**Lung Cancer Pilot:** aims to exploit knowledge from Big data to improve the healthcare continuum of lung cancer patients at all the stages, i.e., prevention, diagnostics, treatment, follow-up, including the last period of life. The pilot also aims at strengthening the sustainability of healthcare systems by reducing costs while improving quality and access to care in lung cancer.

**Mechanics:**

The pilot starts with medical data from the Electronic Health Records and Scientific Literature, performs pattern extraction and ends up in a **knowledge graph (KG)** that captures essential correlations in Lung Cancer treatment. The knowledge graph integrates the extracted knowledge and represents background knowledge for predicting treatment effectiveness, toxicity, and survival time.

**Big Data Methods in Lung Cancer:**

- Unstructured & structured data sources
- Open data sources (e.g. PubMed) & Electronic Health Records
- Integrate extracted knowledge into a KG
- ML on top of the KG uncovers patterns that explain treatment effectiveness and disease progression

**Results:**

- Identify whether there is **evidence before diagnosis** that may lead physicians to clinical suspicion of lung cancer
- Reduce the number of **visits** to the **Emergency Room** by early detection or treatment of possible symptoms or secondary effects
- Reduce the **toxicities** associated to patients with comorbidities in order to adapt the treatments to be applied