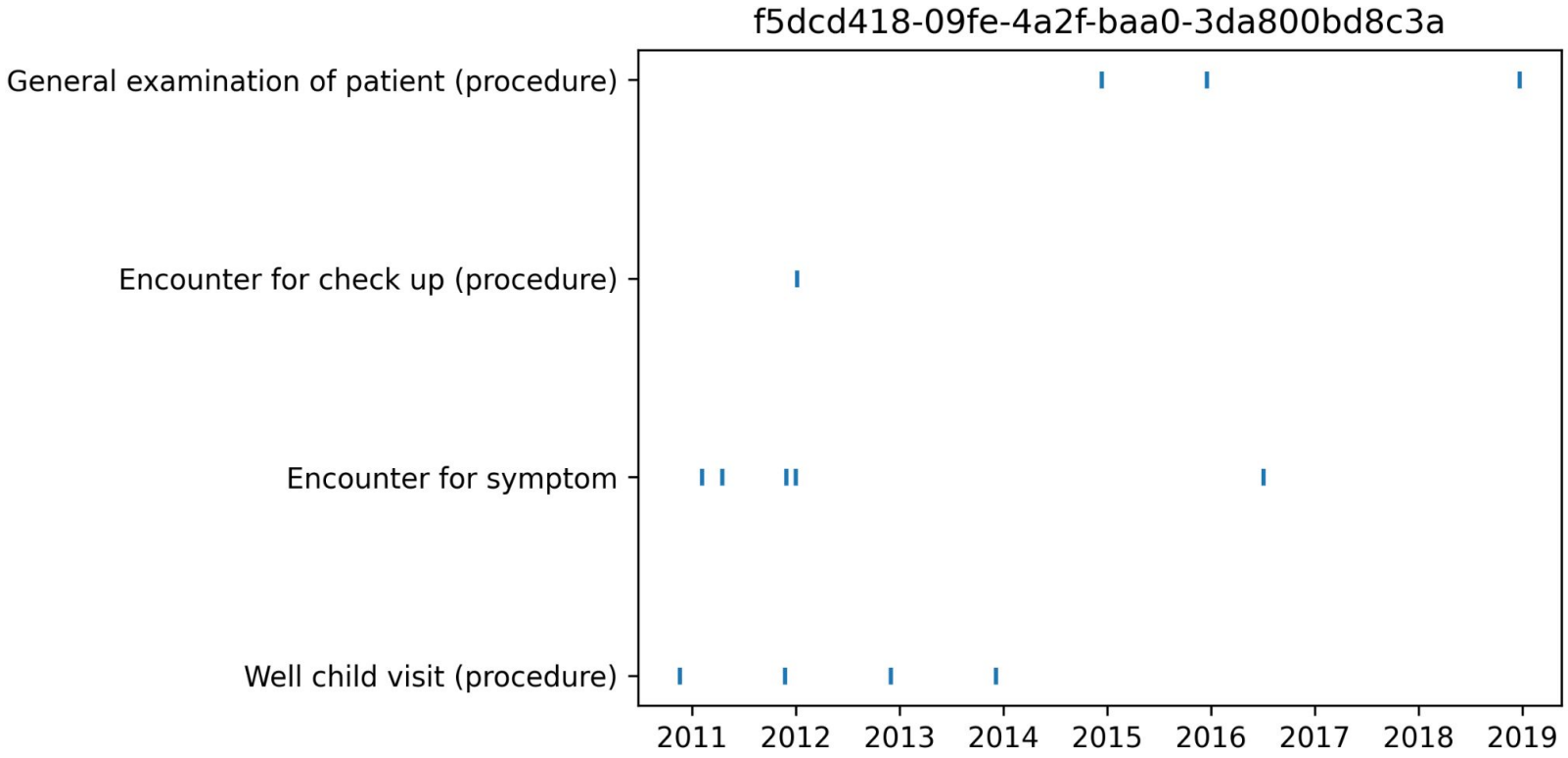
Case – Exploring Electronic Health Records

