

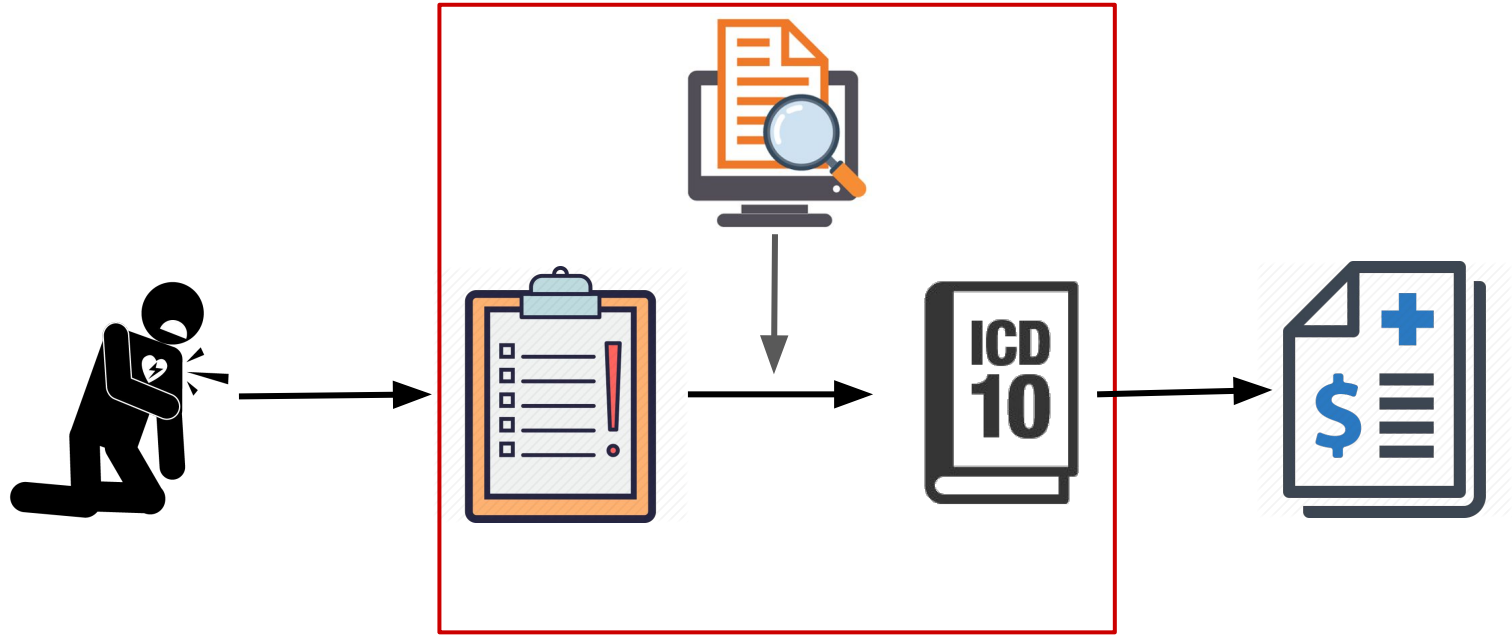
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# **AICD: Assisting the Assignment of Diagnosis Codes to Encounters**

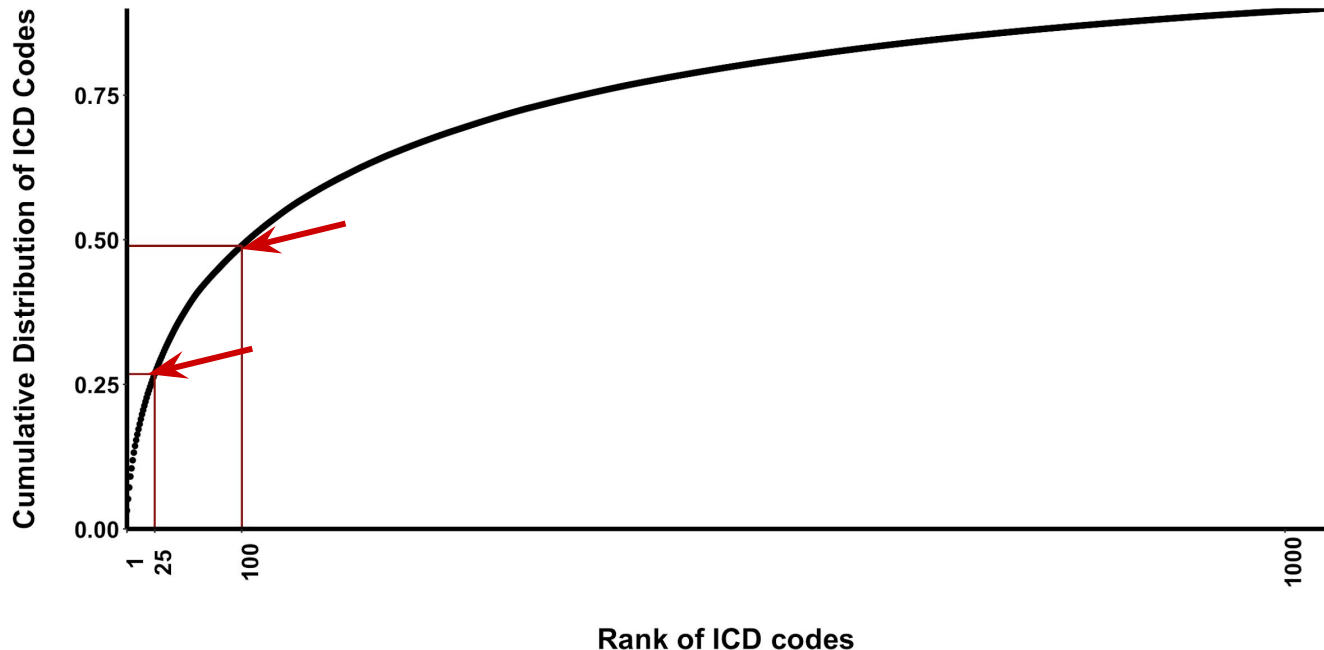
**Medical coding is time-consuming and labor-intensive. AI CD can help.**



