

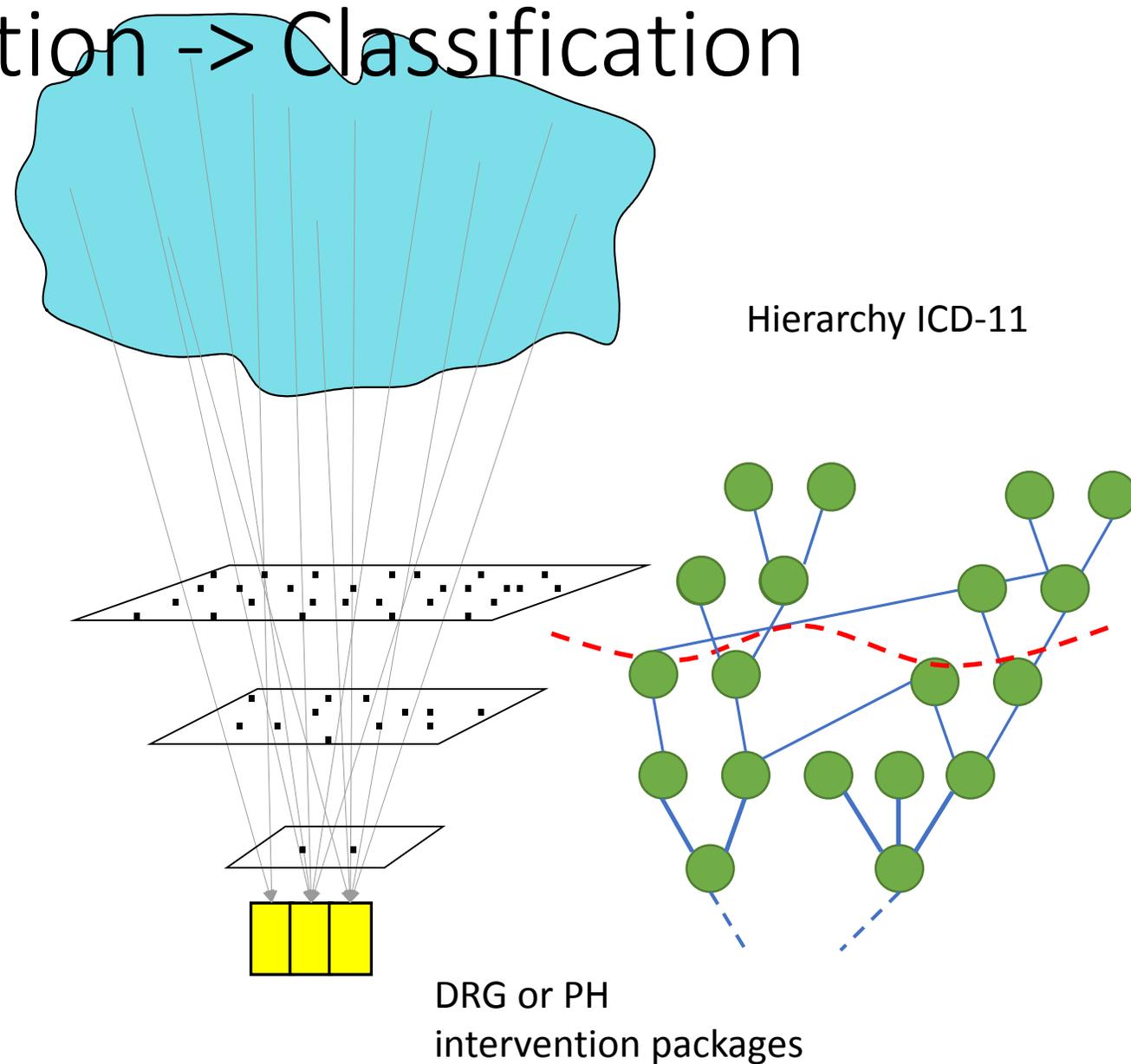
Clinical terms and ICD 11

Family of Classifications

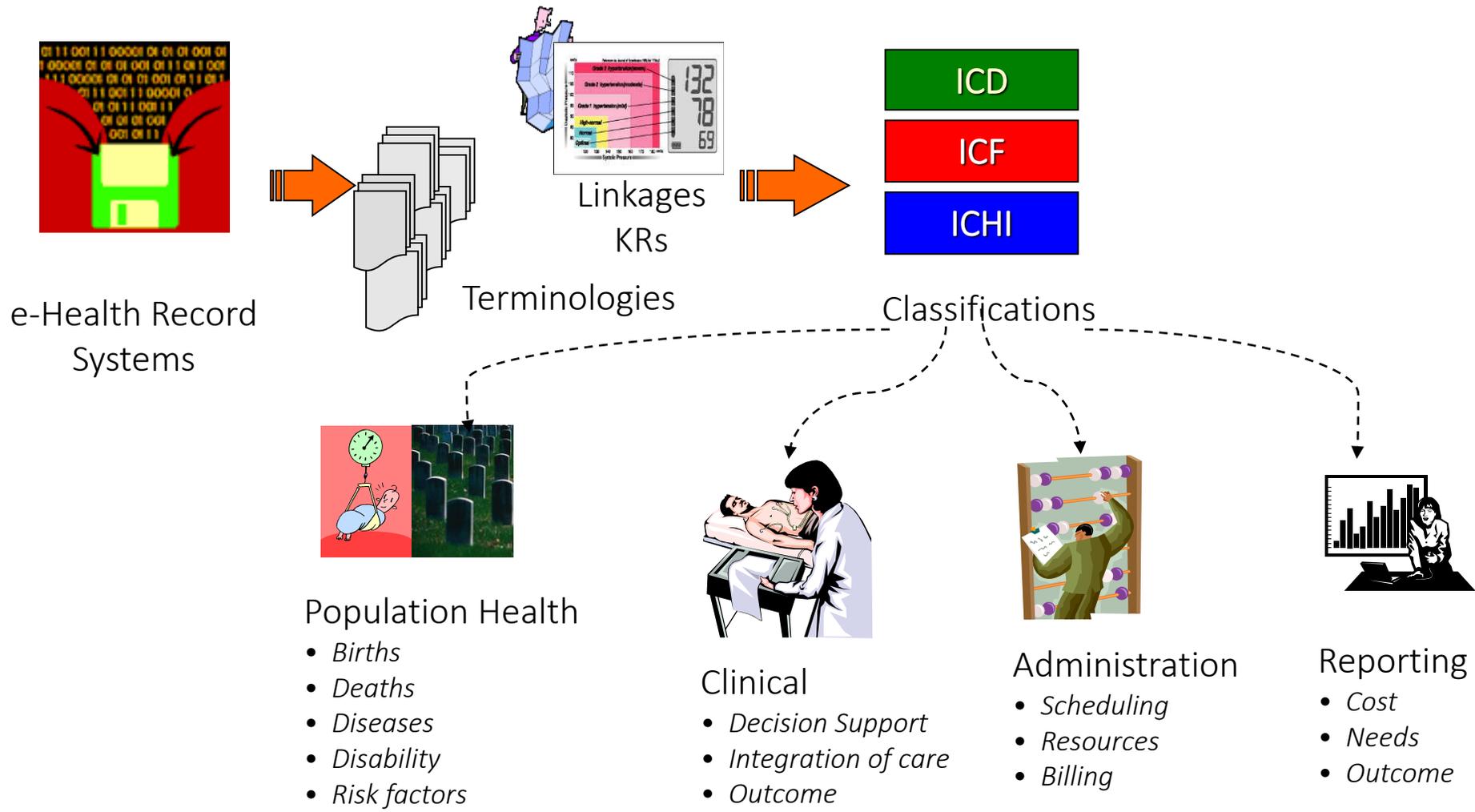
