



Swiss TPH



The CDSS data lifecycle

From set-up to innovation

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What is a Data Lifecycle?

Data lifecycle

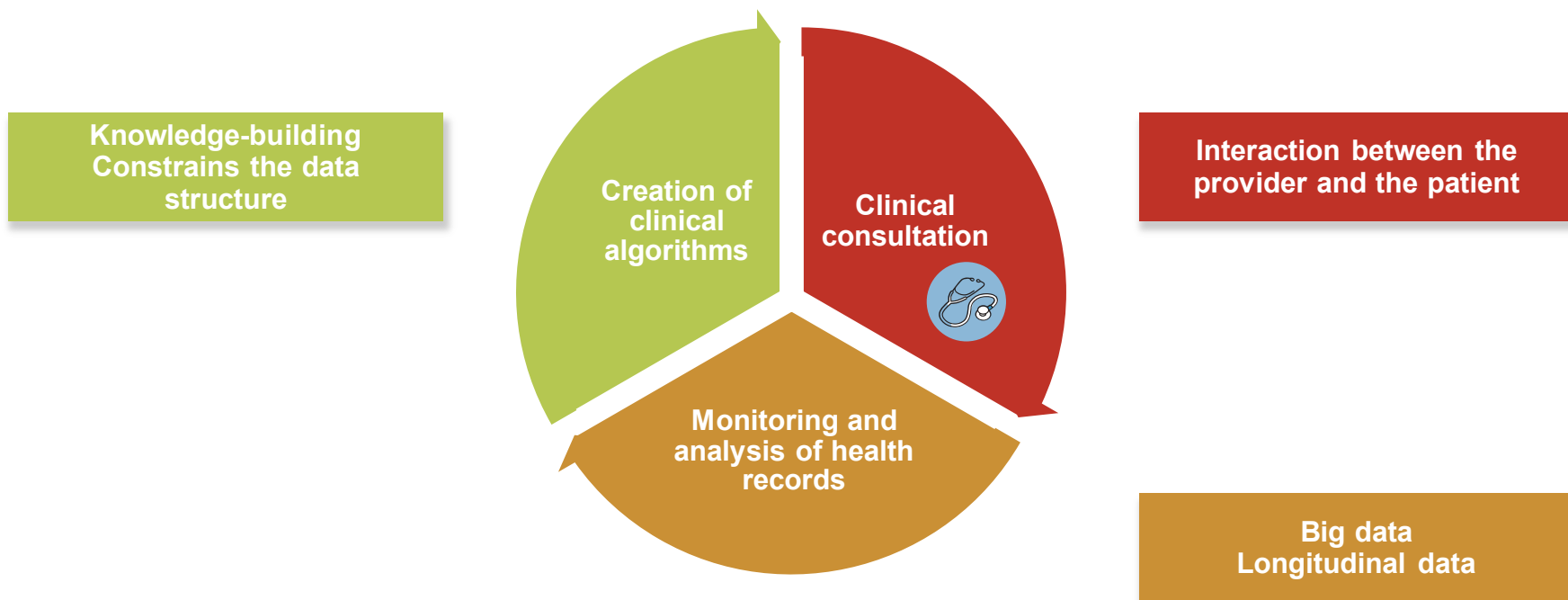
- A **data lifecycle** consists of a **series of distinct stages over the course of the data life**, from data entry to data destruction.
- Each stage is based on **different data characteristics** and is governed by a **set of policies that maximizes the data value**
- Data **moves through stages** as it completes different tasks or meets different requirements.

Data lifecycle management

- **Data lifecycle management** process provides **structure and organization** to a business's data, which in turn **enables key goals within the process**, such as data security and data availability.

