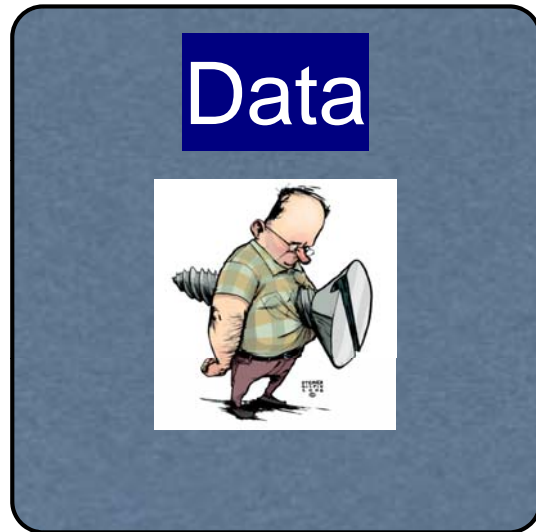
Hospital



Hospital

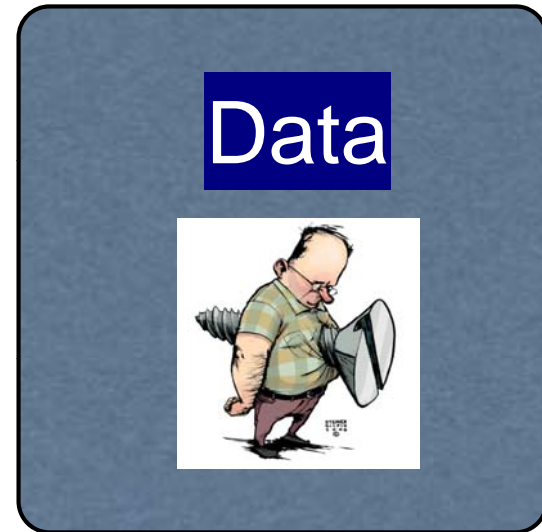


Other Hospital



Hospital

Problem?



Other Hospital

Different structure  
Different words/terms

System unable to understand  
resulted in wrong presentation

# In Malaysia Context

- National Project
  - e-Guarantee Letter
  - Lifetime Health Record
  - Future?
    - sharing of services

# In Malaysia Context

- Within a healthcare facility
  - Many departments or units
  - So far, no single solution able to provide all functionalities

