



University of Glasgow | School of
Computing Science

THE AWARDS
2020

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ICD-9 and MIMIC-III

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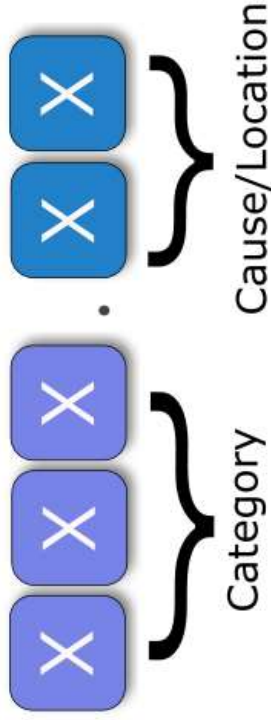
Lead of the Computing Technologies for Healthcare Theme

<https://www.gla.ac.uk/schools/computing/staff/fanideligianni>

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ICD-9 Structure



- Three-digits constitute the basic ICD code
- It can be further subdivided into up to 10 four-character subcategories
- WHO requires a minimum three-character categories level for international reporting and comparisons
- Fourth digit is filled with 'X' when there is no further information about the sub-division

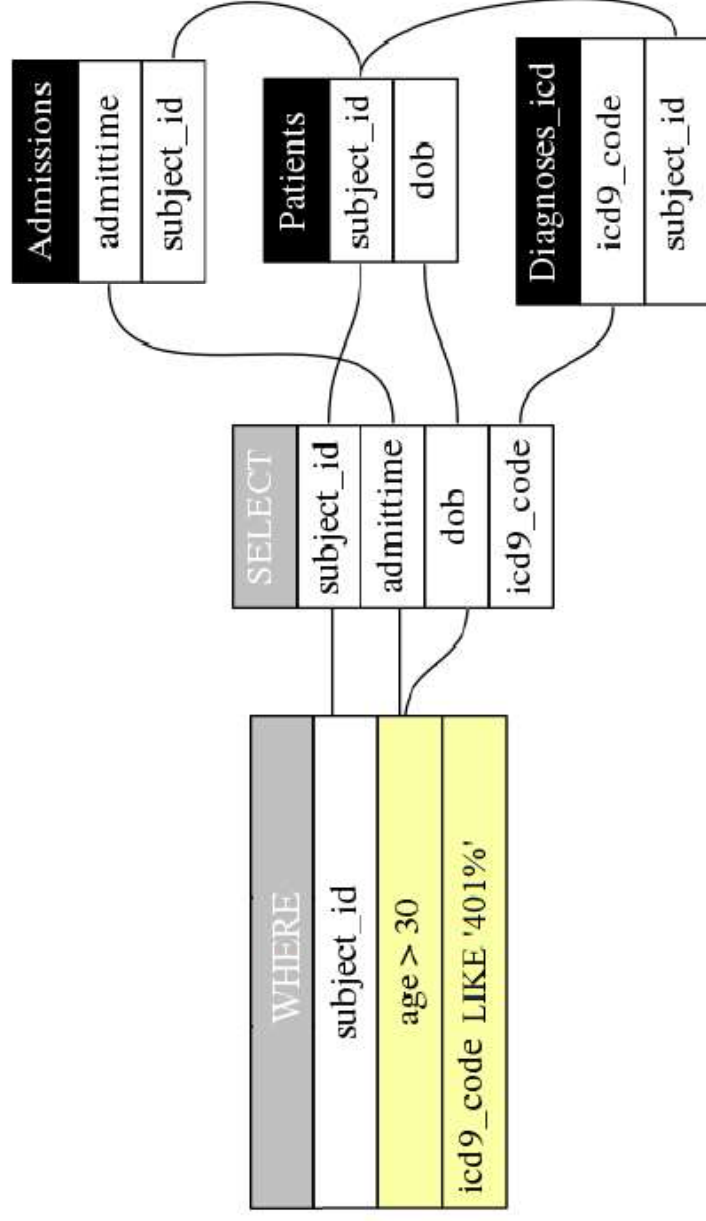


ICD-9 Chapters

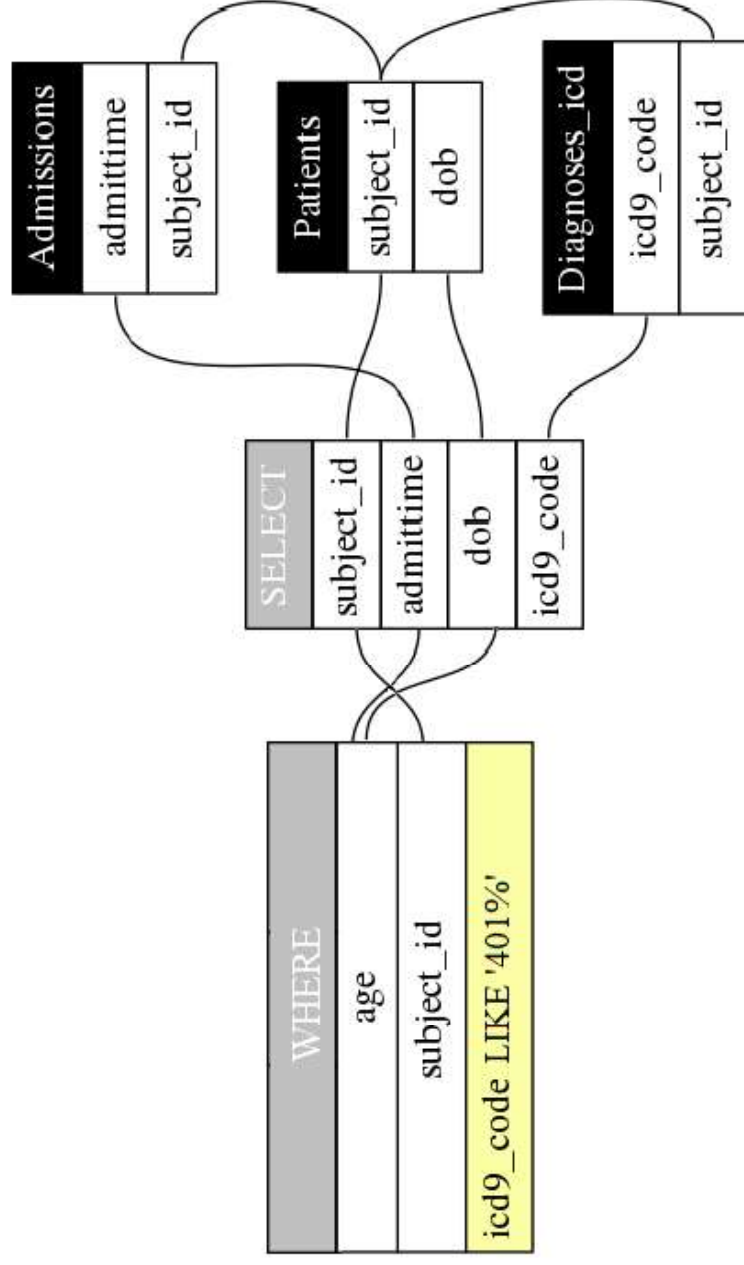
Codes	Description
001 – 139	Infectious and parasitic diseases
140 – 239	Neoplasms
240 – 279	Endocrine, nutritional and metabolic diseases and immunity disorders
280 – 289	Diseases of the blood and blood forming organs
290 – 319	Mental disorders
320 – 389	Diseases of the nervous system and sense organs
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