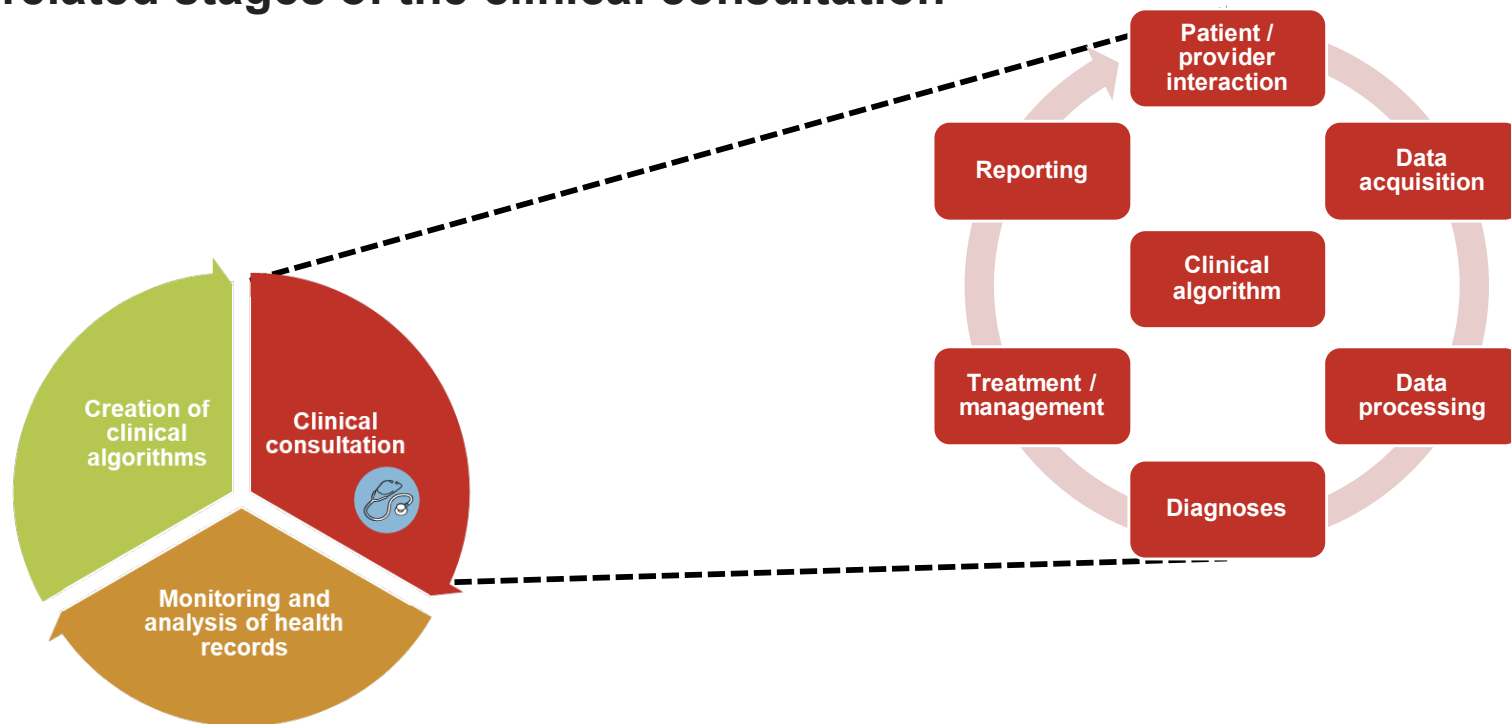
The CDSS data lifecycle (1)

