Liberté Égalité Fraternité

Inserm

La science pour la santé _____ From science to health

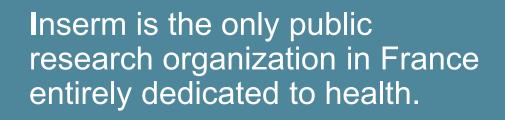
Inserm presentation



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Our objective: to promote the health of all by advancing knowledge on living organisms and their diseases, and by developing innovation.

Content

Address major biomedical research challenges

Take action to improve the health of all

Disseminate knowledge for the benefit of all

2023 figures, unless otherwise stated



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Be a reference in biomedical research



In Europe and worldwide

- 7,000 international cooperation agreements with 106 countries
- 66 European and international partner laboratories
- 35 institutional cooperation agreements

In France

- 278 research units
- 34 clinical investigation centers
- 48 service units

15,234 staff



- 4,972 civil servants (2,180 researchers, ATIP-Avenir contracts included)
- 3,719 contract staff and temporary workers (incl. ATIP-Avenir contracts)
- > 50 ATIP-Avenir contracts
- 6,534 teacher-researchers and hospital teachers

An initial budget of €1,176 million

€719,4 million from government subsidies and €456,6 million from internal resources

* in 2024



Patents and licenses

- A portfolio of 2,492 patent families
- 131 new license agreements signed
- 306 R&D partnerships



Be a reference in biomedical research (2)

In Europe

- No. 1 academic applicant in the biomedical sector in Europe
- No. 2 European applicant in the biotechnology sector
- No. 5 European applicant in the pharmaceutical sector

Horizon Europe launch and 2021 results:

- ERC: 57 projects, 2^d French ERC grant winner
- Marie Skłodowska Curie Actions: 9 individual grants, 11 doctoral networks, including 2 coordinations
- Health Cluster: 54 projects, including 13 coordinations
- EIC: 16 projects, including 2 coordination
- Infrastructure: participation in 6 projects
 Horizon 2020 results:
- 1st coordinator of the Health societal challenge
- 396 contracts, incl. 83 grant winners and 53 Marie Skłodowska-Curie grants

Close dialogue

with over 500 patient organizations for

- participatory research
- meetings and debates between patients and researchers



10,976 original articles

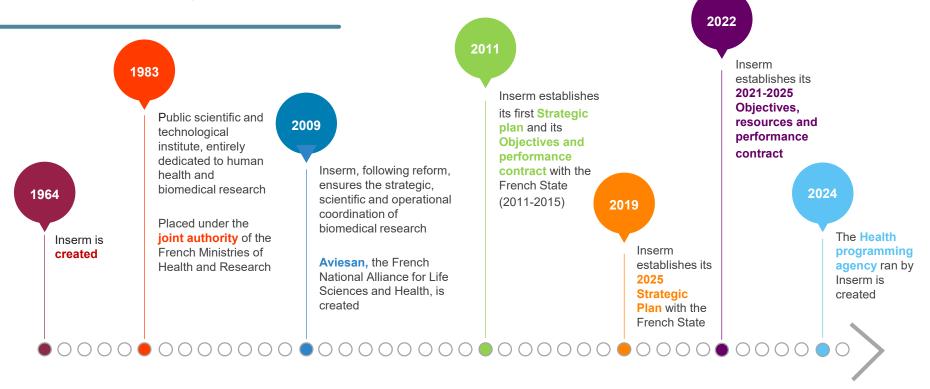
(publications 2022)





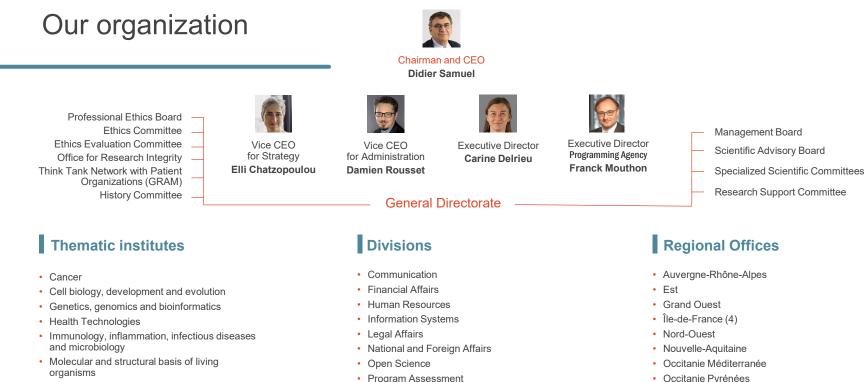
Address major biomedical research challenges

Make changes to adapt





Address major biomedical research challenges



- Neurosciences, cognitive sciences, neurology, psychiatry
- · Pathophysiology, metabolism, nutrition
- Public health