# Hospital Information

## System As an example

PMS

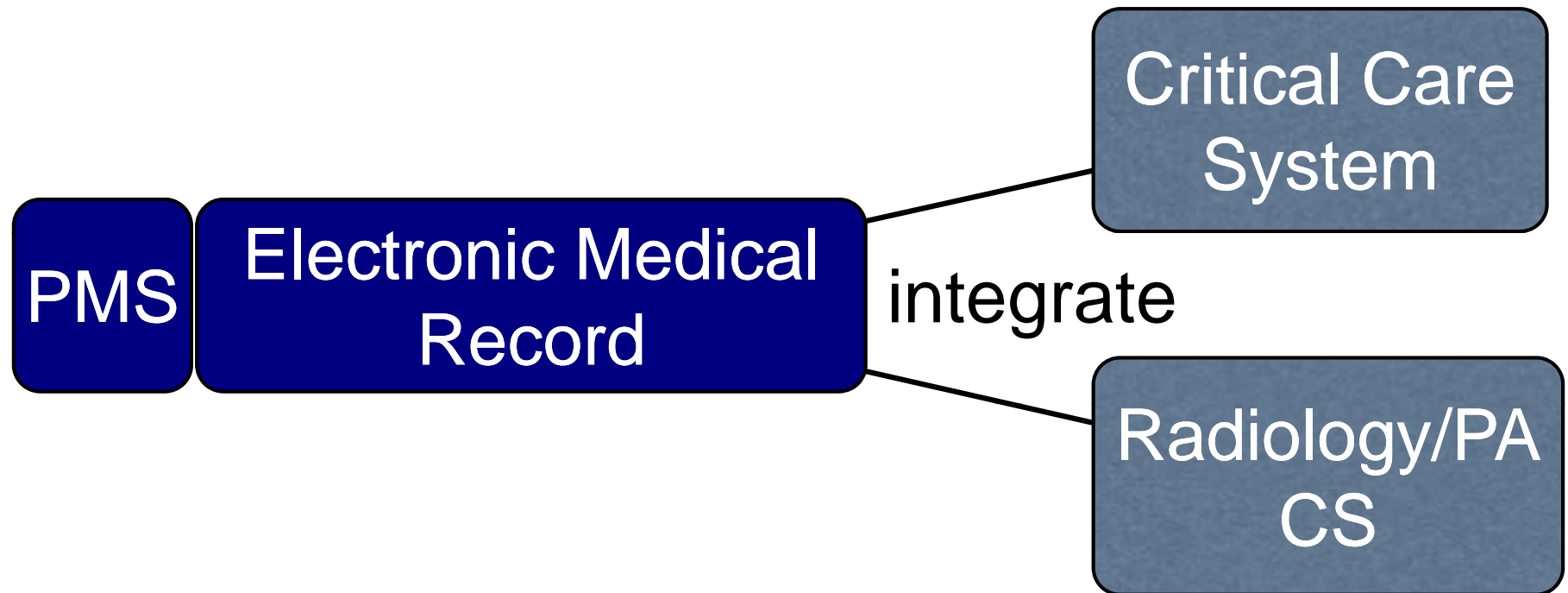
Electronic Medical  
Record

Critical Care  
System

Radiology/PA  
CS

# Hospital Information System

As an example



# Interoperability

share health data

health data standard

# Question?

- Do we need to standardise all data?

