HEAL ITALIA
Innovation on the road
Next steps 2024-2026

11 dicembre, Roma
09.00-13.00

SAPIENZA
UNIVERSITÀ DI ROMA

Azienda ospedaliero-universitaria Policlinico Umberto I
Università Sapienza di Roma
Aula Cassano, Dip. Medicina Traslazionale e di Precisione II
Viale del Policlinico, 155, 00161 Roma RM

Esperienze e proposte da un Centro Pilota di Medicina di Precisione per la sperimentazione di un nuovo modello di Sanità innovativa e accessibile

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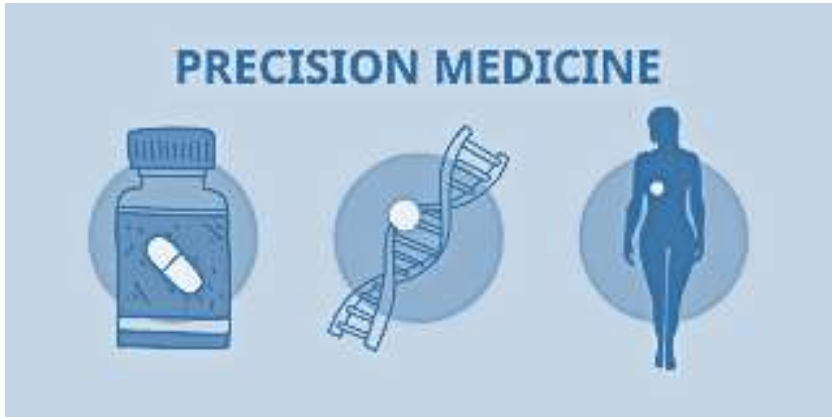
DI CAGLIARI

Sabrina Giglio & **Andrea Perra**

Medical Genetics Unit - Department of Medical Sciences and Public Health

Oncology and Molecular Pathology Unit - Department of Biomedical Sciences



Is an innovative approach to the prevention, diagnosis, and treatment of diseases.

It considers each patient's characteristics, including genetic background, environment, and lifestyle.

It uses DNA sequencing technologies, gene expression analysis, advanced imaging, and tools for Big Data analysis.

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Benefits of Precision Medicine

Improvement of Treatment Efficiency: administering ineffective or potentially harmful drugs for the patient can be avoided, thus optimizing healthcare resources and reducing costs.

Reduction of Medical Errors: the risk of drug dosage errors, adverse reactions and incorrect diagnoses are significantly reduced, ensuring a significant improvement in healthcare safety and overall effectiveness.

Medical errors will become increasingly rare, and patient health will be central to every clinical decision

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Current Challenge in the Medical Sector

Despite the benefits and progress made so far, widespread adoption of precision medicine is hampered by several factors: :

- **Data Complexity and Integration**
- **Cost and Accessibility**
- **Training of Healt**
- **Ethical**
- **Regul** **Barriers**
- **Dispari** **ss to Care**

Could enhancing artificial intelligence (AI) help overcome current limitations and realize the full potential of precision medicine?

