

PERSONALISED MEDICINE



1. REGIONAL SPECIALISATION

Characterization

Navarra is a pioneer at national level in the approval of an Integral Strategy for Personalised Medicine integrating the fields of health, innovation and economic development

The two scientific domains that in the period 2015-2018 concentrated the largest number of publications in Navarra are "Health, preclinical and clinical" (39 %), and "Life Sciences" (30 %) above the EU28 average

Navarra has nine health research groups in the top 100 of scientific citations and 20 in the top 500 in fields related to personalised medicine

Among the technological fields with a very high specialisation index, three stand out corresponding to the chemistry sector (food chemistry, pharmaceuticals and biotechnology). In fact, the pharmacy sector concentrates 17.1 % of Navarra's patents, with a specialisation index of 229

The share of the pharmaceutical sector in Navarra's exports was the one with the highest growth, with 26.3 % growth between 2013 and 2019, although starting from a lower contribution (0.5 % of exports)

The health system value represents a total of € 2,000 million divided practically equally between the public and private sectors

The health industry comprehends 68 companies with a total turnover of € 660 million, highlighting the turnover in the pharmaceutical segment (64 %) and consumer healthcare (29 %)

Value chain

Companies:

- Industry: Cinfa-Grupo INFARCO, 3P Biopharmaceuticals, Idifarma, Geiser Pharma, Albyn Medical, Palo Biofarma, Tecmoem, Labolan
- Healthcare services: Hospital Universitario de Navarra, Clínica Universidad de Navarra, Hospital San Juan de Dios, Clínica San Miguel
- Distributors: Nafarco, Sanifarma

Knowledge entities: UPNA and University of Navarra, CIMA and Navarra Biomed

Collaboration entities: Health Cluster, Functional Printing Cluster, IDISNA, CEIN, ADItech

Specialized investors: Sodena, Clave Mayor, Inverready

Emerging initiatives

Start-ups: Innoup Farma, Telum, Ikan Biotech, Tedcas, Making Genetics, 3g Nutrition, Bionanoplus, Medibiofarma, Leadartis ...

Projects: NAGEN1000, MORNING CALL, MINERVA, NAGENCOL, PHARMANEGEN, applications of genomic for the customized diagnosis, treatment and pharmacology, applied to prevalent diseases and cancer; MOVE-COVID-19, COVID19 multidisciplinary monitoring and control research network

International collaboration

S3 Platform y Partnership on Personalized Medicine

ERRIN Working Group - Health

Partnership Medical Technologies

BIC- Bioeconomy Platform

European Partnership for Artificial Intelligence, Data and Robotics

Health 4 Regions Consortium

2. STRATEGIC VISION

Vision 2030



Navarra is at the forefront in Europe for personalised medicine, with a competitive health sector capable of bringing to market innovative and accessible solutions to healthcare challenges

FOCUS



- Development and production of customised prevention, diagnosis, and treatment solutions
- Big data and artificial intelligence applied to clinical care
- Healthy nutrition and well-being

Trends

The main trends in health are grouped around four axes: prevention and diagnostics ('keeping healthy'), resource efficiency ('efficient health'), technology development ('health tech') and healthy lifestyles ('health&wellness everywhere')

Application of advances in genomics and computing for personalised medicine, in the areas of prevention, diagnosis and treatment

Growing involvement of citizens in the management of their own health. Growth of prevention, sports medicine, nutrition and wellness areas

Needs related to the progressive increase in the longevity of the population

Development of new medicines, especially those related to advanced therapies in international cooperation

Devices and systems for the realization of specific diagnoses and personalised attention

More efficient and less invasive drugs and therapies

Intelligent and robotic systems for medical care

International Line-up

UE4Health is the ambitious answer of the UE to the COVID and to approach the resilience of the sanitary systems investing in urgent sanitary priorities:

- Responding to the COVID crisis and strengthening the EU's resilience against cross-border health threats
- European Plan to Fight Cancer, which seeks to improve the lives of more than 3 million people by 2030, including the "Cancer Mission" at Horizon Europe
- The Pharmaceutical Strategy for Europe to favour the access to medicines and the competitiveness, innovation and sustainability of the industry

Related SDGs:



3. LINES OF WORK

	Lines of work	BO	GT	DT
01	Generation and attraction of business projects linked to scientific research in the region, especially in personalised medicine and advanced therapies	●		
02	Development of the biopharmaceutical sector, including research, testing, and manufacturing phases, supporting the growth of start-ups, along with their consolidation and international openness	●		
03	Design and manufacture of products and services related to prevention and well-being, especially in relation to diet and healthy nutrition	●		
04	Design and manufacture of devices for teleworking and telemonitoring to support longevity, disability, and the treatment of chronic diseases	●		●
05	Development of software applications for prevention and improvement of patient care	●		●
06	Circular economy in biomedical devices (disinfection and recovery) and drugs, promoting waste reduction	●	●	
07	Sustainable manufacture of drugs and devices, and use of products or ingredients of natural origin		●	
08	Application of big data, artificial intelligence, and cybersecurity for the management of medical, genomic, and other data in the diagnosis, treatment, and prevention of diseases	●		●

Note: BO: Business Opportunity GT: Green Transition DT: Digital Transition

4. TECHNOLOGICAL SKILLS

Technological Development

Combating major diseases	Technologies for detection, synthesis, purification and stabilization of different elements
	Biotics
	Drugs development
	Nanotechnology
Personalised and precision medicine	Genomic sequencing
	Supercomputing
	Cybersecurity
	Computational modelling
Advanced therapies	Specific technologies for cellular, gene, molecular therapy and immunotherapies
	Omics technologies
Diagnostic Technologies	Biosensors and markers
	New Terahertz technologies
	Algorithm for disease prognosis
	Molecular sensors
Medical devices	Design of specific equipment
	Diagnostic Technologies
	Wearables
E-Health	Big Data and Artificial Intelligence
	IoT
	Medical imaging
	Digitalised clinical file
	Telecare