NO

only those data that we need to share

# What Standards are Required?

System A



System B

General ICT standard such as web service, xml etc

# What Standards are Required?

System A

STRUCTURE  
Network

System B

Structure : Data Component

# What Standards are Required?

STRUCTURE

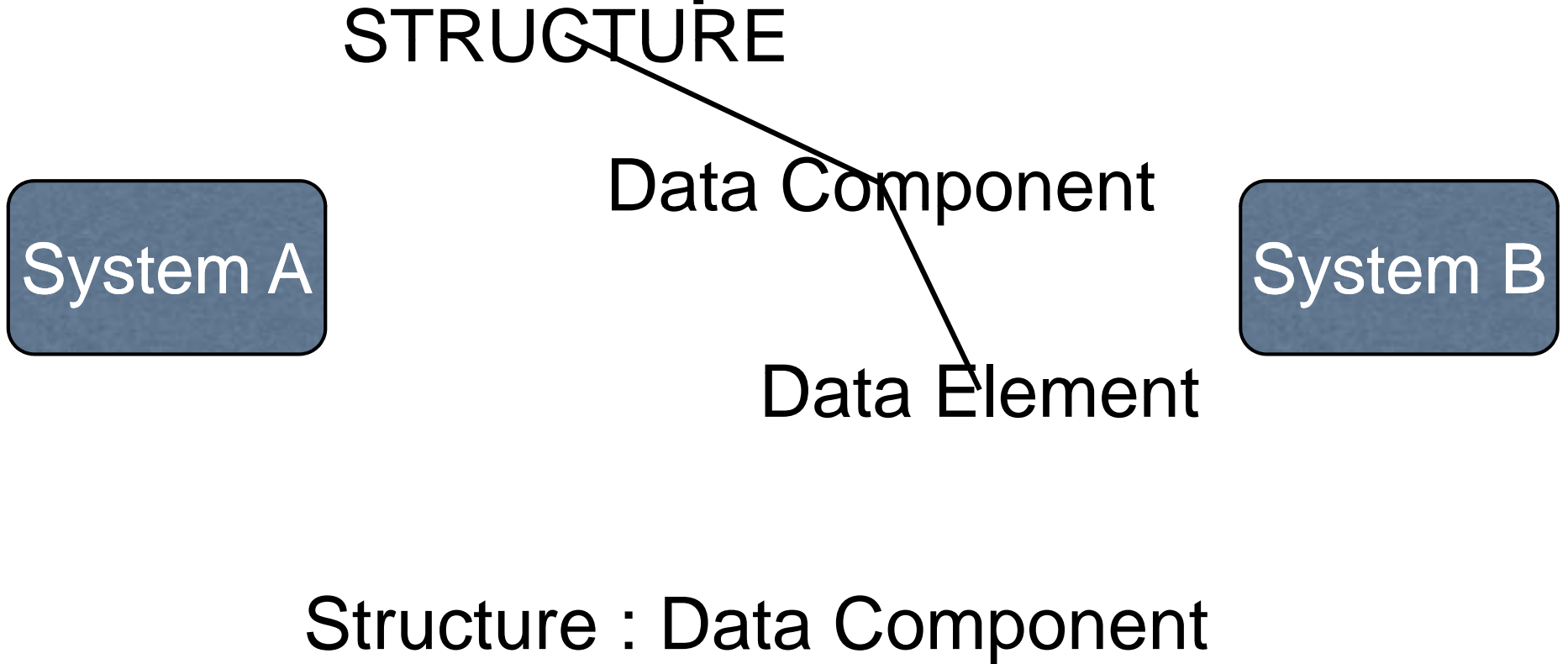
System A

Data Component

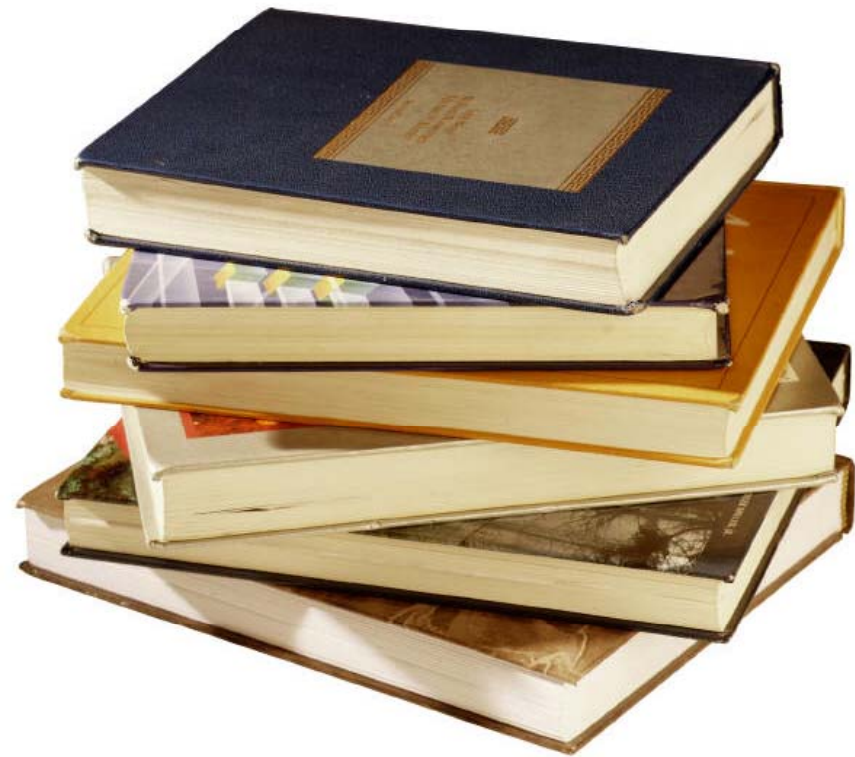
System B

Data Element

Structure : Data Component



# Analogy of the Structure



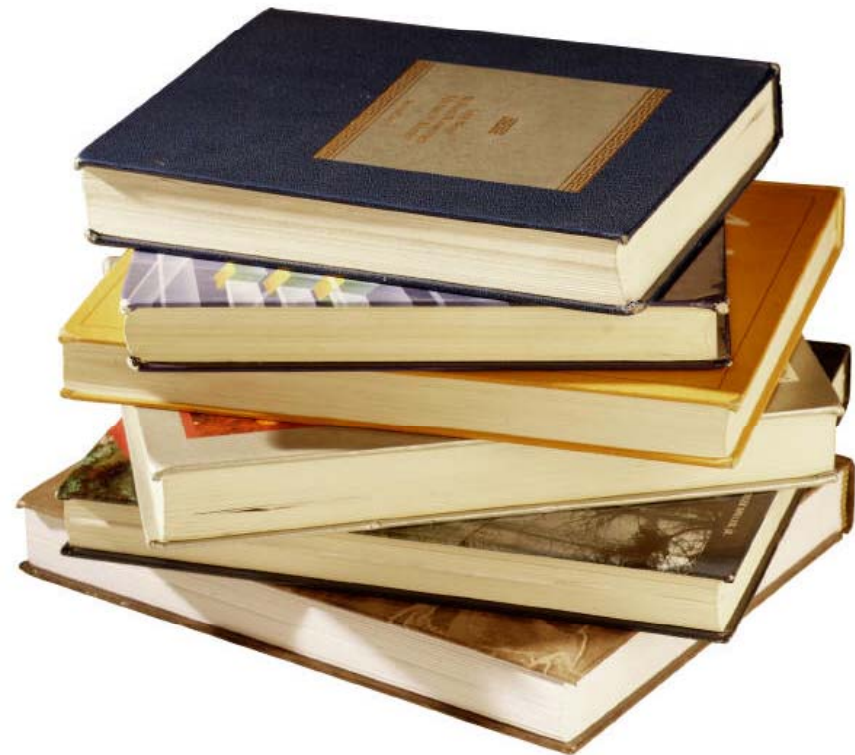
- Front page
- Table of Content
- Chapter
- Index

# Analogy of the

Front page

# Structure

Table of  
Content



- data elements
- Chapter
  - data elements
- Index
  - data elements

# What Standards are Required?

STRUCTURE



Messenger : HL7

# What Standards are Required?

- General ICT standard
- Data Structure
  - component
    - element
- Messenger
  - commonly used: HL7

**Another Problem?**

# Syntax and Semantic

- Patient - Ali
- 47 years old
- k/c COAD
- Fever
- 2 weeks

- Patient - Ali bin Maju
- 47 years old
- known case of COPD
- High Fever
- 2 weeks

- Patient name is Mr Ali Maju, 47 years old. This poor old man is unemployed and without family. Past record revealed that he has a history of chronic obstructive airway disease. Currently presented with high grade fever for the past 2 weeks

- Syntax
  - just a unit of data
- Semantic
  - data with meaning
  - information with meaning

# Health Data Standard

- Must address semantic issue

well defined and well described

# Type of Health Data Standard

- Classification
  - ICD 10
  - ICD9 CM
- Terminology
  - SNOMED CT
  - LOINC
- Malaysia Health Data Standard
  - Malaysia Drug Code
  - National Health Data Dictionary

# Solution

Decide  
~~what you need ? Sharing Use Standard Choose~~

Will there be a problem?

