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# **ITHACA CASE STUDY NO.4: The Basque Country**

### ***Acknowledgements***

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# 1. Introduction

## 1.1 Background to the Case Study

The Basque Country hosted the fourth ITHACA Exchange of Experience and Peer Evaluation (EEPE) event on 21-22 March 2018. The programme included presentations, exchanges amongst participants, workshops, project demonstrations and site visits to key initiatives in the region. The programme was designed to ensure a mutual learning atmosphere, and to show the visiting delegation of experts how the Basque Country is working towards the ITHACA project goals of accelerating the scaling up of smart health and care solutions for active and healthy living whilst achieving the triple win of economic growth, more sustainable health and care systems and improved well-being for its citizens. The EEPE concluded with an interactive and structured peer evaluation session with the presence of high-level decision makers from the region.

The Basque Country EEPE was structured around four pillars that are key to achieving progress on the ITHACA project goals:

- strategic and policy framework;
- eco-system for scaling up smart health and care solutions;
- experience across the innovation cycle (invention, co-creation, market testing, validation and scaling up).

### Organizers:



[Basque foundation for Health Research and Innovation –BIOEF](#) is a foundation created by the Health Department of the Basque Government (Spain) as a public non-profitable organization. BIOEF fosters the development and continuous improvement of the health care system to protect the quality of life of the Basque population. The Foundation also seeks to provide a framework for communication and cooperation between the various sectors involved in health research, development and innovation at local, national and international levels.



[Kronikgune](#) is an international excellence research centre specialized on chronicity. It entrusts institutional representation on international projects and actions aimed at developing products and services and their deployment for the whole Basque population (2,17M inhabitants). The aim of this research centre is to enable innovative practices and the structured generation of scientific evidence regarding chronicity and health services sustainability. Kronikgune is constituted by more than 300 researchers that belong to the Basque Public Health Service (Osakidetza) grouped into 31 research groups. These research groups

follow a scientific research program which is clustered into 6 interconnected areas: population focus, health promotion and disease prevention, patient autonomy, continuity of care, adapted interventions and research on results.

### 1.2 Methodology

This case study is informed by and derives from:

- documentation provided by Basque Country stakeholders before and during the EEPE event – including strategy documents, evaluation reports and promotional materials;
- the information and evidence presented and demonstrated during the event – including PowerPoint presentations;
- peer evaluation feedback from visiting delegates presented during the EEPE's concluding peer evaluation session and in follow-up, written reports.

Regional stakeholders were briefed to provide information that would help the visiting delegates to understand the region's policy, activity and infrastructure and make informed assessments of their strengths and weaknesses. Equally, the visiting delegates were briefed about the peer evaluation process (see section 5.1). This enabled them to act as an "evaluation and feedback team" and to provide structured feedback to the hosts about what they saw and learnt. In this context, visiting ITHACA delegates brought their own knowledge and experience and, with the benefit of a fresh eye, they provided Basque stakeholders with an expert critique and recommendations about the region's approach. It provided a forum to engage in a mutual discussion about visiting delegate perceptions and flagged up implications for policy and practice going forward. The verbal and written insights of visiting delegates emerged through the peer evaluation process and have influenced and added considerable value to the content of this case study.

### 1.3 Structure of this Case Study

The rest of this report sets out the approach adopted in the Basque Country in scaling up smart solutions for health, care and well-being along with highlighting the expert feedback from the ITHACA delegation. Section 2 outlines the strategies and policies in the Basque Country that shape and drive the smart health agenda. Section 3 highlights the region's ecosystem. Section 4 focuses on the innovation cycle and the range of initiatives and innovations in the Basque Country that stakeholders presented at the EEPE event. Section 5 flags up key assessments from the visiting delegates that were fed back during and after the EEPE event, discusses the key findings that have resonance and presents the case study's recommendations.