Henrik Berggren

Single patient trajectory



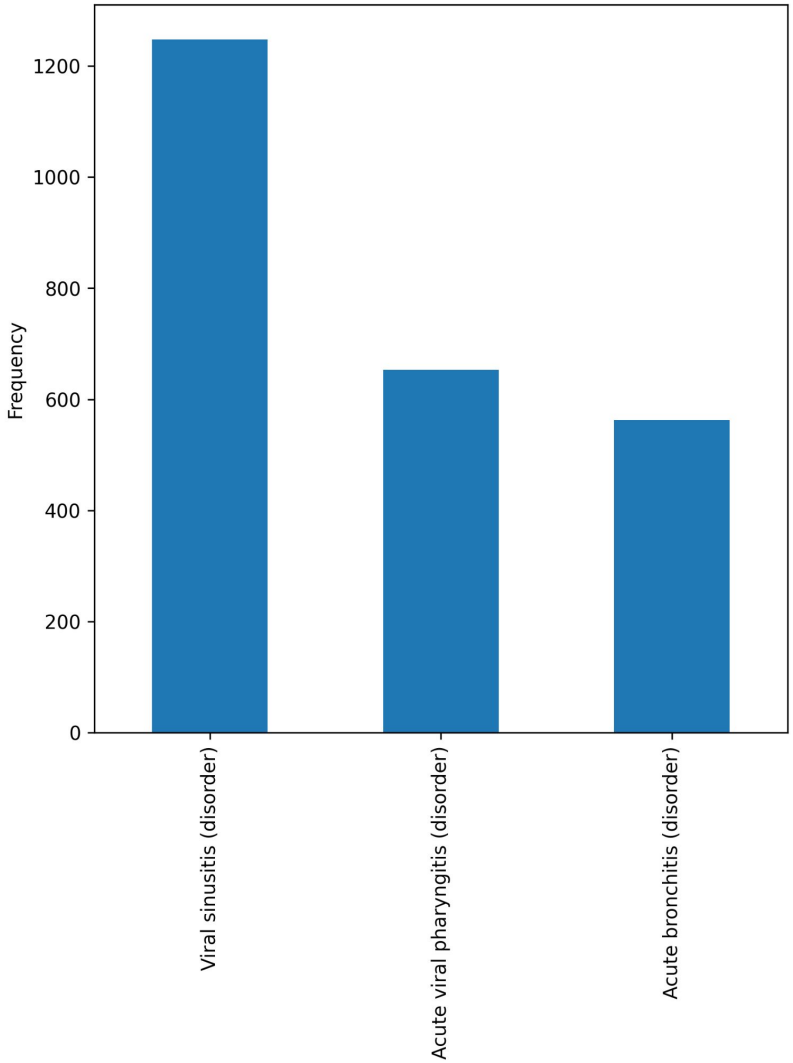
Most common conditions

Viral sinusitis: 1248 observations

Acute viral pharyngitis: 653 observations

Acute bronchitis: 563 observations

Note: same patient diagnosed multiple times



Treatments

Condition	Care plan	Medications	Procedure
Viral sinusitis	-	Amoxicillin 250 MG / Clavulanate 125 MG Oral Tablet	-
Acute viral pharyngitis	-	Penicillin V Potassium 250 MG Oral Tablet	Throat culture
Acute bronchitis	Respiratory therapy	- Acetaminophen 325 MG Oral Tablet - Acetaminophen 21.7 MG/ML / Dextromethorphan Hydrobromide 1 MG/ML / doxylamine succinate 0.417 MG/ML Oral Solution	- Sputum examination - Measurement of respiratory function - Plain chest X-ray

Common characteristics

- Compare info to the population.
- Investigate previous conditions or multiple occurances of the same disease.

Condition	**Mean Age**	**Gender**
Viral sinusitis	39	56% F
Acute viral pharyngitis	36	50% F
Acute bronchitis	37	48% F

Other interesting questions to investigate

1. Predictive modelling: For example a model that predicts the risk of a patient developing a certain condition or requiring a particular treatment based on the data present, their medical history and/or demographic information?

2. Treatment response: Is it possible to evaluate the effectiveness of different treatments for a particular condition and identify which treatments are most likely to lead to an effective response for different patients based on their medical history?

3. Healthcare operation: Is it possible to optimize healthcare resources at the hospital by predicting which patients are likely to require specific resources in the future? This can also be beneficial to reduce waiting times by a more informed scheduling of personnel.