Robert Jakob, WHO

Detail of health information -> Classification

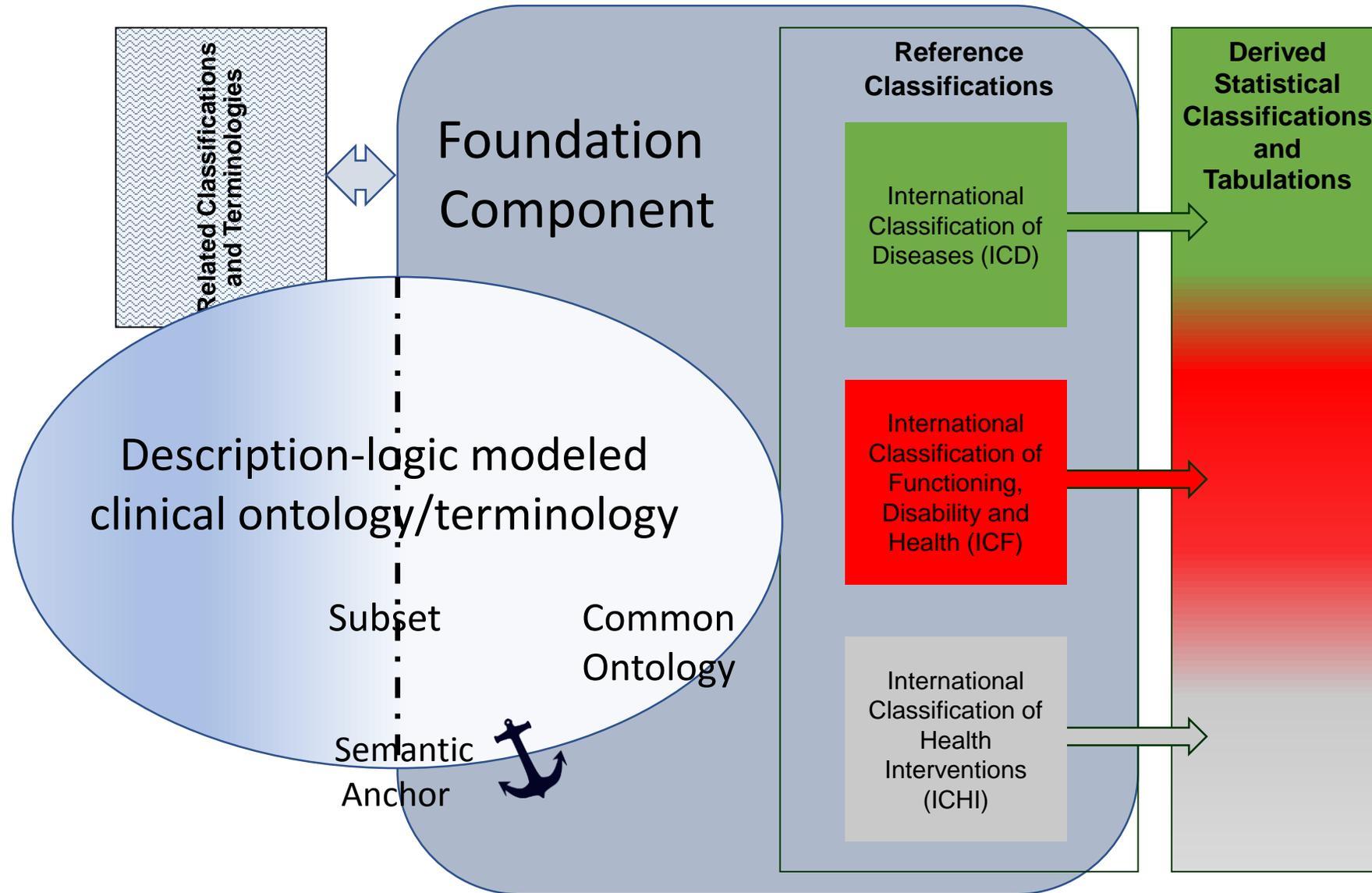
Reality
(individual detail)
↓
Free Text
(medical information)
↓
Terminologies / **ICD-11 URI**
(e.g. decision support)
↓
ICD
(policy, resources,
prevention, intervention,
decision support)