3 time phases with different data requirements

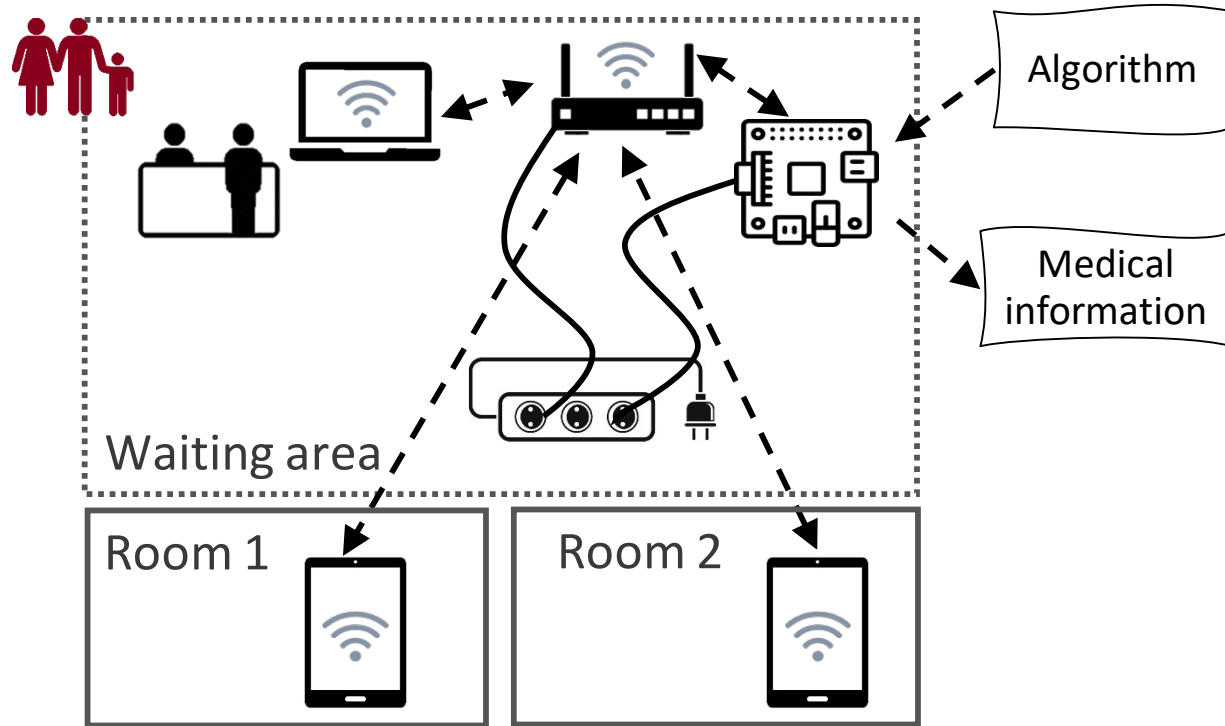


The CDSS data lifecycle (2)

Interrelated stages of the clinical consultation

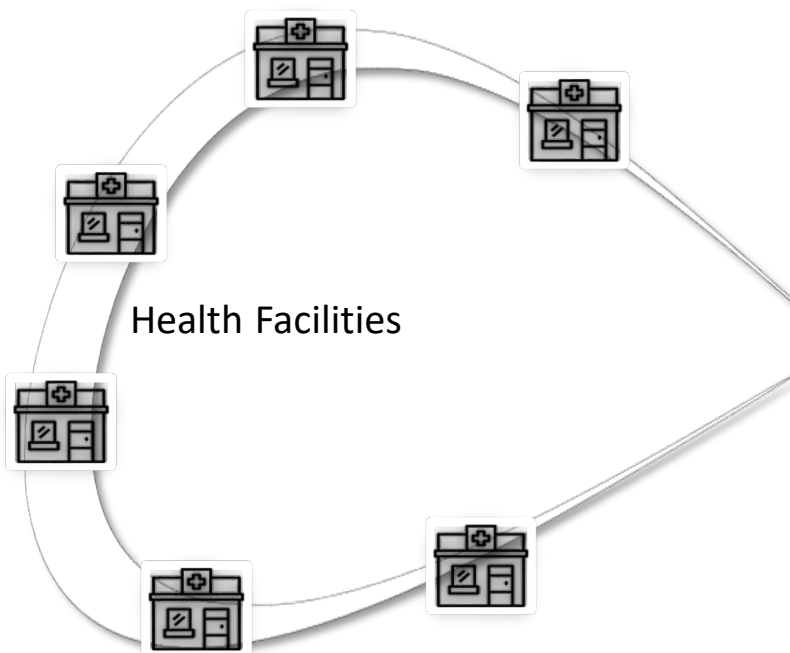


Set-up for clinical consultation



- Communication is optimized
- Patient history keeping improved
- System uniquely identifies a patient
- Targeted algorithm to adjust to local circumstance
- Local availability of algorithm ensures autonomy of facility
- Local server allows for easy data recovery

Set-up for data processing



Data Repository

Assign algorithm version

Choose Algorithm

Please select one

Choose a version

Please select one

Assign

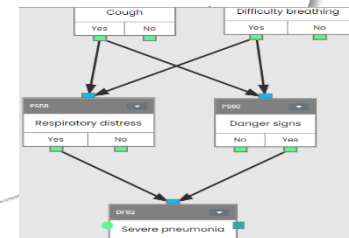
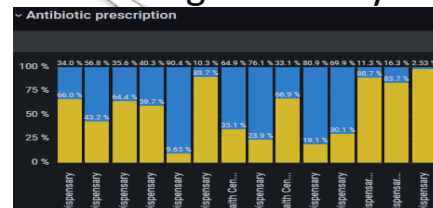
Current version:

Fever Travel 1.1

Modify and deploy
Algorithms

Refine Models

Monitoring and Analysis



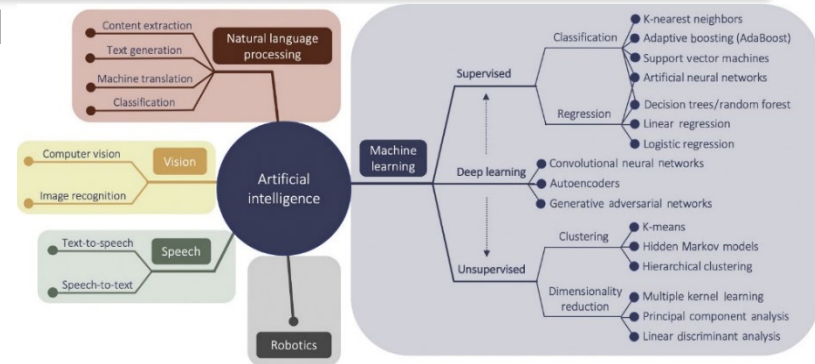
Innovation through Artificial Intelligence (AI)

