



Track patient recovery in real-time by processing streaming data

BIOMEDICAL DATA DESIGN

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Content

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02 Data Processing of the Model

The slide features a white background with a black border. In the corners, there are decorative blue circles: a large one in the top-left, a medium one in the top-right, a small one in the bottom-left, and a medium one in the bottom-right.

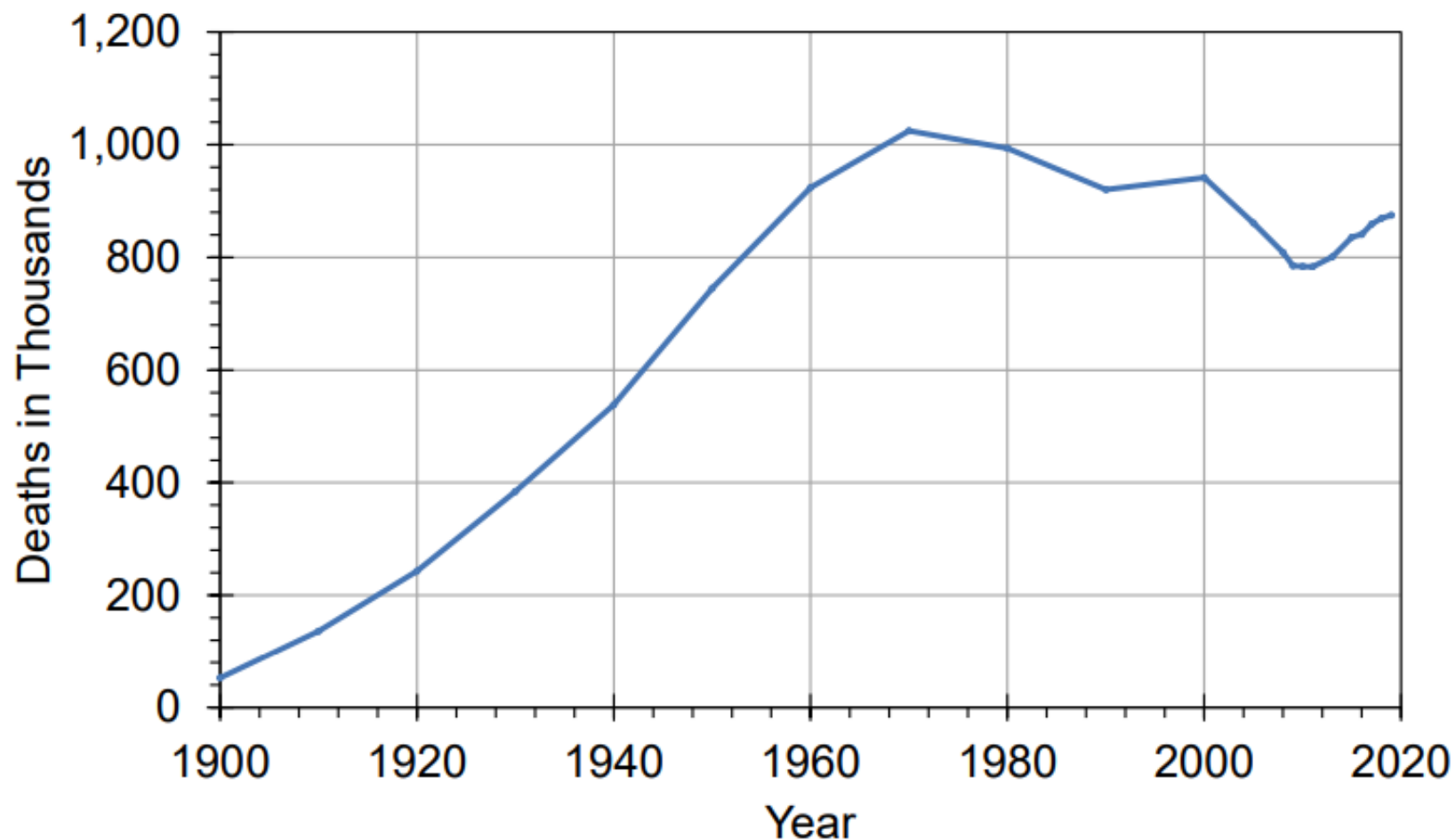
01

Goal & Literature Review

Goal & Literature Review

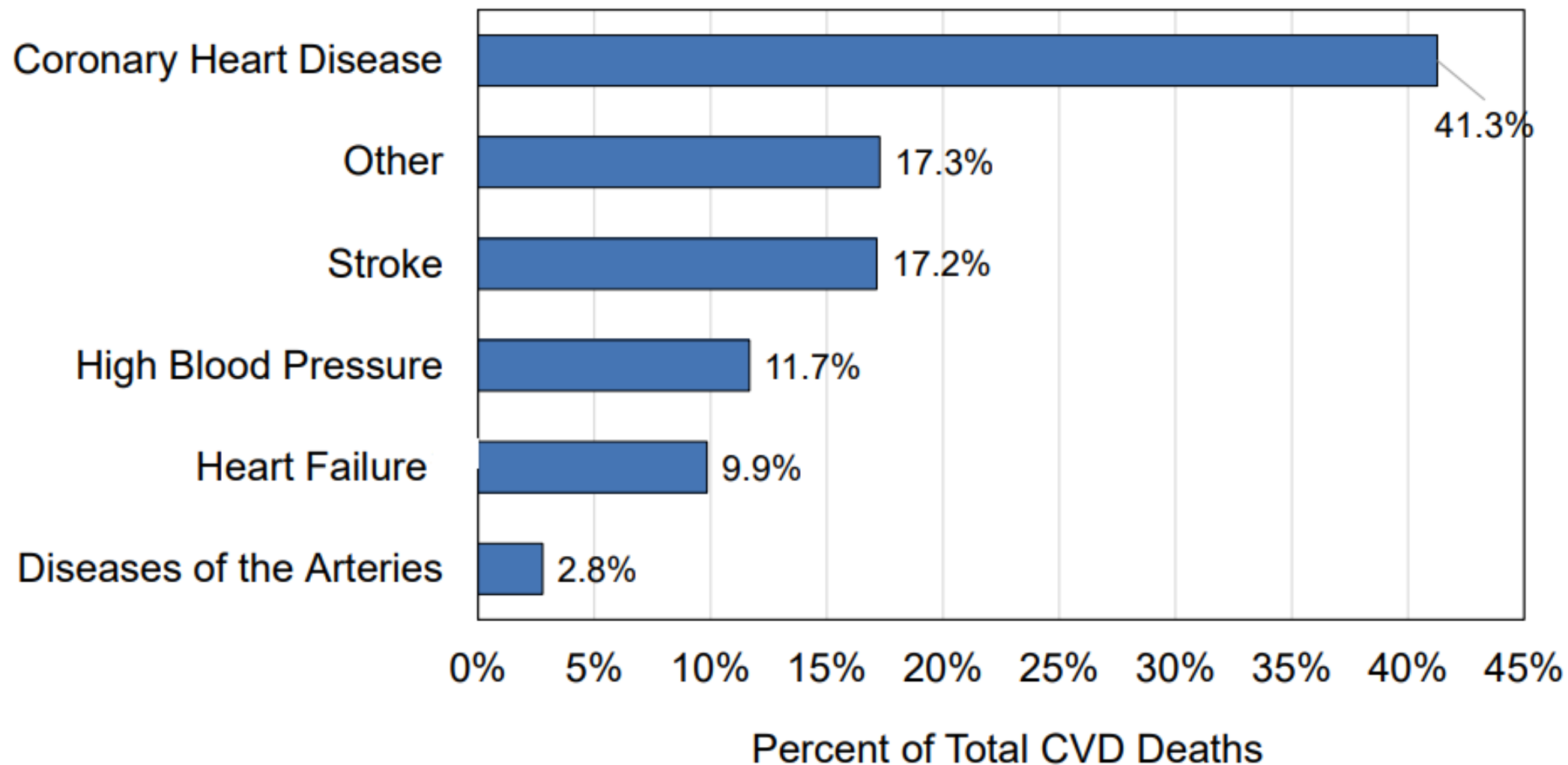
Why we choose cardiovascular diseases?