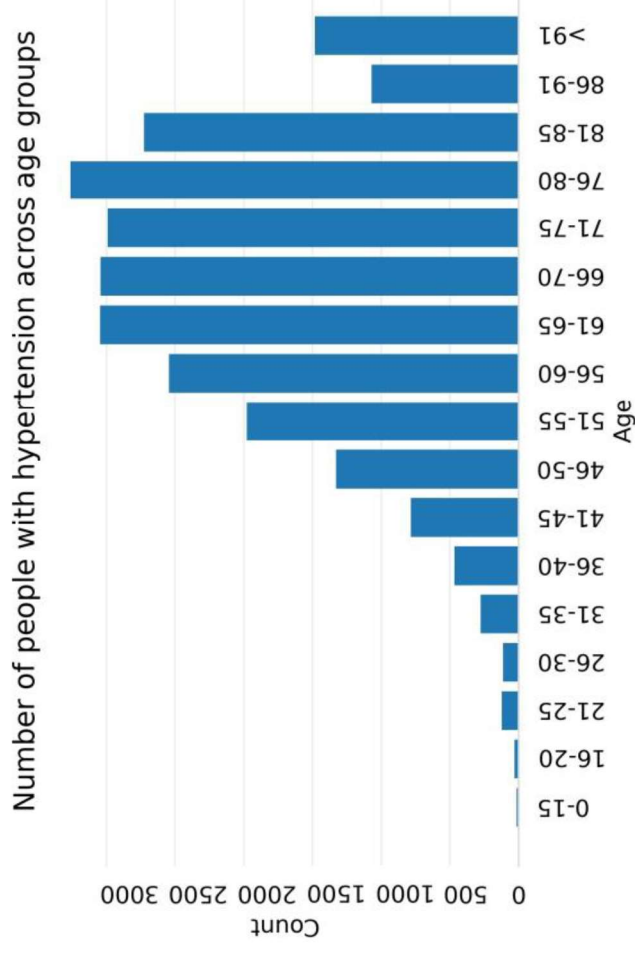
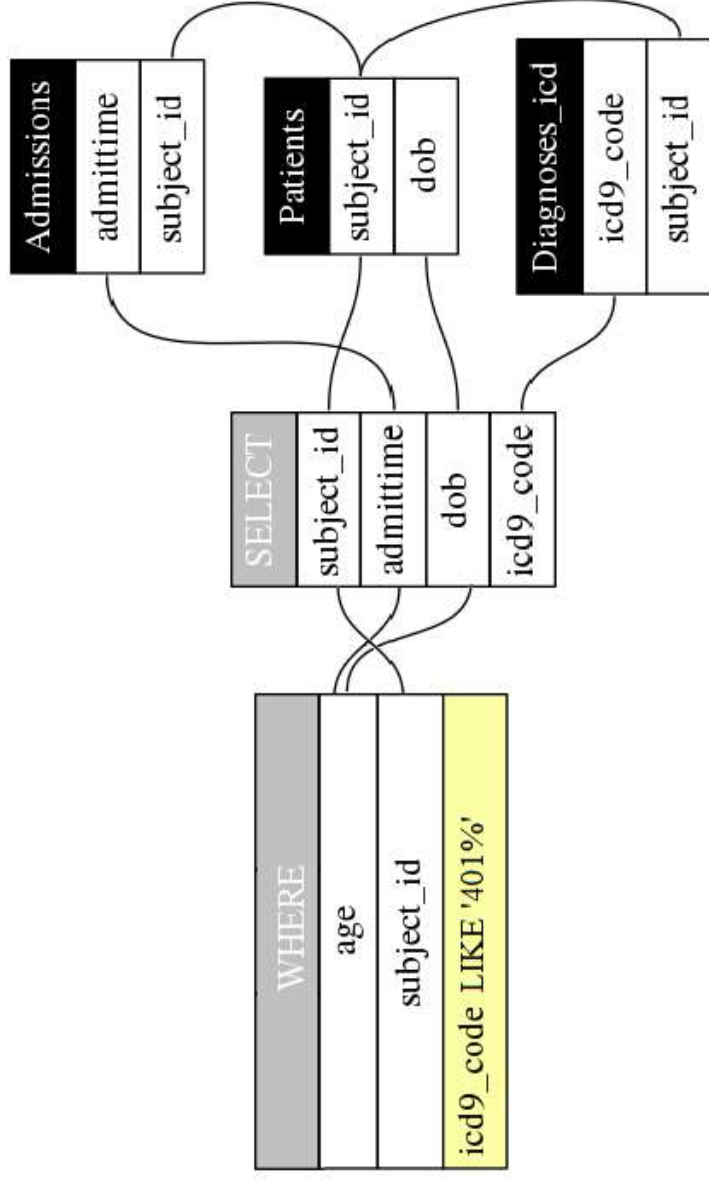
ICD-9 Code Queries in MIMIC-III



