

REVOLUTIONISING THE UPTAKE OF HEALTHDATA THE SITUATION IN FRANCE

France has a relatively high level of confidence in their data infrastructure for NGS implementation. They have Health Data Hub where AI technologies could provide a strategic advantage for the nation. It exists at the national level and provides access to prescribing and dispensing records and to hospital electronic health records.

CORE PILLARS	Well Implemented	Implemented	Not Implemented
Data sharing and linking	☐	☒	☐
Screening and Early diagnosis	☒	☐	☐
Data infrastructure	☒	☐	☐
Linking data from sequenced genomes to clinical data (Electronic HealthRecords) or other types of data	☒	☐	☐
Information provided to patients/citizens after involving them in NGS testing	☐	☒	☐
Sharing genomic data with other institutions in the same country or cross- border	☐	☒	☐
The purpose of genomic data in cancer centers	☐	☒	☐



DATA SHARING AND LINKING

CORRELATION AMONG DEPENDENT AND INDEPENDANT VARIABLE

Available

Not Available

Cross-border/cross-disciplinary collaborations



Routine sharing of data



Availability of security guidelines external/internal



Data linking to Electronic Health Record

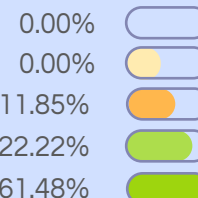


Controlling body for data sharing

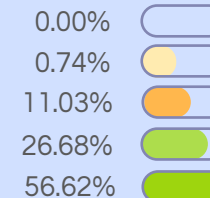


In France, there is currently limited cross-border/cross-disciplinary collaborations and routine sharing of data. However, there are available security guidelines for both external and internal purposes, indicating a focus on data protection. The country has also implemented data linking to Electronic Health Records and has a controlling body to regulate data sharing. To encourage collaboration and data sharing, it is recommended for France to actively foster international partnerships, establish standardized protocols for data sharing, and promote transparency and trust in data governance processes. Additionally, continuous evaluation and improvement of security measures and guidelines can further enhance data protection efforts.

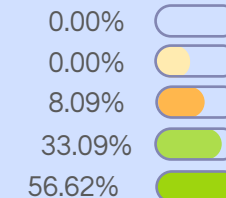
Generation of data



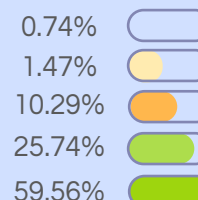
Use of data



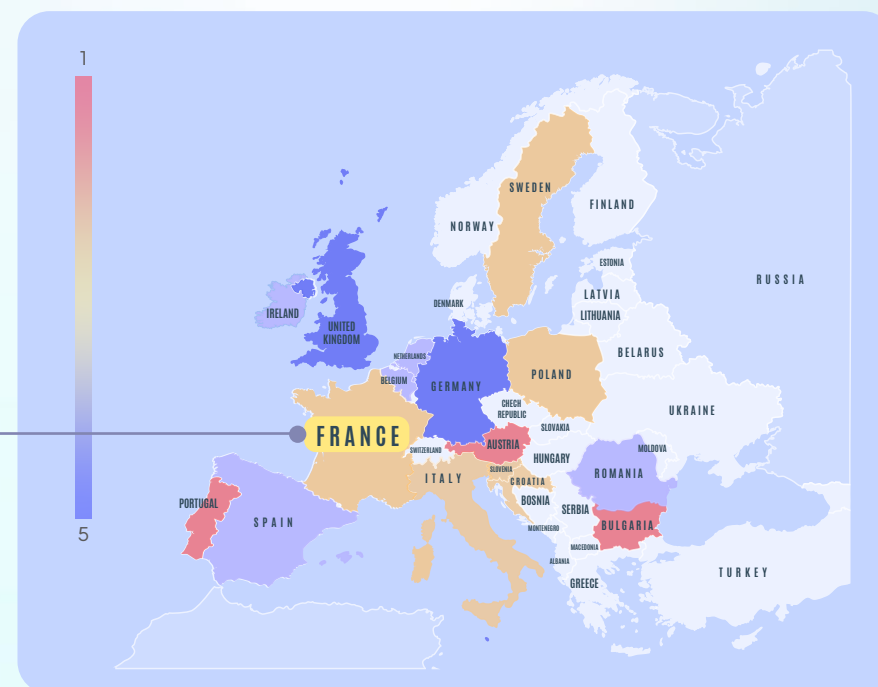
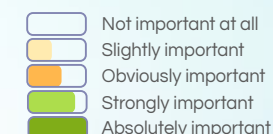
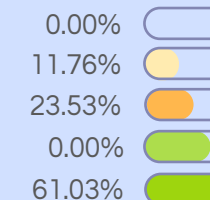
Collection of data