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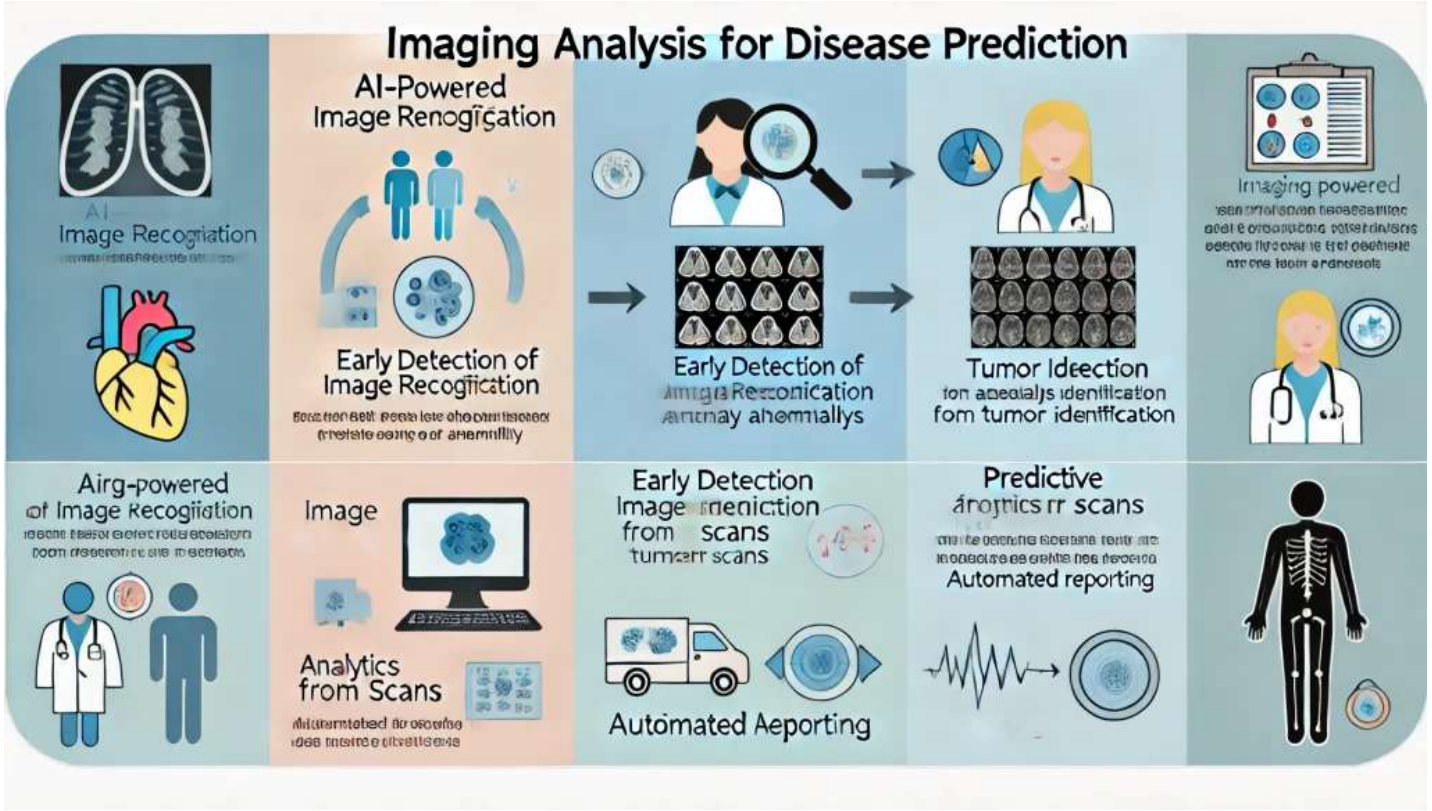
GENOMICS and Improvement in Disease Prevention



- **AI to**

✓ **Analyse genetic and clinical data to identify individual risk factors**

✓ **Allow early diagnosis through the analysis of complex predictive models**

✓ **Promote the development of personalized screening programs based on the patient's genetic profile**

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The Pilot Center for Precision Medicine in Cagliari

Mission: Implementing Precision Medicine for Equitable and Accessible Healthcare

Vision: Innovation and Accessibility as Guiding Principles

Our current work

*We have developed an integrated platform for clinical and omics data
*We have started translational research projects
*We have started collaborations with national and international institutions

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ALE Platform

MERIDIAN GROUP

ALE
- **Advances genomic**
- **Legal data protection**
- **Ethical AI implementation**

Developed within the e.INS
Ecosystem of Innovation for Next Generation Sardinia Project

ALE is an innovative system that integrates clinical data with omics data, particularly genomic and transcriptomic, making the results **immediately applicable in clinical practice**.