## 2. Strategic and Policy Context

### 2.1 Overview

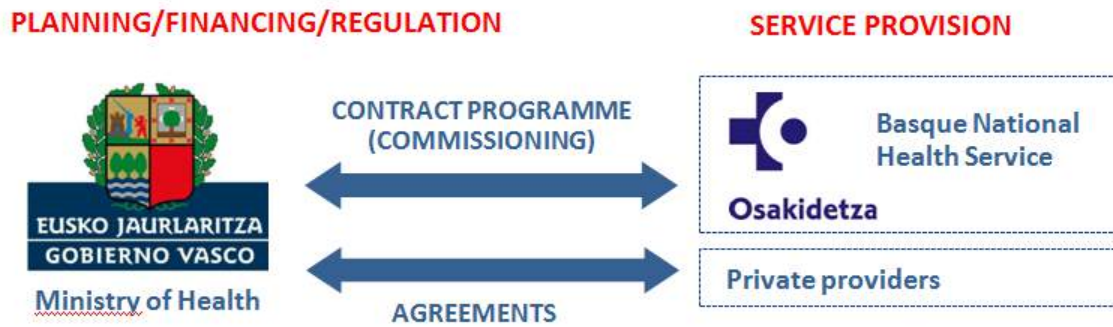
The Basque Country (Euskadi / País Vasco) is an autonomous community in Northern Spain. The population of the Basque Country is around 2,170,000 inhabitants, concentrated around the three main metropolitan areas: Bilbao, Vitoria-Gasteiz and San Sebastián-Donostia.



- 2.17 million population (2014); 7.235 Km<sup>2</sup>
- Main cities: Bilbao, Donostia-San Sebastian and Vitoria-Gasteiz
- High level of self-government: Basque Parliament and Government with major legislative and executive powers (Education, Health, Police, etc.)
- Fiscal autonomy, own system of taxation
- Social services are managed by local and provincial authorities

#### The Basque Public Health System:

Universal health system financed by taxes on the basis of the Beveridge model (national health service model) and governed by the principles of universality, equity, solidarity, quality and participation. Free access to the system for all residents in the Basque Country is guaranteed.



Several key documents provide the strategic and policy framework for the Basque agenda for innovation in health, care and well-being;

- Health Innovation and Research Strategy 2020 (Health Ministry)
- Strategic Lines of the Ministry of Health 2017 – 2020
- Strategic Priorities for Socio-Health Care in the Basque Country 2017 – 2020 (Health Ministry, Employment and Social Policy Ministry)
- Science, Technology and Innovation Plan PCTI Euskadi 2020
- Osakidetza´s Challenges and Strategic Projects 2017 – 2020 (Basque Public Health Provider)
- Health Plan 2013 – 2020 (Health Ministry)





### 2.2 Governance Programme 2016 - 2020

The Basque Government has a Government Programme for the 11th Legislature (2016-2020). This is a document that sets out the commitments made to Basque society over the next four years.

The Government Programme is made up of 4 fundamental pillars: (1) Employment, Reactivation and Sustainability; (2) Human Development, Social Integration, Equality and Quality Public Services; (3) Coexistence and Human Rights; and (4) More and Better Self Governance. In addition, it has 10 axes and 175 country commitments for Sustainable Human Development.

These are developed as follows:

- (1) Employment, Recovery and Sustainability, "a responsibility":  
Two thirds of the budgets are oriented towards Social Policies, more specifically to guarantee essential health, education and social protection services. This pillar has 63 commitments.
- (2) Human Development, Social Integration, Equality and Quality Public Services, "a priority":  
This pillar, considered a "priority", will have 5 strategic plans: Employment, Industrialisation, Internationalisation, Innovation and Public Investment. This pillar has 97 commitments.
- (3) Coexistence and Human Rights, "a necessity"  
Initiatives linked to this pillar are, for example, the management of diversity and integration of refugees, the culture of coexistence, memory, victims or the orderly end of violence. This pillar has 11 commitments.
- (4) More and Better Self-government, "an opportunity"  
It advocates dialogue, agreement on the Pact with the State and ratification by Basque society. This pillar has 4 commitments.

### 2.3 Health Innovation and Research Strategy 2020

Interest in biomedical and health R&D&i is practically universal, because of its direct contribution to economic development and because there is also a direct relationship between the health of the population and its development level. This dual interest is responsible for the fact that in recent decades all developed countries and those that aspire to improve their living conditions are devoting increasing resources and establishing specific promotion policies in this regard.

The Basque public health system has developed research and innovation activities since its creation. Two decades ago, a process of structuring began with the creation of the Research Units and later (2002) with the creation of the Basque Foundation for Health

Innovation and Research (BIOEF), which has allowed a notable advance in research and, more recently, in innovation in the public health system.