Control of data sharing

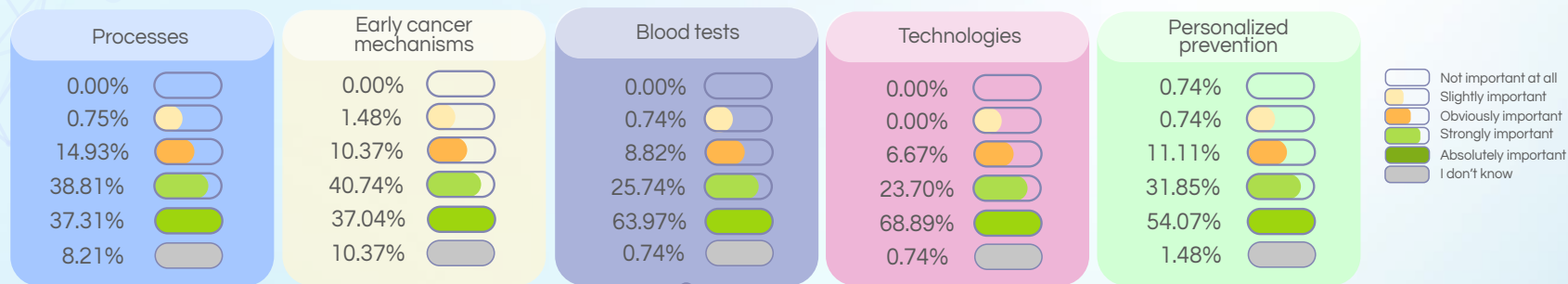
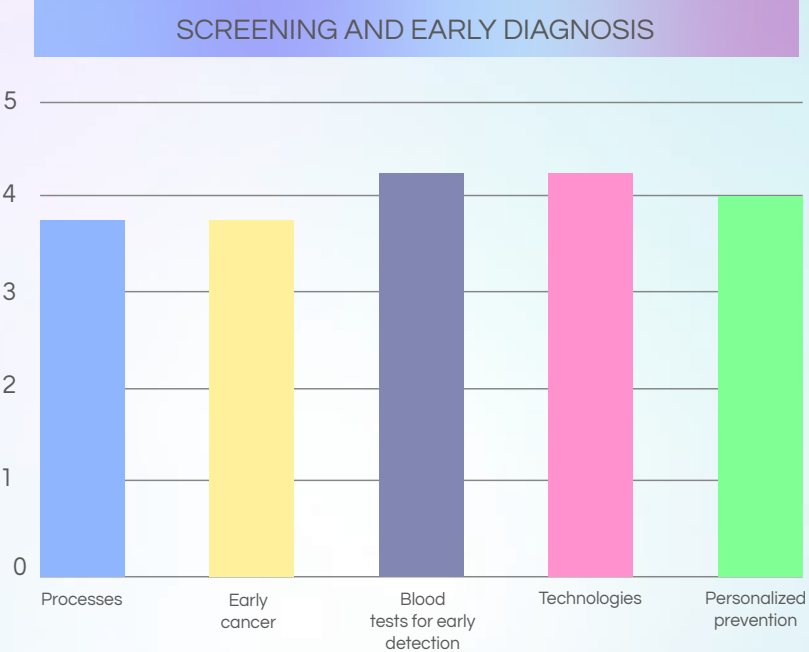


Quality of data



SCREENING AND EARLY DIAGNOSIS

In France, there is a solid understanding of the multistep processes leading to tumor development and the mechanisms driving early cancer progression. The country has made notable advancements in developing blood tests and technologies for early cancer detection. To further improve cancer prevention and early screening, it is recommended for France to prioritize the implementation of personalized approaches based on individual risk factors. Additionally, continued investment in research and development of innovative and cost-effective technologies can enhance early diagnosis and improve treatment outcomes.



