



Recurring Inpatient Risk Predictive Model

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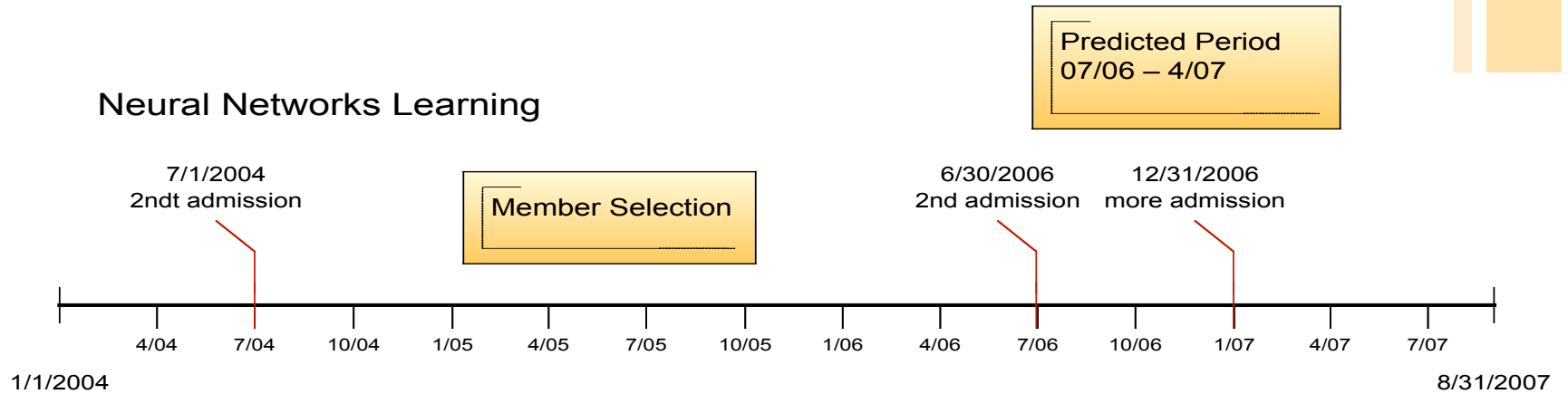
+ Purpose



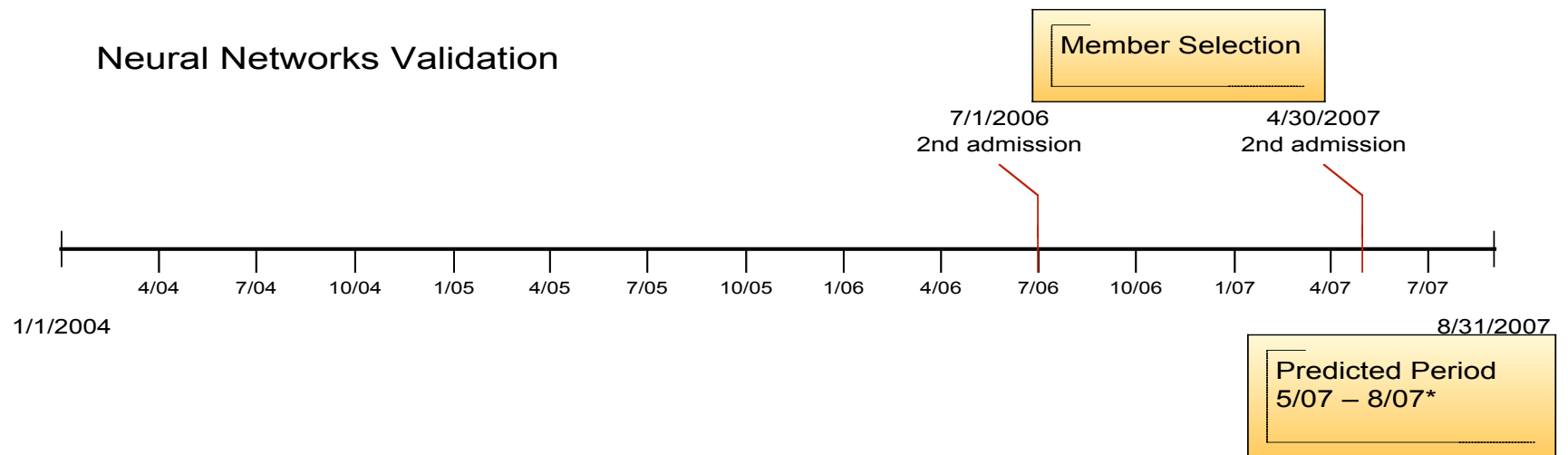
- Investigating recurring inpatient events.
- Building predictive model to forecast recurring members who has already two inpatient admissions within last thirty days and likely to have more inpatient admissions within the next 6 months.

+ Analysis Periods

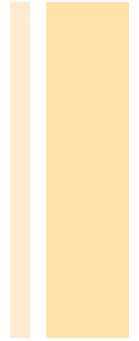
Neural Networks Learning



Neural Networks Validation



+ Type of Models



- **Learning algorithm:** Neural Networks
- **Target:** Members who has 2 inpatient stays in past 30 days likely to have 1 or more hospital admission in next 6 months
- **Inputs:** Past two inpatient stays from Clearance and Pharmacy claims from past 6 months.

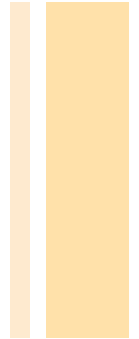
+ Chen's Model

■ **Data Source:**

- Clearance Table: EDW
- Pharmacy claims: EDW

■ **Input Coding System:**

- ICD9, NDC, CCS groups, etc.



+ Chen's Model

■ Learning Algorithm

- Clustering Analysis & Neural Networks

■ Validation Result

		TRUE	FALSE	
CHEN	TRUE	657	356	1013
	FALSE	6678	18737	25415
		7335	19093	26428
	Sensitivity	Specificity	PPV	
	8.96%	98.14%	64.86%	