Using advanced analytics and data protection technologies **ALE**:

✓ Allows **personalization of care** based on the individual's *omic* profile

✓ Ensures **advanced security**, preventing unauthorized use of sensitive information

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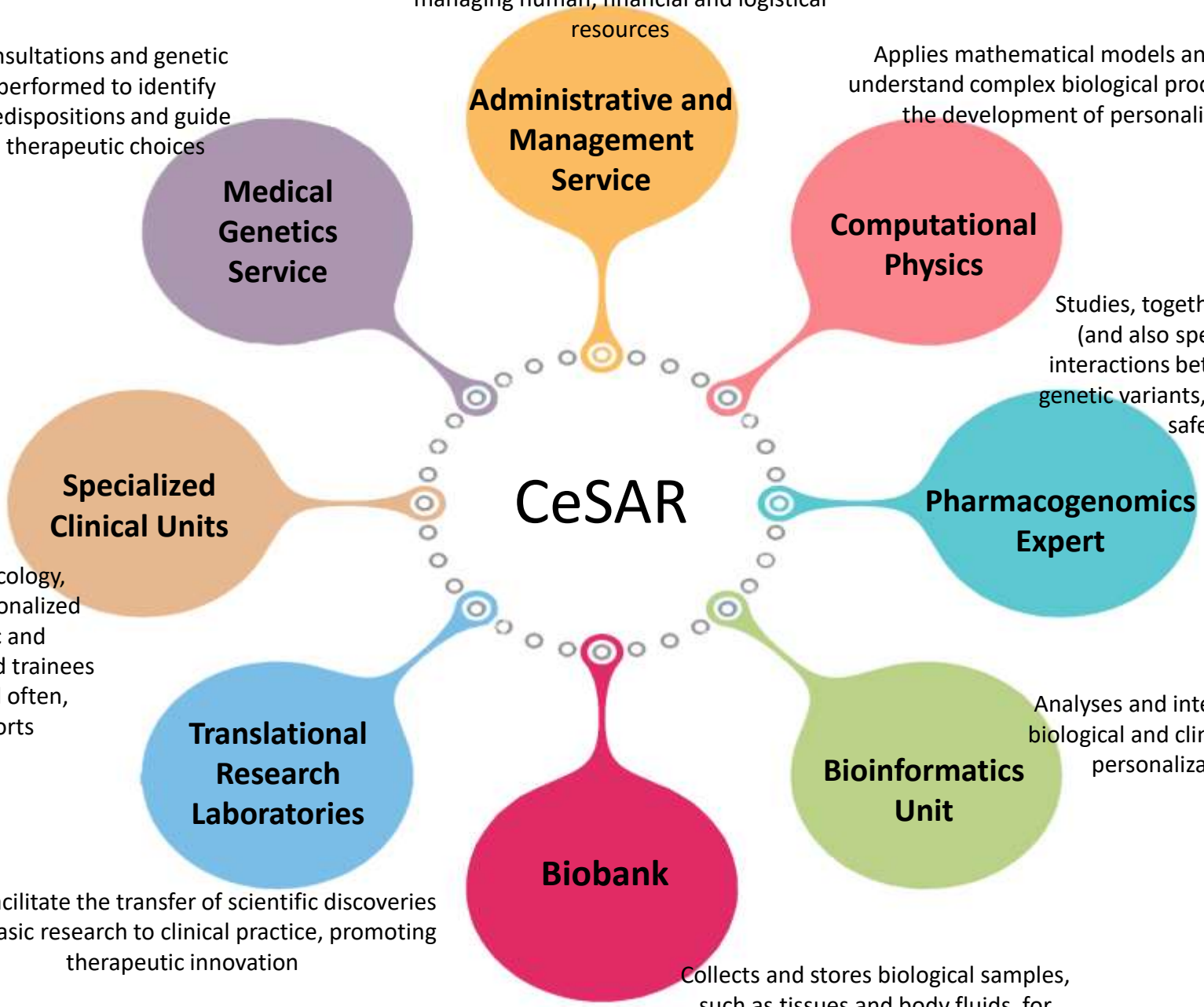
Organizational Structure at CeSAR



Proposals and Perspectives

- Creation of a digital ecosystem for data integration: *ALE to process health big data through specialized algorithms*
- Training for health workers and raising awareness among the population
- Public-private partnerships for economic sustainability
- Expansion of the model on a regional and national scale

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Measurement and Evaluation

Clinical KPIs: Diagnosis times, efficacy of therapies, patient outcomes.

Economic KPIs: Cost sustainability and reduction of general healthcare costs.

Research KPIs: Number of published studies, innovative results.

KPI: Key Performance Indicator

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Grazie a tutti !

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