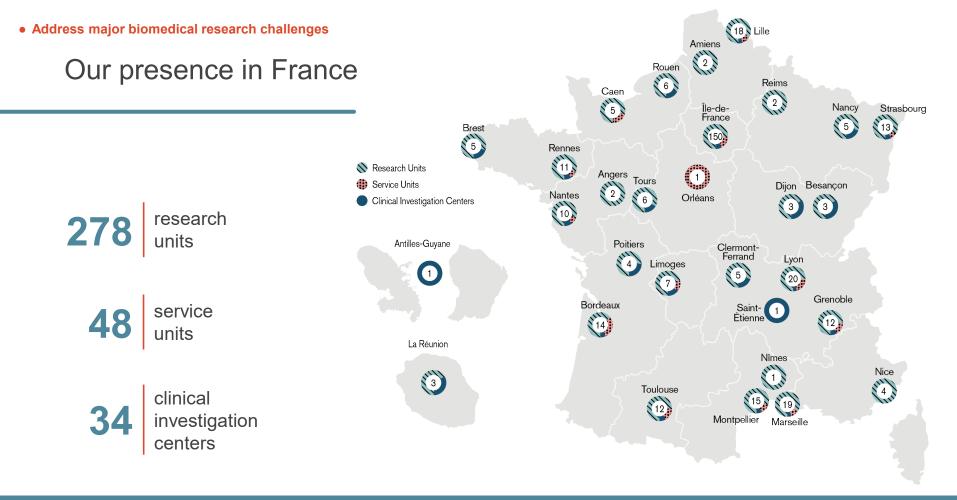
Accounting Department

Strategic Program

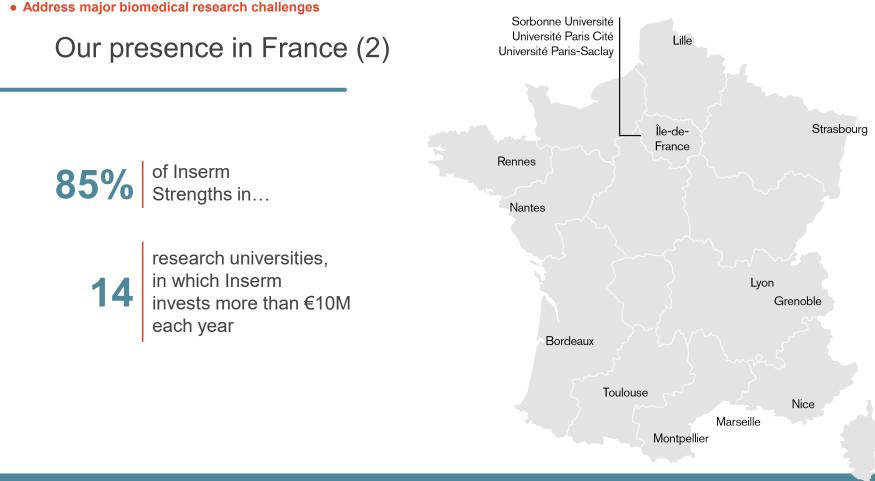
Auvergne-Rhône-Alpes

- Nouvelle-Aquitaine
- Occitanie Méditerranée
- Occitanie Pvrénées
- · Provence-Alpes-Côte d'Azur and Corsica











Our main partners in France and abroad

- 37 universities
- A key partner of **14** research universities in which Inserm invests more than €10M each year
- On 14 Idex and I-sites, Inserm invests 72% of its resources
- Research units in **31** teaching hospitals

- National research institutions: CNRS / Inrae / Inria / IRD / INED...
- French top graduate schools: ENS, ESPCI, EHESS, École polytechnique, EHESP, École des Mines, ENVA...
- Industry: Astra Zeneca/MedImmune, MSD Avenir, Sanofi, AdBio Partners...
- Foundations and associations: Fondation Bettencourt Schueller, FRM...
- European and international academic institutions: Helmholtz, NIH...



Our partner laboratories in Europe

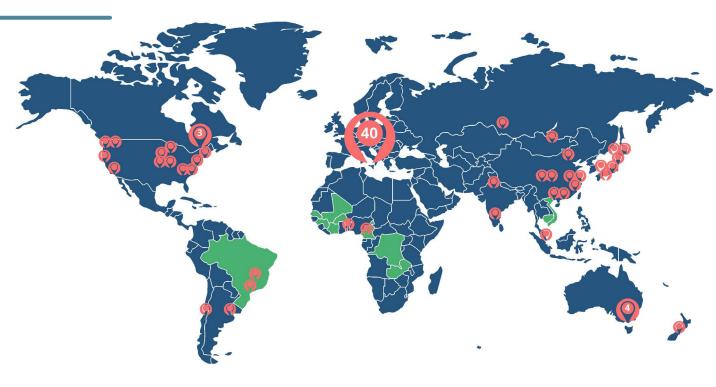
- Inserm research teams launch many informal scientific collaborations with European laboratories.
- In addition to these spontaneous cooperation networks, Inserm signed, in 2024, 40 partnership agreements in Europe thanks to dedicated instruments: thematic coordination programs, international research projects and first step projects.