WHO Classifications in HIS & IT



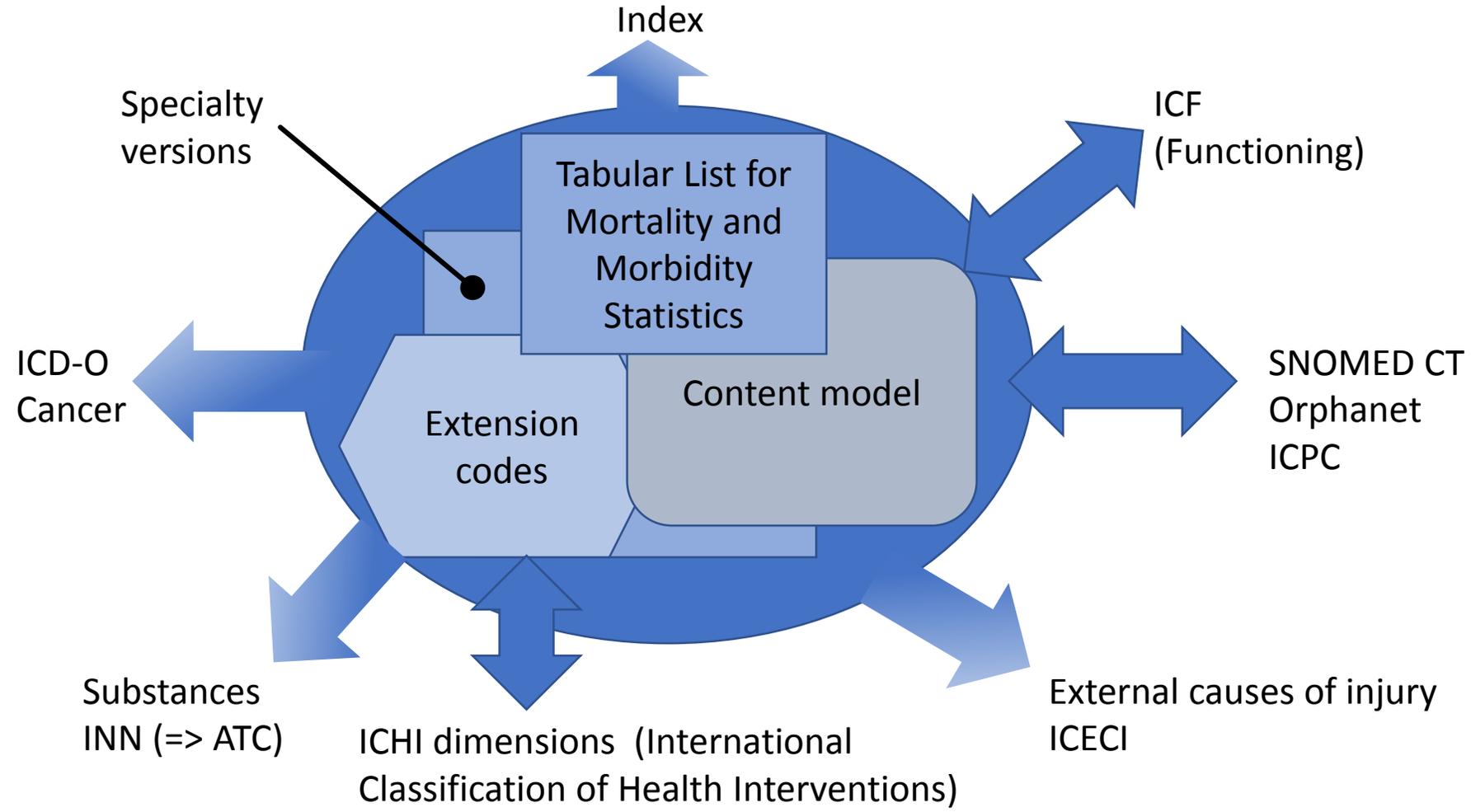
ICD-11 - linked with other information standards



ICD-11

- Foundation - shared with other classifications
 - Index
 - Classification ('Volume 1' – MMS) categories with ICD codes
 - Relationships
 - Content model
 - Instructions to build linearizations
 - All entities (diseases, external causes ...)
 - Coding with URI
- Reference Guide
 - Explanations
 - Rules
 - Forms

ICD-11 Foundation



Extension codes

Type 1

- Severity
- Temporality (course of the condition)
- Temporality (Time in life)
- Aetiology
- Anatomic detail Topology Anatomic location
- Histopathology
- Biological Indicators
- Consciousness
- External Causes detail
- Injury Specific detail

