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# From ICD-9 to ICD-10

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WORLD  
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# ICD-10 List of Chapters



Chapters	Codes	Description
I	A00 – B99	Certain infectious and parasitic diseases
II	C00 – D49	Neoplasms
III	D50 – D59	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
IV	E00 – E99	Endocrine, nutritional and metabolic diseases
V	F01 – F99	Mental and behavioural diseases
VI	G00 – G99	Diseases of the nervous system
VII	H00 – H59	Diseases of the eye and adnexa
VIII	H60 – H99	Diseases of the ear and mastoid process
IX	I00 – I99	Diseases of the circulatory system
X	J00 – J99	Diseases of the respiratory system
XI	K00 – K99	Diseases of the digestive system
XII	L00 – L99	Diseases of the skin and subcutaneous tissue
XIII	M00 – M99	Diseases of the musculoskeletal system and connective tissue
XIV	N00 – N99	Disease of the genitourinary system
XV	O00 – O99	Pregnancy, childbirth and the puerperium
XVI	P00 – P96	Certain conditions originating in the perinatal period
XVII	Q00 – Q99	Congenital malformations, deformations and chromosomal abnormalities
XVIII	R00 – R99	Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified
XIX	S00 – T99	Injury, poisoning and certain other consequences of external causes
XX	V00 – Y99	External causes of morbidity
XXI	Z00 – Z99	Factors influencing health status and contact with health services

# ICD Tables

## ICD-9

Codes	Description
001 – 139	Infectious and parasitic diseases
140 – 239	Neoplasms
240 – 279	Endocrine, nutritional and metabolic diseases and immunity disorders
280 – 289	Diseases of the blood and blood forming organs
290 – 319	Mental disorders
320 – 389	Diseases of the nervous system and sense organs
390 – 459	Diseases of the circulatory system
460 – 519	Diseases of the respiratory system
520 – 579	Diseases of the digestive system
580 – 629	Diseases of the genitourinary system
630 – 679	Complications of pregnancy, childbirth, and the puerpium
680 – 709	Diseases of the skin and subcutaneous tissue
710 – 739	Diseases of the musculoskeletal system and connective tissue
740 – 759	Congenital abnormalities
760 – 779	Certain conditions originating in the perinatal period
780 – 799	Symptoms, signs and ill-defined conditions
800 – 999	Injury and poisoning
V01 – V91	Supplemental classification: classification of factors influencing health status and contact with health service
E000 – E999	Supplemental classification: Classification of external causes of injury and poisoning

## ICD-10

Codes	Description
A00 – B99	Certain infectious and parasitic diseases
C00 – D49	Neoplasms
D50 – D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
E00 – E90	Endocrine, nutritional and metabolic diseases
F01 – F99	Mental and behavioural diseases
G00 – G99	Diseases of the nervous system
H00 – H59	Diseases of the eye and adnexa
H60 – H95	Diseases of the ear and mastoid process
I00 – I99	Diseases of the circulatory system
J00 – J99	Diseases of the respiratory system
K00 – K94	Diseases of the digestive system
L00 – L99	Diseases of the skin and subcutaneous tissue
M00 – M99	Diseases of the musculoskeletal system and connective tissue
N00 – N99	Disease of the genitourinary system
O00 – O99	Pregnancy, childbirth and the puerpium
P00 – P96	Certain conditions originating in the perinatal period
Q00 – Q99	Congenital malformations, deformations and chromosomal abnormalities
R00 – R99	Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified
S00 – T88	Injury, poisoning and certain other consequences of external causes
V00 – Y98	External causes of morbidity
Z00 – Z99	Factors influencing health status and contact with health services



# Comparison of ICD-9 and ICD-10

## ICD-9

- Consists of three to five characters
- First digit is numeric or one of E or V
- Second, third, fourth, and fifth digits are numeric
- It requires at least three digits
- Decimal placed after the first three characters

## ICD-10

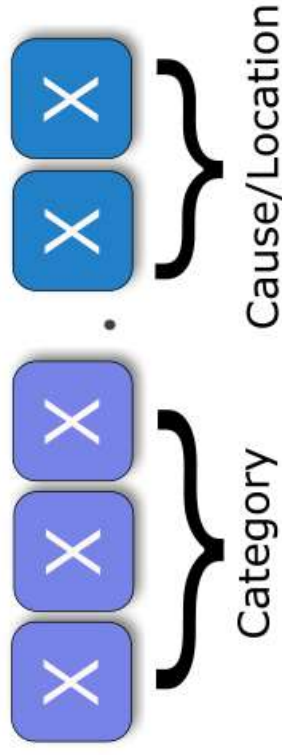
- Consists of three to seven characters
- First digit is alphabetic
- All letters used except U
- Second and third digits are numeric
- Fourth, fifth, sixth, and seventh digits can be alphabetic or numeric
- Decimal placed after the first three characters
- Includes more diseases (not everything in ICD-10 will appear in ICD-9)



