

# Genomic and Genetic Technologies Trade Mission, May 19-23, 2025

## Market data for Greece



INTERNATIONAL  
**TRADE**  
ADMINISTRATION



### Prevalence of Rare Diseases

- **350,000–600,000 people**, or 5-7% of the population
- Mainly sickle-cell anemia, thalassemia, hemophilia, cystic fibrosis, Fabry disease, Gaucher disease, CREST syndrome, neural tube defects
- **2019 legislation on rare and complex diseases** established 27 rare disease expertise centers at clinics in 8 hospitals.
- **Newborn Screening:** NGS pilot program aims to use rapid whole genome sequencing to screen newborns for treatable genetic diseases. NHS has recruited 1,000 families to participate.

### IVF Market

- Popular destination for in vitro fertilization (IVF) due to high-quality treatments, reasonable rates, and liberal IVF laws.
- At least **50 IVF clinics** throughout the country.
- IVF Methods used: Fresh Cycles < 20,639, Frozen Cycles <7,708, PGD Cycles < 800, Egg Donation Cycles <4,737, IUI-H <2,865, IUI – D <285. Total of 37,028 registered in 2020, *Source: Eaiya.gov Greek National Authority of Assisted Reproduction (NAAR).*

### R&D and Academia

- **11 research institutes**, including the Biomedical Research Foundation Academy of Athens, FORTH Foundation for Research and Technology, the National Center for Scientific Research DEMOKRITOS and the Hellenic Pasteur Institute.

### Prevalence of Cancer-Genetic Mutations

- **65,700 new cancer cases** estimated in 2023
- Number of prevalent cases (5-year) 190,600

**Total: 65 703**

Rank	Cancer site	Number of cases	Percent
1st	Breast	8 987	13.7%
2nd	Lung	8 583	13.1%
3rd	Colorectum	7 859	12.0%
4th	Prostate	7 036	10.7%
5th	Bladder	5 122	7.8%
-	Others	28 116	42.8%

**Number of new cases in 2022, both sexes, all ages**

### Genomic and Genetic Diagnostic Market

- **99 genetics labs** offering cytogenetic and molecular tests to diagnose cancer, rare illnesses, and pre-natal genetic disorders. Most testing is reimbursed.
- **Precision medicine initiatives** are growing, led by the Hellenic Network of Precision Medicine (HNPM). Increasing activity in the operation of accredited biobanks, clinical data collection and establishing specialized departments for molecular and genetic analysis using next-generation sequencing.
- **Biobanking initiatives** through the Greek Research Infrastructure for Personalized Medicine and the establishment of a national population biobank network.

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Market data for Türkiye



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## Prevalence of Rare Diseases

- **6-7 million people:** as high as 1 in 5 marriages intrafamily
- **Most prevalent:**
  - Thalassemia – 2-13%, depending on region
  - Spinal muscular atrophy (SMA) – 1 in 6,000 births
  - Familial Mediterranean fever (FMF)
  - Cystic fibrosis
  - Congenital hearing loss
  - Duchenne muscular dystrophy (DMD)
- **Newborn screening** for phenylketonuria, biotinidase deficiency, congenital adrenal hyperplasia, and cystic fibrosis.

## IVF Market

- **42,000 IVF treatments** annually
  - 22,000 Turkish patients
  - 20,000 international patients (due to high success rate)
- PGT tests performed in public and private genetics labs, **up to three reimbursed** by Social Security Institute

## R&D and Academia

- **26 universities** with molecular biology and genetics departments
- **3 institutes** conducting extensive genomic and bioinformatics research
- **5 institutes** with R&D centers for rare diseases
- Strong interest in clinical trials – recently, mRNA vaccine for lung cancer
- TUSEB funds many genomic, bioinformatics and genetic testing-related start-ups
- **24 Turkish pharmaceutical companies** formed 'Turkish Biopharmaceuticals Platform'.

## Prevalence of Cancer-Genetic Mutations

- **235,000 new cancer cases annually**

Cancer type	# of new cases/yr	Genetic mutation %
Breast	27,000	16-23%
Colorectal	21,000	30-50%
Prostate	16,000	10%
Thyroid	15,500	110-150 MTC cases
Stomach	13,000	38%
Pancreatic	11,000	15%
Ovarian/Uterine	4,000	24%
Melanoma	1,100	55%
Retinoblastoma	120-150	

## Precision Medicine

- **Immunotherapy treatment** mostly non-reimbursable
  - Universal healthcare insurance holders sue Social Security Institute for reimbursement
  - Room for growth
- Ministry of Health strategic plans: immunotherapy and personalized therapies, (cell and gene therapies), areas to develop

## Commercial Landscape

- Many instrument companies operate through own offices or distributors
- Turkey follows **EU's IVDR and requires CE Mark** for importation
- Nearly **100 importers/distributors** of genomic and genetic technology products and bioinformatics systems.

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## Market data for Italy



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### Prevalence of Rare Diseases

- **2 million patients**
- 20 cases per 10,000 inhabitants, 19,000 cases per year
- 80% of rare diseases have a genetic origin
- 20% of patients are children
- **Extended Newborn Screening** in place for over 49 diseases (including cystic fibrosis, congenital hypothyroidism, phenylketonuria, genetic neuromuscular diseases, severe congenital immunodeficiencies and lysosomal storage diseases).

### Precision Medicine – Genetic Tests

- Genetic tests must be requested by geneticists after adequate consultation.
- Tests are reimbursed for a limited number of specific cancers and rare diseases.
- NIPT tests are free of charge in 9 regions.
- Laboratories must meet specific accreditation requirements, follow specific standards, and employ personnel specialized in medical genetics.

### R&D and Academia

- **94 public and private laboratories** conduct genomic research.
- **Major research areas:** oncology (19.14%), rare diseases (15.63%), predictive genomics (14.82%), oncohematology (11.32%), pharmacogenomics (9.16%)
- 3<sup>rd</sup> in Europe for number of publications in genomics
- **Human Technopole**, new advanced research institute

### Prevalence of Cancer-Genetic Mutations

- **395,000 new cancer cases** estimated in 2023
- 12.5% - 17.5% with inherited genetic mutation

Cancer type	# of new cases/yr	# genetic mutations cases	Genetic mutation %
Breast	55,700	5,514	9.9%
Colorectal	48,100	2,886	6.0%
Prostate	40,500	2,118	5.4%
Lung	37,300	2,200	5.9%
Bladder	29,200	2,131	7.3%
Stomach	14,700	1,294	8.8%
Pancreatic	14,500	2,045	14.1%
Melanoma	12,700	784	6.2%
Renal	12,600	882	7.0%
Thyroid	12,200	780	6.4%

*Alleanza Contro il Cancro (ACC) data*

### Genomic and Genetic Diagnostic Market

*(Agenas data 2021-2022)*

- **132 public and private laboratories**
- **646,643 tests** performed between 2021-2022
- **Diagnostic areas:** medical genetics (52.8%), pathological anatomy (19.4%), microbiology (19.7%), clinical pathology (8%)
- **Types of genomic analysis:** NGS multigene panels (23.3%), target panels (mutation hotspot) (17.8%) and NGS clinical exosome (10.2%)
- **Platforms used:** Illumina (54%), Thermo Fisher (24%), Pyrosequencing (8%), others (15%)
- **Regions** with most labs: Lombardy, Lazio and Veneto