Processes occurring before tumor development: The development of cancer is a multistep process in which normal cells gradually become malignant through progressive accumulation of molecular alterations.

Early cancer mechanisms: Cancer is a disease caused when cells divide uncontrollably and cooperate with other cells in their local environment which fosters tumor progression.

Blood tests for Early Detection: Specific blood tests are designed to identify tumor (bio)markers that may be found in the blood when some cancers are present before showing symptoms or being detected through conventional imaging approaches.

Technologies for Early Diagnosis: Numerous cancer-associated deaths occur for cancers for which we do not screen. To overcome this, new scalable and cost-effective technologies are developed to allow for the detection and diagnosis of cancers at an earlier stage when these are more responsive to treatments.

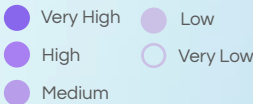
Personalized prevention and early screening: Everybody does not have the same risk of developing a cancer. Careful analysis of individual risk factors to adapt prevention and systematic screening to the risk level would increase the rate of early diagnosis

DATA INFRASTRUCTURE

France has a confidence level of 0.680087381, indicating a relatively high level of confidence in their data infrastructure for NGS implementation. A higher confidence level shows that France has made significant investments and improvements in their data infrastructure to support NGS implementation. This includes establishing the necessary hardware, software, storage capabilities, and data management systems required for processing and analyzing NGS data.

CONFIDENCE LEVEL (95.0%)

Belgium	●
Croatia	●
Spain	●
Italy	●
FRANCE	●
Germany	●
United Kindgom	●
Ireland	●
Netherlands	●
Slovenia	●
Poland	●
Sweden	●



LINKING DATA FROM SEQUENCED GENOMES TO CLINICAL DATA (ELECTRONIC HEALTHRECORDS) OR OTHER TYPES OF DATA

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	Done regularly	Done on request
Comprehensive Cancer Centres	●	●
Basic Laboratory Cancer Centres	●	●
Clinical Cancer Centres	●	●

Labs and institutions in France may not have ISO accreditation or certification, but they regularly update their clinical guidelines and rely on external guidelines and external quality assessment processes. The absence of internal guidelines suggests a potential area for improvement in standardizing internal protocols and procedures.

SHARING GENOMIC DATA WITH OTHER INSTITUTIONS IN THE SAME COUNTRY OR CROSS-BORDER

SHARING GENOMIC DATA WITH OTHER INSTITUTIONS IN THE SAME COUNTRY OR CROSS-BORDER

	Not sharing	Sharing at the national level	Sharing at the national level and cross border
Comprehensive Cancer Centres	●	●	●
Basic Laboratory Cancer Centres	●	●	●
Clinical Cancer Centres	●	●	●

Sharing of genomic data is done in Comprehensive Cancer Centers both at national level and cross border. Mainly, the data is exchanged in the context of clinical studies. They need more data sharing in order to infer from routine clinical data some association between abnormalities and clinical outcomes.

INFORMATION PROVIDED TO PATIENTS/CITIZENS AFTER INVOLVING THEM IN NGS TESTING

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	Report on any positive biomarkers and relevant treatments	A summarized NGS testing report	Risks and benefits of the test	Everything listed here	No information is provided
Comprehensive Cancer Centres	●	●	●	●	●
Basic Laboratory Cancer Centres	●	●	●	●	●
Clinical Cancer Centres	●	●	●	●	●

In some Comprehensive Cancer Centers, they have a common database with clinical-associated data and NGS results, so they have a common electronic record. Data from NGS are also associated with different bioresources that they have in their biobank. Clinical Cancer Centers and Basic Laboratory Centers mainly do not provide all the information to patients/citizens after involving them in NGS testing.

THE PURPOSE OF GENOMIC DATA IN CANCER CENTER

THE PURPOSE OF GENOMIC DATA IN CANCER CENTER				
	For research	For clinical trials	For research and clinical trials	For other purposes
Comprehensive Cancer Centres	●	●	●	●
Basic Laboratory Cancer Centres	●	●	●	●
Clinical Cancer Centres	●	●	●	●

The ability to translate scientific data generated by the cancer center into actionable improvement in cancer care is central to the mission of the Comprehensive Cancer Centers. They are mainly using genomic data for both research and clinical trials. Basic Laboratory Centers are mainly oriented to research purposes.



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