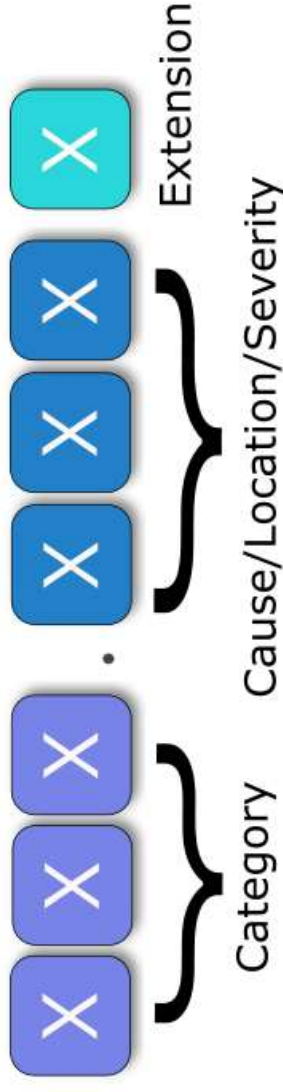


# ICD-9 vs ICD-10

## ICD-9



## ICD-10



## Example

### ICD-9

migraine

3 4 6 . 0 0

with aura

without status migrainosus

### ICD-10

migraine

G 4 3 . 1 0 9

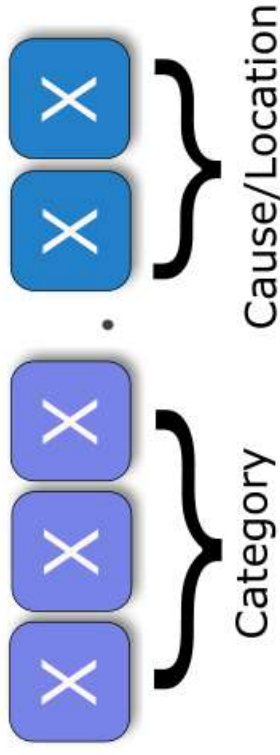
with aura

without status migrainosus

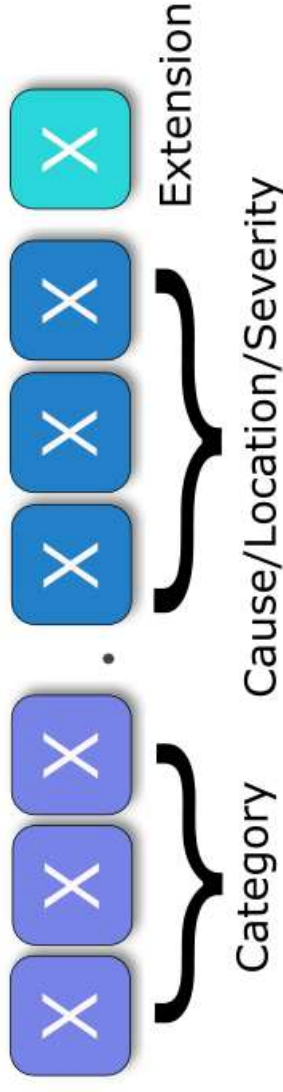


# ICD-9 vs ICD-10

## ICD-9



## ICD-10



## Example

### ICD-9 dementia

2 9 0 . 1 0

presenile

uncomplicated

### ICD-10 unspecified dementia

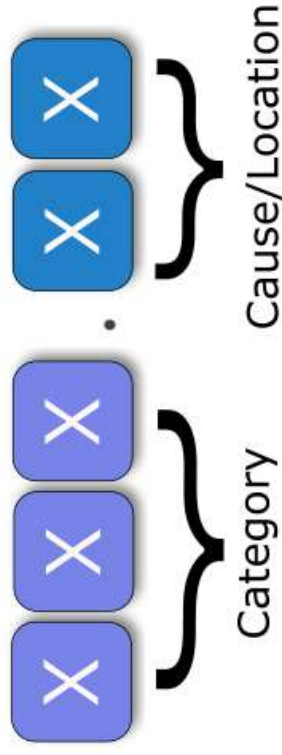
F 0 3 . 9 0 0

without behavioural disturbance

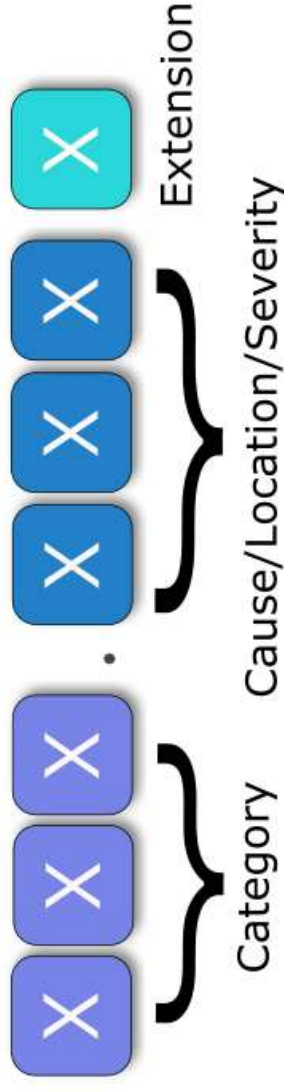


# ICD-9 vs ICD-10

## ICD-9



## ICD-10



## Example

### ICD-9

acute appendicitis

5 4 0 . 9 0

without mention of peritonitis

### ICD-10

acute appendicitis

K 3 5 . 8 9 0

other unspecified acute

### AND/OR

acute appendicitis

K 3 5 . 8 0 0

other without perforation or gangrene

Key point: ICD-9 to ICD-10 codes aren't 1:1, one ICD-9 code maps to two possible ICD-10 codes



# A closer look...

I Diseases of the circulatory system

I 1 0 to I 1 6 Hypertensive Diseases

I 1 3 Hypertensive heart and kidney disease

I 1 3 . 1 1

without HF, with stage 5 chronic kidney disease, or end stage renal failure





# A closer look...

## I Diseases of the circulatory system

I 2 0 to I 2 5 Ischemic heart disease

I 2 0 Angina pectoris

I 2 0 . 0 Unstable



# Example

## Acute myocardial infarction (MI)

### ICD 9

- 320-389: Diseases of the nervous system and sense organs
- 390-459: Diseases of the circulatory system
- 410-414: Ischemic heart disease
  - **410: Acute myocardial infarction**
- 460-519: Diseases of the respiratory system

### ICD 10

- H60-H95: Diseases of the ear and mastoid process
- I00-I99: Disease of the circulatory system
- I20-I25: Ischemic heart disease
  - **I21: Acute myocardial infarction**
- J00-J99: Diseases of the respiratory system