AI solutions

- Ubiquitous presence in communications, marketing, the economy, and the information technology industry.
- Improving solutions following the increased availability of data, and open source codes for algorithms

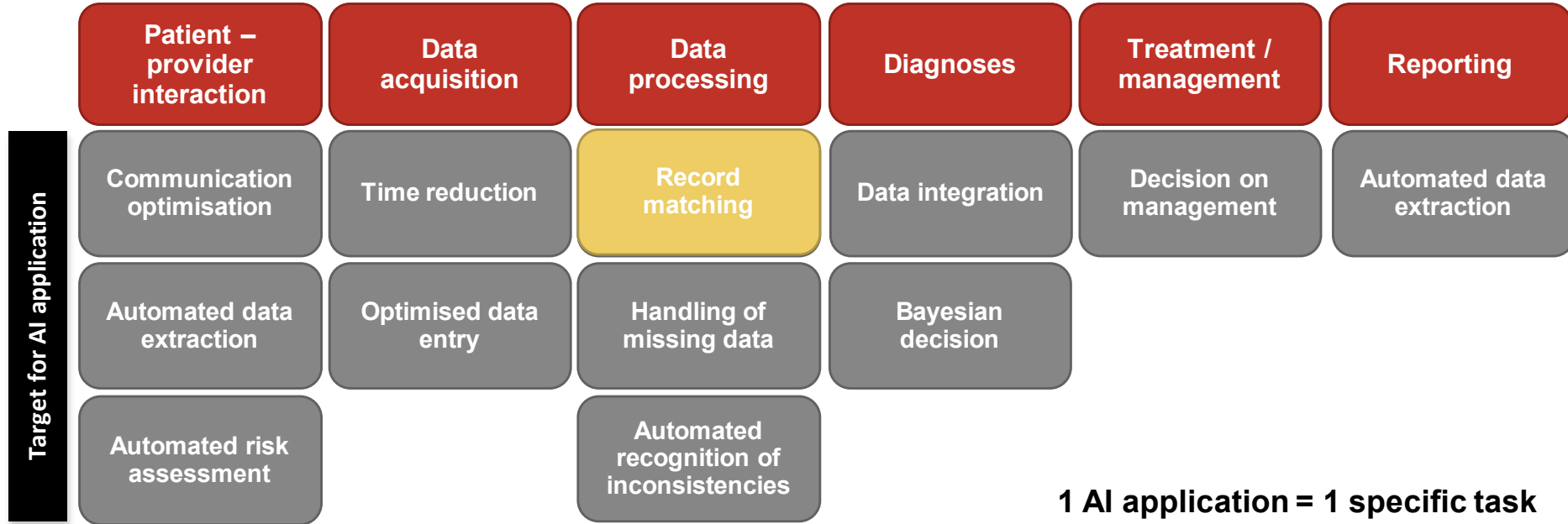
Unprecedented benefits

- Improved workflows and efficiency, refined data handling, and services customised to the target users
- Huge interest in integrating AI in various medical fields



How can AI be integrated in the CDSS lifecycle? (1)

Goal of achieving automation, standardization and data integration, as well as improved efficiency and accuracy.



1 AI application = 1 specific task

How can AI be integrated in the CDSS lifecycle? (2)

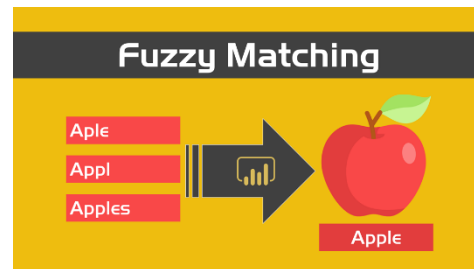
The example of record matching

Record matching

- Identifying whether 2 records refer to the same patient
- Prerequisite for longitudinal follow-up analyses

What information to match?

- Unique IDs
- Quantitative information (e.g., DoB, gender)
- Patient names (can be matched using fuzzy matching)



Conclusion

Infrastructure set-up

- It is an important part to have a smooth operating system

Comprehensive integration of AI into the CDSS lifecycle

- AI is becoming a concrete reality
- Each specific task may require an adapted AI solution
- AI can be integrated throughout the CDSS data lifecycle with to goal of achieving automation, standardization and data integration, as well as improved efficiency and accuracy.
- AI should aim to return time into the hands of providers (shift of focus back to the patient-provider relationship)



Thank you for your attention

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