Type 2

- Main Condition
 - Reason for encounter
 - Reason for admission
 - Main Resource Condition
- Present on Admission
 - Developed after admission
 - Uncertain timing relative to admission
- Provisional diagnosis
- Diagnosis confirmed by...
 - Lab
 - Serology
 - Histology
 - Genetics
 - Imaging –
 - Unspecified means
- Differential Diagnosis

Chapters

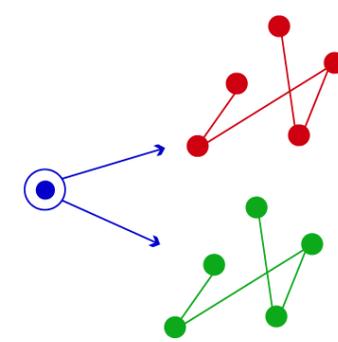
- 01 – Infectious diseases
- 02 – Neoplasms
- 03 – Diseases of the blood or blood-forming organs
- 04 – Disorders of the immune system
- 05 – Endocrine, nutritional and metabolic diseases
- 06 – Mental, behavioural or neurodevelopmental disorders
- 07 – Sleep-wake disorders
- 08 – Diseases of the nervous system
- 09 – Diseases of the visual system
- 10 – Diseases of the ear or mastoid process
- 11 – Diseases of the circulatory system
- 12 – Diseases of the respiratory system
- 13 – Diseases of the digestive system
- 14 – Diseases of the skin
- ...
- 26

Definition of Disease

a set of dysfunction(s) in any of the body systems including:

- with a known pattern of signs, symptoms & findings
 - *symptomatology - manifestations*
- probably with an underlying explanatory mechanism
 - *etiology*
- a distinct pattern of development over time
 - *course and outcome*
- a known pattern of response to interventions
 - *treatment response*
- with linkage to underlying genetic factors
 - *genotypes, phenotypes and endophenotypes*
- with linkage to interacting environmental factors

Classifications 3rd generation Content Model



- A structured framework
 - Captures the knowledge that underpins the definition of an ICD entity
 - Represents ICD entities in a standard way
 - Allows computerization
- “parameters” representing different dimensions
- A parameter is expressed using standard terminologies “value set”

Classifications 3rd Generation

Content model

1. ICD Concept Title

2. Hierarchy, Type and Use

- a) Parents
- b) Type
- c) Use

3. Textual Definition(s)

- a) Description (short)
- b) Definition (long)

4. Terms

a) Index Terms

- 1. Synonyms
- 2. Inclusion Terms

b) Exclusion Terms

5. Postcoordination – logical definition

6. Clinical Description

- 1. Body System(s)
- 2. Body Part(s) [*Anatomical Site(s)*]
- 3. Manifestation Properties
 - 1. Signs & Symptoms
 - 2. Findings
- 4. Causal Properties
- 5. Etiology Type
 - 1. Infection (agents)
 - 2. Injury (mechanisms)
- 6. Risk Factors
- 7. Genomic Characteristics
- 8. Temporal Properties
- 9. Severity Properties
- 10. Functional Properties
- 11. Specific Condition Properties
- 12. Treatment Properties
- 13. [Diagnostic Criteria](#)