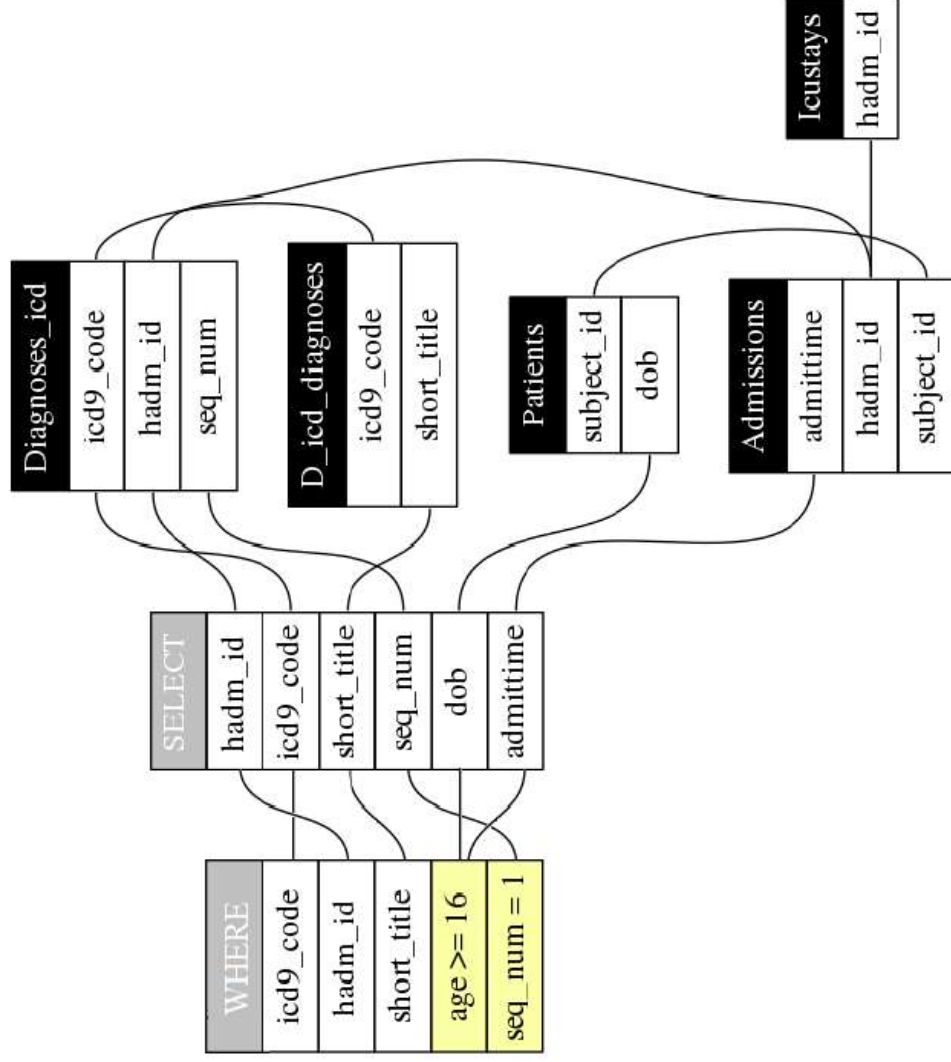
ICD-9 Code Queries in MIMIC-III



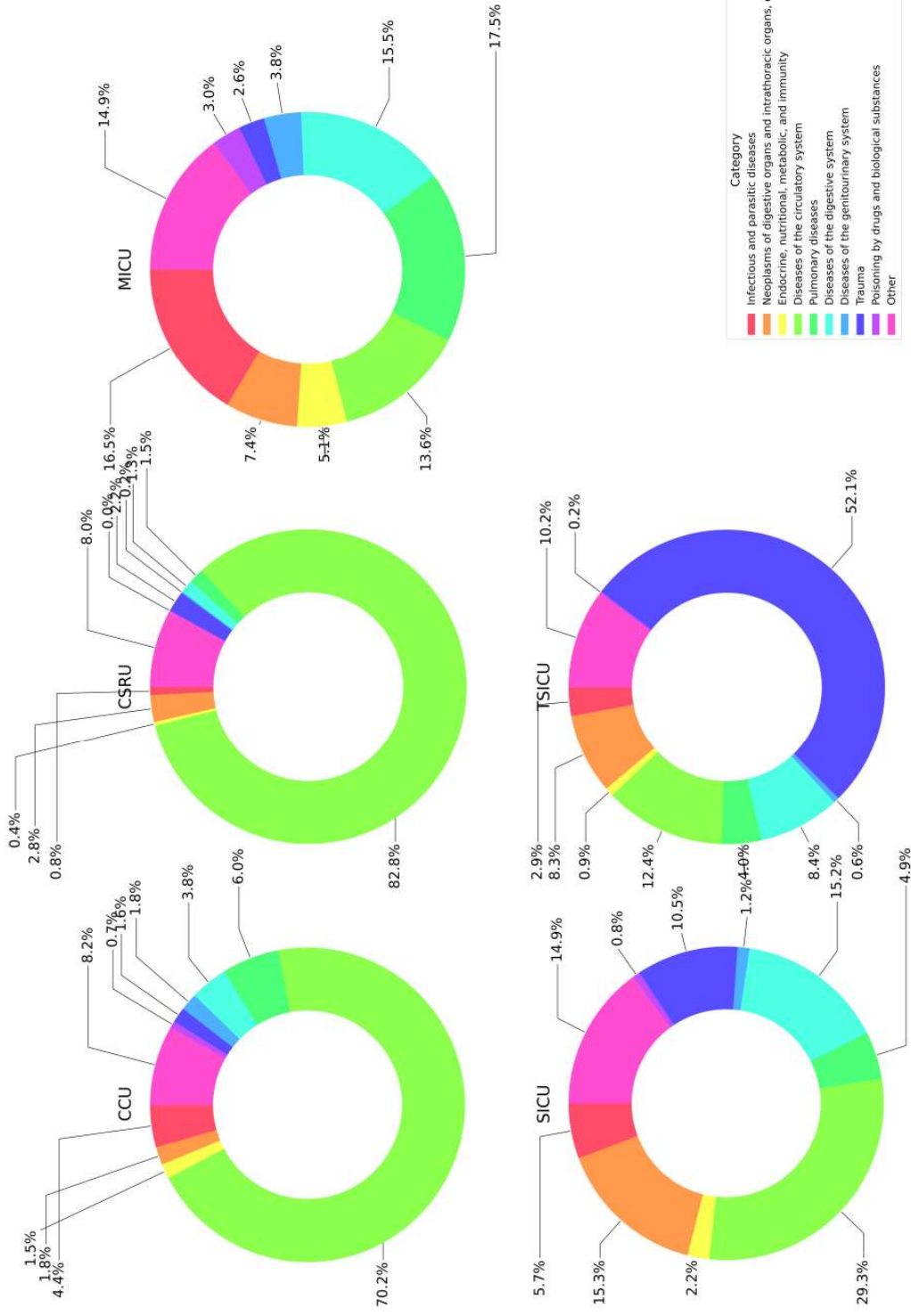
ICD-9 Code Queries in MIMIC-III



Distribution of ICD-9 codes across ICUs



Distribution of ICD-9 codes across ICUs



Summary

- Main structure of ICD-9
- Distribution across age diagnosed with a specific disease
- Most common disease across intensive care units



References

- 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>