# Example Patient Record



**Name:** Jane Doe

**Age:** 86

**Sex:** Female

## Admission Record

Admitted: 05/04/2021

Pre-existing conditions:

- I50.1
  - Heart failure
  - Left ventricular failure (unspecified)
- I48.3
  - Typical atrial flutter
- I11.0
  - Hypertensive heart disease with heart failure
- E11.9
  - Type 2 diabetes mellitus without complications

## Discharge Record

Discharged: 08/04/2021

Diagnosed with:

- N18.2
  - Chronic kidney disease, stage 2 (mild)
- N39.0
  - Urinary tract infection, site not specified



# Interesting ICD-10 Codes

T71.23 - Asphyxiation due to being trapped in a (discarded) refrigerator

V91.07 – Burn due to water-skis on fire

V97.33 – Sucked into a jet engine

W17.3 – Fall into empty swimming pool

W22.02 – Walked into a lamppost

W61.01 – Bitten by parrot

X52 – Prolonged stay in a weightless environment

Y93.D1 – Accident caused by knitting and crocheting



# ICD-11

- Incorporates input from specialists of 55 countries to improve shortcoming of ICD-10
- Enhance the ability to operate in an electronic/online environment
  - It contains all information in a machine-readable format
  - It provides an API to connect via any software
- Captures more information for morbidity
- Incorporates structural changes to some chapter
- It is easier to add multilingual support
- It makes ICD clinically relevant by relying on the use of code combinations and extensions to describe morbidity





# Summary

- There is not a one-to-one mapping between ICD-9 and ICD-10 codes
- ICD codes have an intrinsic hierarchy
- Adding more ICD codes to describe the specific conditions of a patient is common and desirable



## References

- The ICD-9 to ICD-10 Crosswalk made Easy: ICD-10 Code Lookup  
<http://www.icd10codesearch.com/>
- World Health Organisation - Classifications:  
<https://www.who.int/standards/classifications>
- National Center for Health Statistics – Classification of Diseases, Functioning, and Disability  
<http://www.cdc.gov/nchs/icd.htm>