Our partner laboratories abroad

- Inserm research teams launch many informal scientific collaborations with European laboratories.
- In addition to these spontaneous cooperation networks, Inserm signed, in 2024, 85 partnership agreements worldwide thanks to dedicated instruments: thematic coordination programs, international research projects and first step projects.
- Besides, Inserm is working with **11 partner countries** through ANRS MIE.





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Take action to improve the health of all

Programming and steering national health research

Objectives

To make the research and innovation ecosystem better able to respond to the major challenges and transitions facing the health sector. To achieve this, the **Health Research Programming Agency** will strengthen coordination between the relevant stakeholders, and help prioritize and define a number of research programs deemed strategic because they have a high societal impact and are of sovereign interest. Once these programs have been approved by the French government, the Agency orchestrates their national management.

Missions

- Establish a forward-looking vision to support the induction of innovative and ambitious research programs, based on priority scientific issues in healthcare
- Build interdisciplinary expertise in the field of biomedical research
- Ensure the coordination between priority programs, with site policies, national and European research infrastructure roadmaps, European initiatives, and across the entire continuum of funding and action in priority areas

Roadmap

• Develop three new priority research programs (neurodegenerative diseases, chronic inflammatory diseases, transplantation)

adence

de programmes de recherche en santé

- Finalize the France Vaccines program
- Manage the research component of the National Acceleration Strategy on Health Prevention
- Build an interdisciplinary end-of-life research program
- Contribute to national and European roadmaps for research and technological infrastructures and facilities
- Develop the Agency's expertise and prospective action



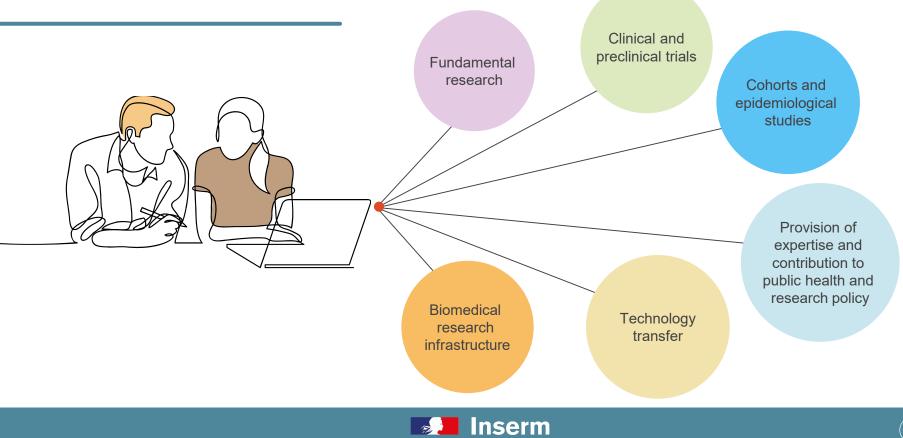
Our missions for health





• Take action to improve the health of all

Our fields of activity and expertise



Cohorts and epidemiological studies

Over 1.6 million people

(2% of the French population) participating in Inserm cohorts

EpiCOV

130,000 volunteers for research on SARS-CoV-2

ELFE

20,000 children born in 2011, longitudinal study from birth to adult age

Constances

220,000 subjects representative of the French population, aged 18 to 69 years on inclusion + a biobank of 100,000 subjects

RaDiCo

. . .

over 5,000 people with rare diseases in 12 cohorts

Major public health expertise and research **databases**, accessible online

Epidemiologie-France portal

French health database catalogue > <u>epidemiologie-</u> <u>france.aviesan.fr</u>

