

PEPS: A Platform for supporting studies in pharmaco-epidemiology using medico-administrative databases

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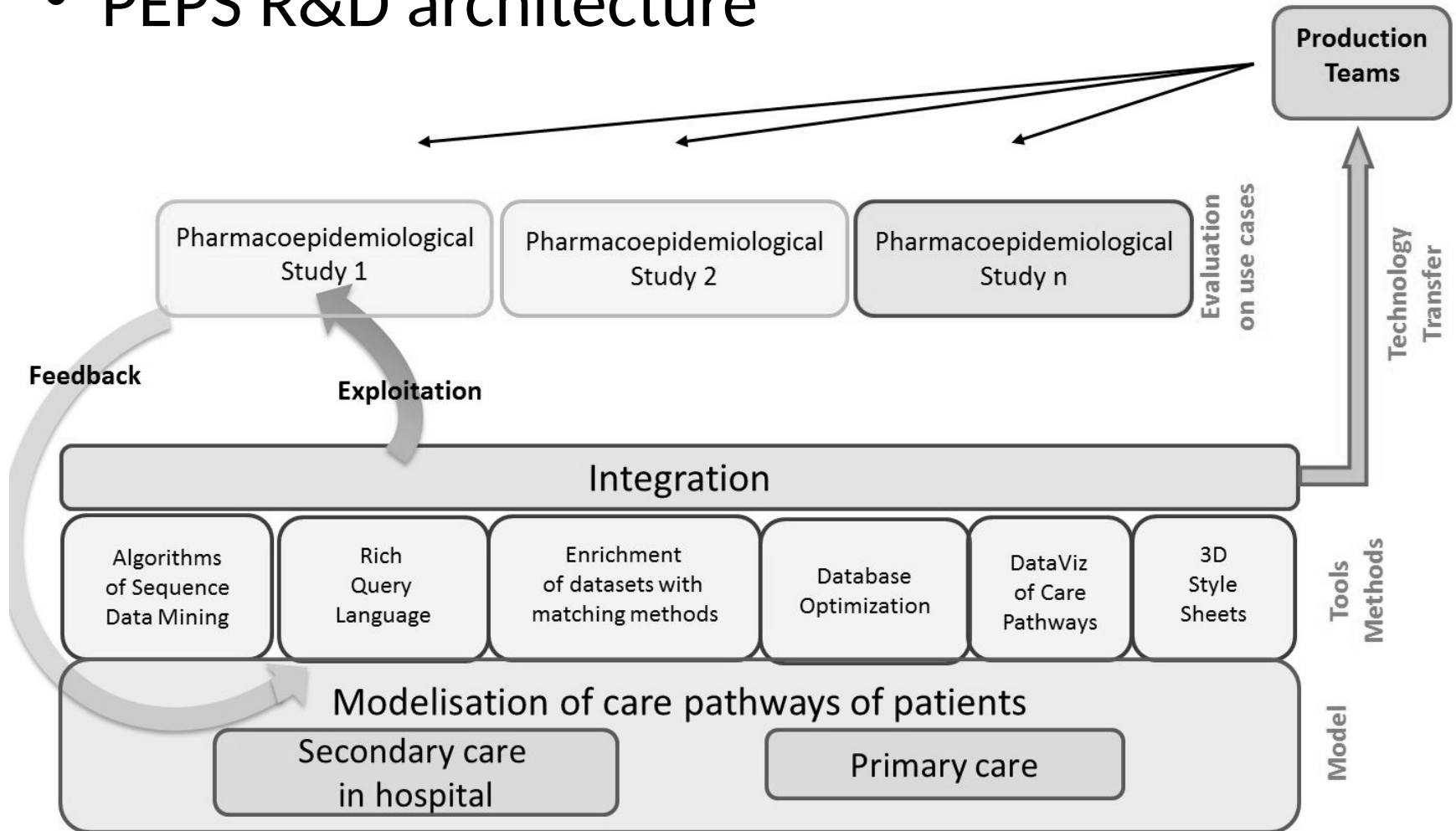
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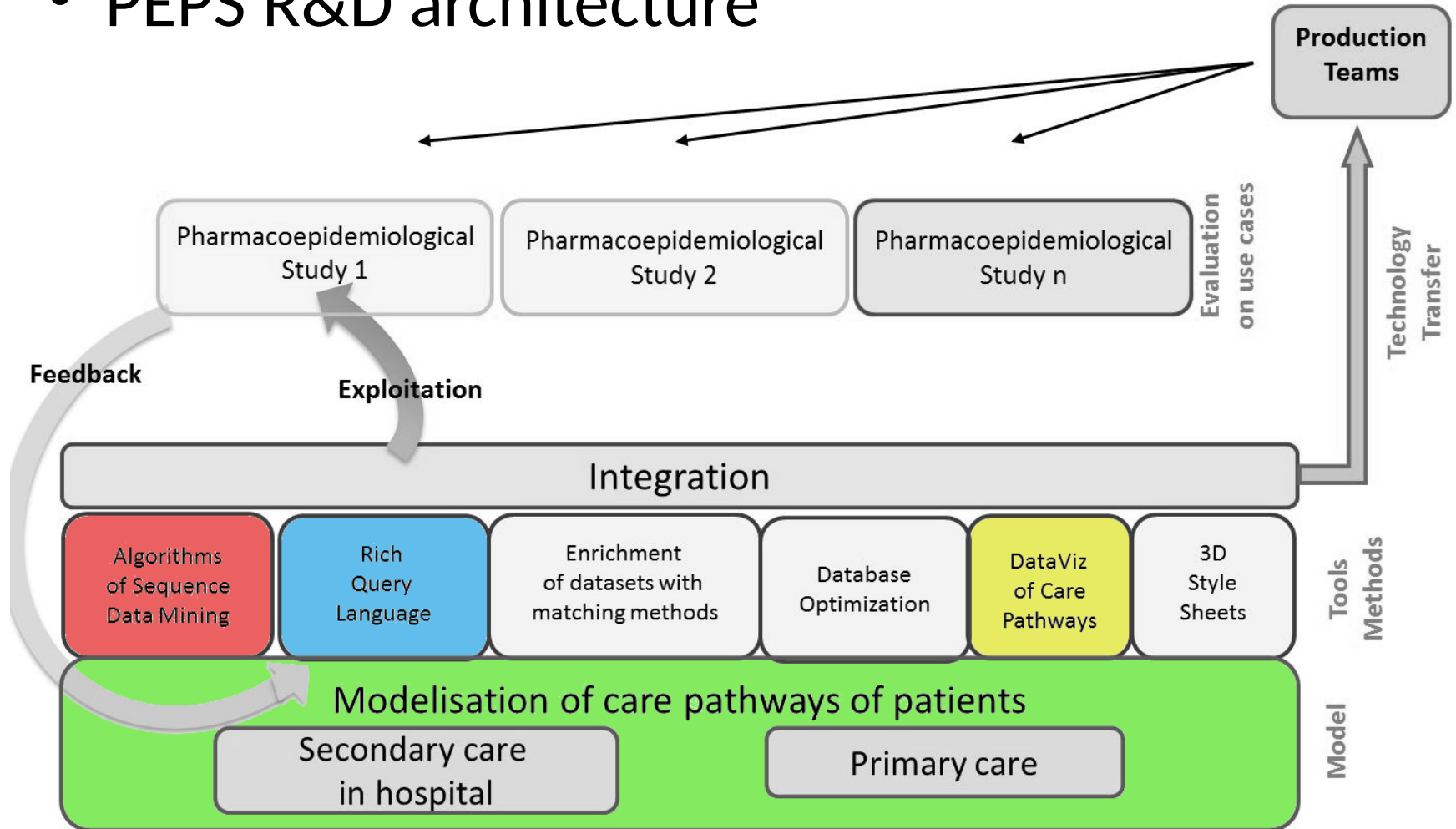
- Pharmaco-epidemiology consists in investigating impacts and uses (or misuses) of drugs in real conditions
 - Large medico-administrative databases offer new perspectives
 - Data from drugs uses in real conditions
 - Nationwide available data
 - Perspective: *answer in a short time pharmaco-epidemiological queries for national public health institutions*
 - but also huge challenges
 - Incomplete, complex and massive data
 - Connection with other data sources (eHR, Cepi-DC, etc.)
 - Our objective: conception of a **generic digital toolbox** to support the efficient design of a **broad range of pharmaco-epidemiology studies** from EHR databases
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- PEPS project
 - Exploits, in secondary use, the **French health cross-schemes insurance system**, called SNIIRAM
 - most of the French population with a sliding period of 3 past years
 - Two main activities
 - Pharmaco-epidemiological studies program
 - Objective of 4 to 6 studies per year
 - Research & development program
 - Modeling of care pathways
 - Design of tools supporting meaningful insights extraction
 - A **multi-disciplinary team**: clinicians, epidemiologists, data scientists, computer scientists,
 - Funded by French Agency for Medicines and Health Products Safety (2015-2018)

- PEPS R&D architecture



- PEPS R&D architecture



- R&D results
 - Care pathway model
 - make easier the access to SNIIRAM data warehouse
 - Similar objective to OMOP (Observational Medical Outcome Partnership)
 - Development of new technologies querying care pathways
 - High level query language for manipulating and querying care pathways data
 - Semantic web for flexible and extensible data querying
 - New data analysis tools for providing original insights
 - Care pathway mining tools
 - Data visualisation tools