Yes, if we are sharing data at National Level - Cross  
Organisation

Need  
standardisation  
and  
consolidation at  
central level

Decide  
what you need ? Sharing Use Standard Choose

Yes, if we are sharing data at National Level - Cross Organisation

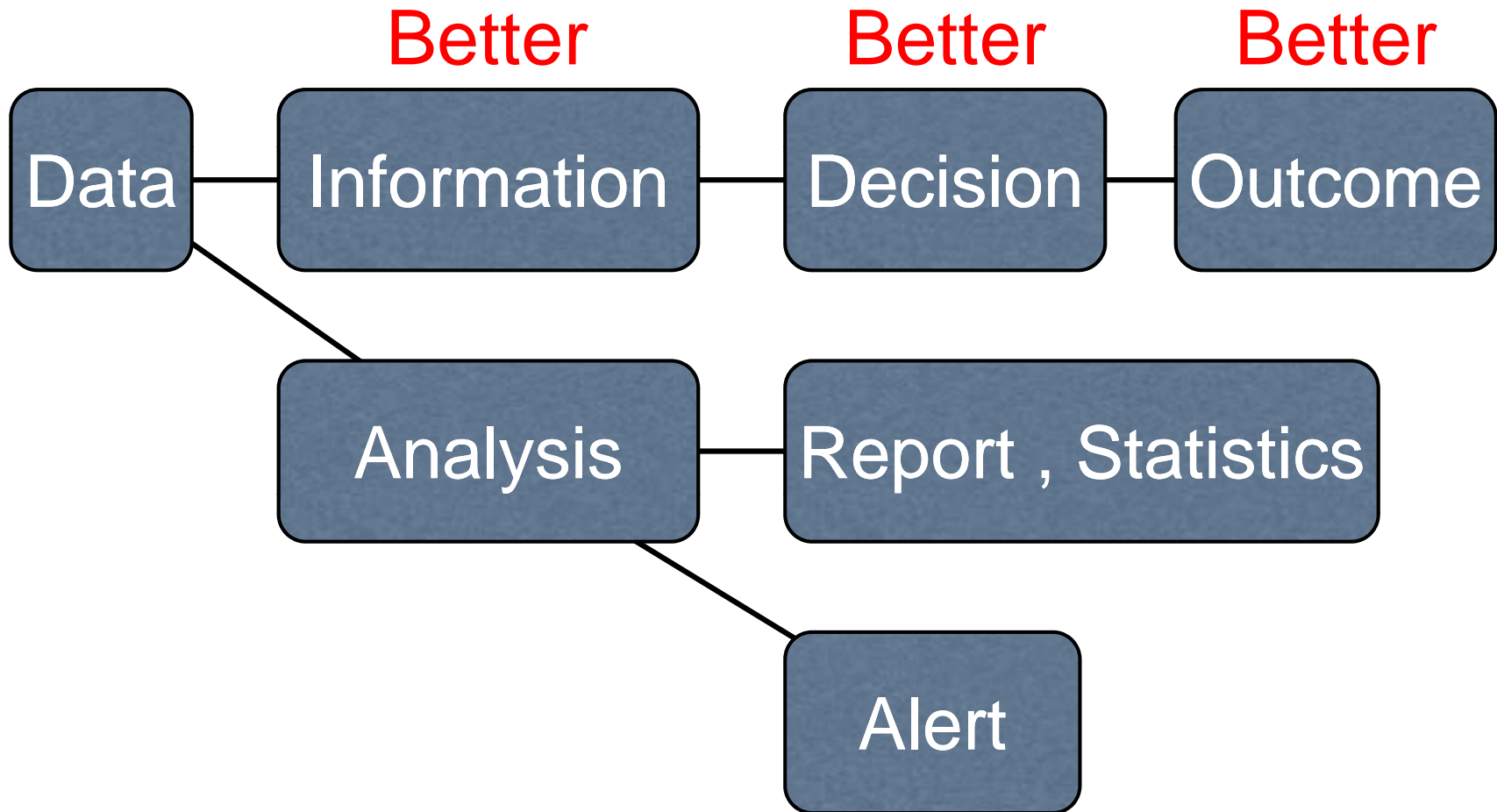
# As for LHR

sharing of clinical summary

- Demographic Data - Malaysia National Health Data Dictionary
- Clinical Data element - SNOMED CT
- Data Component - LOINC
- Entire Structure - Clinical Document Architecture (HL7)

# Conclusion

- Health Data Standard is required



# End of Presentation

- [azrinmd@mpmsb.net](mailto:azrinmd@mpmsb.net)