CépiDc

Epidemiology center on the medical causes of death > cepidc.inserm.fr

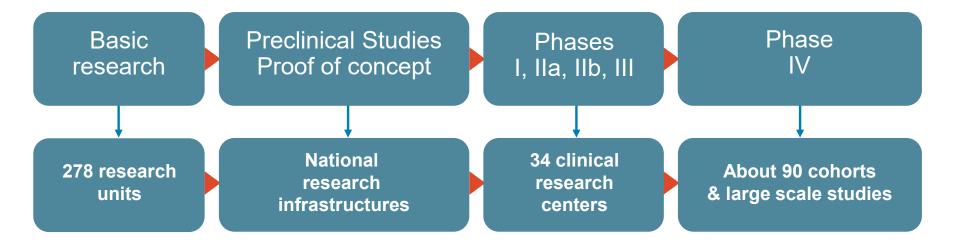
Orphanet

Portal for rare diseases and orphan drugs > <u>orpha.net</u>



• Take action to improve the health of all

A continuum from basic to clinical, therapeutic, and public health research





Value creation activities which are bearing fruit



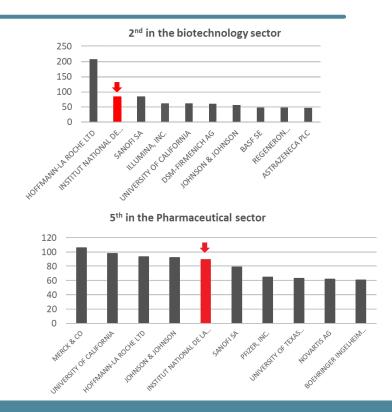
- 2,492 patent family's portfolio
- 152 new patent families in 2023
- An annual budget of €1.8 M to fund project maturation or proof of concept
- A maturation budget reaching €25.1 M invested in 419 projects since 2009
- €550.2 M industrial partnerships since 2010 (patents, research contracts)

- ~ €25-30 M per year from licensing agreements
- Over **400** technologies and research tools available for licensing
- Strategic alliances with MSD Avenir, Astra Zeneca/MedImmune, Sanofi, AdBio Partners...
- **10** startups created each year via Inserm Transfert (Inserm's subsidiary)
- Partnerships with SATTs

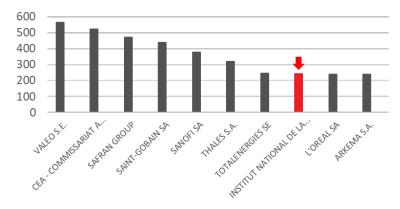


• Take action to improve the health of all

Inserm & Inserm Transfert in EPO rankings



8th in France all sectors represented



- No. 5 European applicant in the pharmaceutical sector
- No. 2 European applicant in the biotechnology sector (5th year)
- No. 1 European research academic institution in the biomedical sector
- 2,492 patent families as of 31/12/2023



Inserm Transfert: partnering with industries

SOME OF OUR INDUSTRIAL PARTNERS: privileged partner of major industrials, mid-size, SME, involved in human health, at the international level



• Take action to improve the health of all

Inserm spin-offs based on inventors as drivers



12

Major discoveries

Since its foundation in 1964, Inserm has played a part in many key, historic medical advances, such as:

- the first prenatal diagnostic tests;
- **understanding the HLA system** and the ensuing immune reactions;
- the first in vitro fertilization;
- radiotherapy for cancer;
- the first skin graft;

- deep brain stimulation in the treatment of Parkinson's disease;
- **gene therapy** in the treatment many diseases;
- innovative technologies like bioprinting, ultrasound, imaging organoids...
- **the Nutri-Score** informing on the nutritional quality of foods



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Disseminate knowledge for the benefit of all

• Disseminate knowledge for the benefit of all

Our ethics committee to reflect on innovative research and to shed light on debates

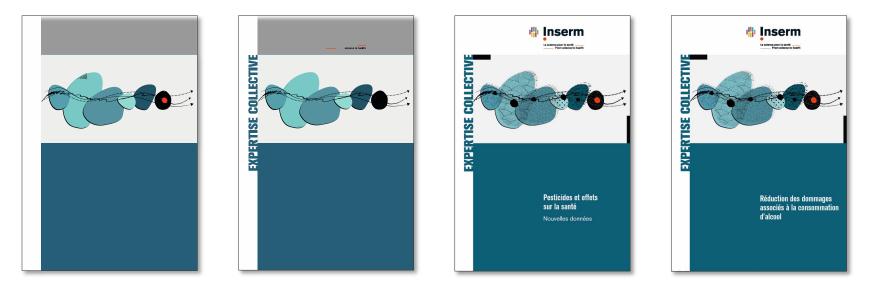
Since 1999, Inserm ethics committee has focused on ethical questions in emerging areas of medical innovation

- Publication of multiples notes on genome editing and participation in the creation of ARRIGE (Association for Responsible Research and Innovation in Genome Editing) in 2018
- Launch in 2022 of Volrethics to define common international ethical rules to protect healthy volunteers in biomedical research
- Think tanks on gender and health research, research on the human embryo, genomic medicine, neurotechnology in education, organoids and organs on chips...



Collective expert reviews and contribution to public health policy

Inserm fulfils its mission of expertise provision and knowledge transfer to decision-makers in the field of public health by providing the scientific insight required to take decisions on public health policy issues.





Our work with patient organizations

Towards research in partnership with patient organizations and civil society collectives

- Promote meetings and direct dialogue between researchers and collectives
- Act for the structuring, coordination and animation of participatory research projects
- Help to better take into account these projects in the assessment of researchers
 and structures
- Facilitate access to scientific information for society



Our presence in the service of public information





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#FromScienceToHealth