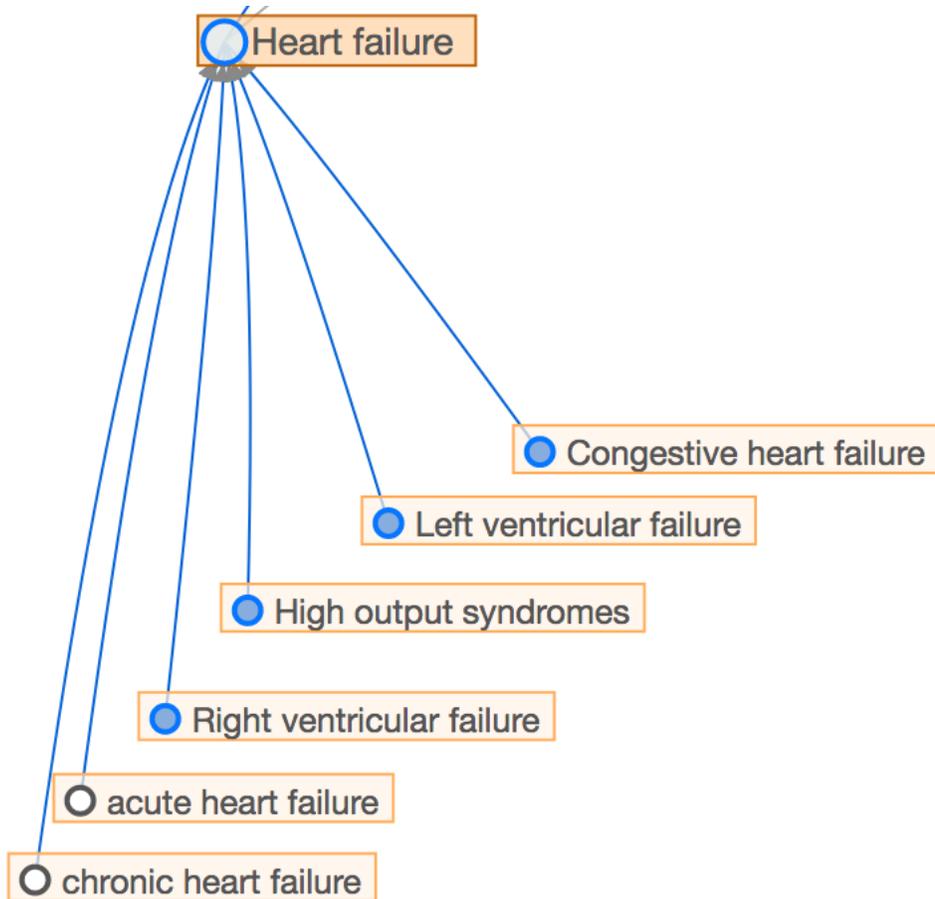
Logical definitions

acute heart failure |

Related words...

BD1Z&XT5R acute heart failure  

BD1Y&X... Other specified heart failure [Acute] 



Details for acute heart failure

Title & Definition	Classification Properties	Post-coordination	Logical Definitions
Causal Properties	Temporal Properties	Severity Properties	Functioning Properties
ICD-10 Notes and Hints	ICD-10 Linearizations	Editorial Information	

Select superclass 

'Heart failure'

Severity 

Select a value

Is definitional

Course 

Acute

Is definitional

Postcoordination information

Linearization / Use	Severity	Course	Causing Condition
0 Extension Codes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
01 Morbidity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> R

Postcoordination ?

Add detail to **Other specified heart failure**

Has causing condition (code also)

Search

Has severity (use additional code, if desired)

XS7A	Stage 1	No limitation of physical activity (shortness of breath).
XS5S	Stage 2	Slight limitation of physical activity (shortness of breath on exertion).
XS00	Stage 3	Marked limitation of physical activity (shortness of breath with less than ordinary exertion).
XS6G	Stage 4	Unable to carry on any physical activity without discomfort (shortness of breath, fatigue, weakness, or discomfort with minimal exertion).
XS99	Unspecified Clinical Stage	

Course (use additional code, if desired)

XT5R	Acute
XT8W	Chronic

Has causing condition

Has causing condition

- ▶ Sepsis
- ▶ Heart valve diseases
- ▶ Diseases of the myocardium or cardiac chambers
 - BA01 Hypertensive heart disease
 - BA02 Hypertensive renal disease
- ▶ BA80 Coronary atherosclerosis
- ▶ 12 Diseases of the respiratory system
- ▶ Diabetes mellitus
- ▶ Overweight, obesity or specific nutrient excesses

Classifications – terminologies

- Defined entities (definition of disease)
 - Synonyms
- Relationships
 - Set-subset
 - Cause-manifestation
- Descriptions
 - Postcoordination instructions
 - Information about site etc.
 - Child = parent + x
 - Definition (human – formal)

Next

- Use in AI?
- Input from AI?
 - Formal description for clinical criteria
 - Parsing clinical diagnostic elements versus defining diagnostic criteria a priori (e.g. mental health)
 - Formalization