# Top 100 ICD codes accounted for ~50% of total ICD codes in MIMIC.



(Medical Information  
Mart for Intensive  
Care III)



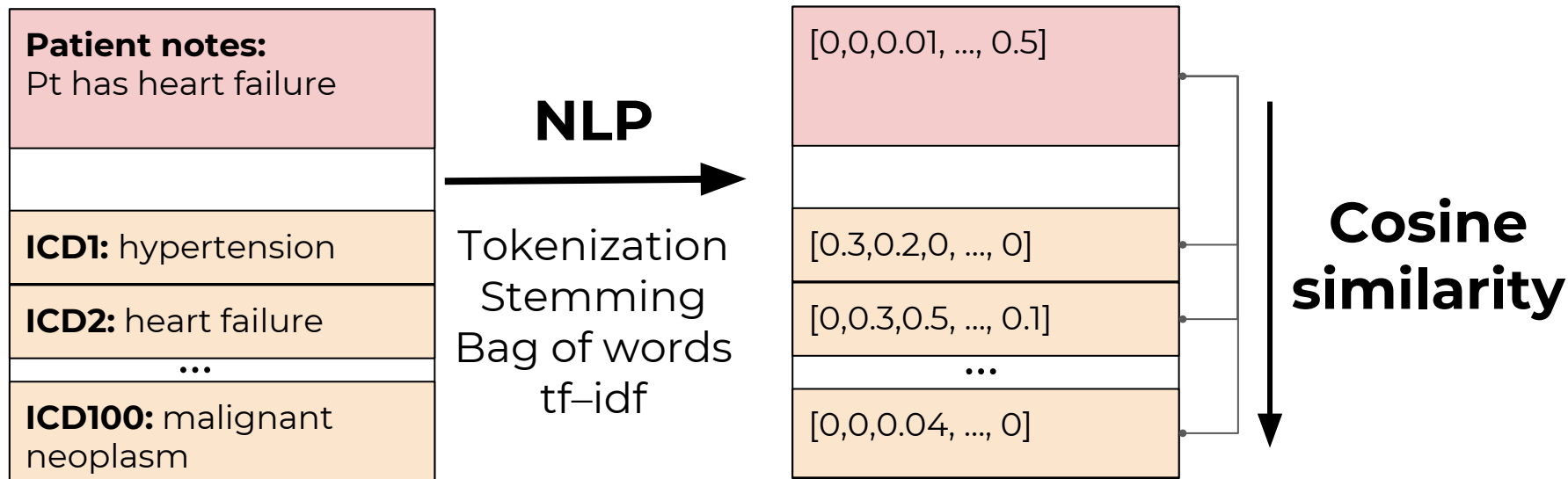
# International Classification of Diseases codes are represented in tree form.

4 2 8 . 2 1

→ **428**

{  
428.0  
428.1  
428.2  
428.20  
428.21

# AICD quantified similarity between patient notes and descriptions of ICD, and ranked similarities.



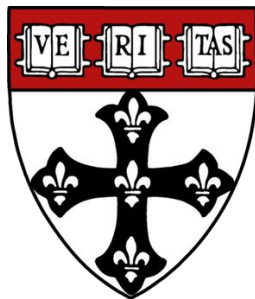
**Model recovered up to 60% of true ICD codes.**

# predicted ICD codes	Recovery Rate	
	Top 25 ICD	Top 100 ICD
15	57.6%	27.4%

# Qiu-Yue Zhong



Medicine  
Economics



Epidemiology  
Biostatistics



**Chief Complaint:** nausea, vomiting

**Major Surgical or Invasive Procedure:** none

**History of Present Illness:** 35F w/ poorly controlled **Type 1 diabetes mellitus** w/ neuropathy, nephropathy, **HTN, gastroparesis, CKD** and retinopathy, recently hospitalized for **orthostatic hypotension** [**\*\*2-3\*\***] autonomic neuropathy; DKA hospitalizations in [**\*\*6-12\*\***] and [**\*\*7-12\*\***], now returning w/ 5d history of worsening nausea, vomiting with coffee-ground emesis, chills, and dyspnea on exertion.



## AICD

Choose the number ICD codes in MIMIC-III you want to cover:

Choose the number of predicted ICD codes you want to see for this patient:

Please enter patient's notes here:

Please enter patient's clinical notes.

## THE TOP 10 ICD-9 CODES FOR THIS PATIENT ARE:

ICD	Similarity [0-100]	ICD subcategories and descriptions
428	54.508	4280: Congestive heart failure, unspecified
		4281: Left heart failure
		42820: Systolic heart failure, unspecified
		42821: Acute systolic heart failure
		42822: Chronic systolic heart failure
		42823: Acute on chronic systolic heart failure
		42830: Diastolic heart failure, unspecified
		42831: Acute diastolic heart failure