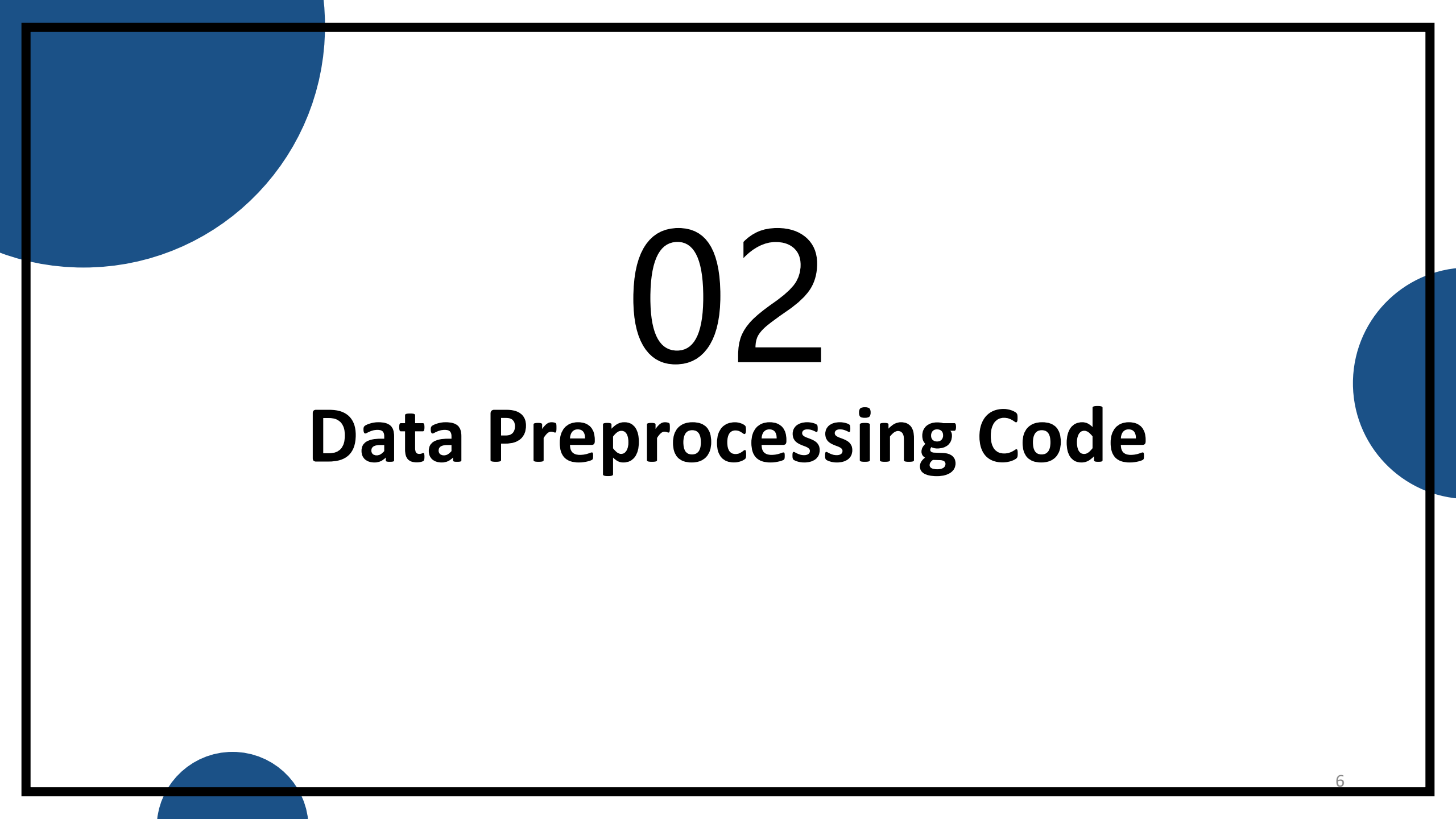
Deaths attributable to cardiovascular disease, US, 1900-2019.



Goal & Literature Review

Percentage Breakdown of Cardiovascular Disease Deaths in the United States in 2019



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02

Data Preprocessing Code






02 Data Preprocessing Code

	MIMIC III	eICU
Data scale	40,000+	200,000+
Data type	more details like ECG data, medical imaging, surgical information	more monitored information and vital signs
Data Availability and processing difficulty	easier	more complicated

More information on the timeline so the time series information will be more authentic

02 Data Preprocessing Code

Benchmarking deep learning models on large healthcare datasets






[Sanjay Purushotham](#)^{a 1} , [Chuizheng Meng](#)^{b 1} , [Zhengping Che](#)^a , [Yan Liu](#)^a  

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```
# # select admissions and all features
createAdmissionList(args)
getItemIdList(args)
filterItemId_input(args)
filterItemId_output(args)
filterItemId_chart(args)
filterItemId_lab(args)
filterItemId_microbio(args)
filterItemId_prescript(args)
processing(args)
collect_mortality_labels(args)
getValidDataset(args)
```


02 Data Preprocessing Code


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```
# # extract 17 processed features, 17 raw features and 99+ raw features
run_necessary_sqls(args)
get_17_features_processed(args)
get_17_features_raw(args)
get_99plus_features_raw(args)

# # generate time series
get_time_series_sample_17_features_processed(args)
get_time_series_sample_17_features_raw(args)
get_time_series_sample_99plus_features_raw(args)
```

The slide features a white background with a black rectangular border. In the four corners, there are blue circular shapes. The top-left circle is large and partially cut off by the top and left edges. The top-right circle is also large and partially cut off by the top and right edges. The bottom-left circle is smaller and partially cut off by the bottom and left edges. The bottom-right circle is also smaller and partially cut off by the bottom and right edges.

03

Next Step

The slide features a white background enclosed by a thick black rectangular border. Three large, solid blue circles are positioned at the corners: one in the top-left, one in the bottom-left, and one on the right side. The text "Thank you" is centered in the white area.

Thank you