The Health Research and Innovation Strategy 2020 pursues four Strategic Objectives:

- 1- To increase the impact of R&D&i activities, aimed at improving the health of citizens and contributing to the generation of wealth.
- 2- To advance in the integration of research and innovative activity with welfare and teaching work.
- 3- Stimulate research and innovation activities by health system professionals and advance in the involvement of patients and citizens.
- 4- Improve the financing of health research and innovation, with both internal and external resources.

Each Strategic Objective is accompanied by a number of Operational or Partial Objectives, and the lines of action that seek to respond to the objectives are structured into four Strategic Axes called respectively: Impact, Integration, People, and Resources.

The mission of this Strategy summarises the two main objectives or goals: "To contribute to consolidating the development of the biosciences-health area in the Basque Country, institutionalising R&D&i activities in the health system and facilitating interactions with companies and other agents, in order to improve health results and the generation of value".

Promoting research and innovation in health is one of the priorities of the Health Ministry. This is reflected in the Strategic Lines of the Health Ministry, which constitute a strategic line on health research and innovation. This same strategic line is repeated and deployed in Osakidetza-Basque Health Service. Research and innovation activities are also included in the Strategic Lines of the Basque Social and Healthcare Council and in the Health Plan 2013-2020 (the main health planning instrument), which together determine the strategic framework for health.

The biosciences-health binomial is precisely one of the three strategic areas identified in the **RIS3** Euskadi smart specialisation strategy. In the field of biosciences-health, the health system is an essential component not only as a research and innovation agent, but also as a prescriber, demonstrator (as a living lab), buyer and user. Hence, the strategy is the contribution of the health system to the development of RIS3, and also the continuation of support for R&D&i activities aimed at improving the health system and the health of the population.

### 2.4 Strategic Lines of the Ministry of Health 2017 – 2020

Health is one of the most appreciated values for Basque society, a developed and humanistic society. A good state of health is the principle that allows people to develop any other potentiality. In addition, a health system is a key element of equity and redistribution of wealth in society.

**Innovation and Research** is one of the six lines addressed by the Ministry of Health for the 2017 – 2020 period, with the general objective of strengthening the Basque Public Health System.

The main aim of this line is to complete the implementation of the planned actions in the four axes of the Research and Innovation Strategy in Health 2020: Impact, Integration, People, and Resources. Its objective is to achieve a better integration of R&D&i activities in the health system, in coordination with universities and the bio-health industry

### 2.5 Strategic Priorities for Socio-Health Care in the Basque Country 2017 – 2020

The Social and Health Care in the Basque Country is a complex system that sets the construction of a common space of confluence and coordination for all the institutions that provide health and social services in a broad and inclusive sense. It acquires meaning and organization around people and, especially, in those specific groups that, for complex and varied reasons, are located in this space as recipients of outputs.

Two systems, one objective: people

With this motto, the Strategic Priorities for Social and Healthcare Care highlight the importance of action at the meso and micro levels of the social and health systems with an integral approach, coordinated and focused on the social and health needs of people and their quality of life.

Six Strategic Priorities, 17 socio-health projects

People, and in particular target groups, are the key element for the prioritisation of 17 strategic projects which, grouped into 6 main priorities, are committed to:

- The socio-sanitary structuring of coordination, with the aim of formalising the governance model in the consolidation phase.
- The socio-sanitary structuring of the resources, in the eagerness to identify the socio-sanitary resources and the financing that makes them possible
- The socio-sanitary structuring of care, fundamentally aimed at designing and deploying instruments and processes of healthcare coordination with a direct impact on the quality of life of people with socio-sanitary needs.
- Social and health prevention and citizen participation, to overcome the socio-demographic challenges that are emerging as determining factors in the sustainability of social and health systems.
- The socio-health evaluation, as a key element in consolidating a framework of knowledge on socio-health coordination and the complexity of inter-institutional, multi-level and multidisciplinary work.
- **Socio-health innovation**, as a transforming dimension in the generation and transfer of knowledge in the socio-health field.

### 2.6 Science, Technology and Innovation Plan (PCTI) Euskadi 2020

The science, technology and innovation plan 2015 was defined to revitalise sustainable economic growth, employment and well-being of the Basque Country by boosting science, technology and innovation activities based on the smart specialisation and the efficiency of the Science, Technology and Innovation System. It is framed under two other strategies and plans: the Europe 2020 Strategy and the RIS3 strategy.

#### The RIS3 strategy; Smart specialisation: Research and Innovation Smart Specialisation Strategy

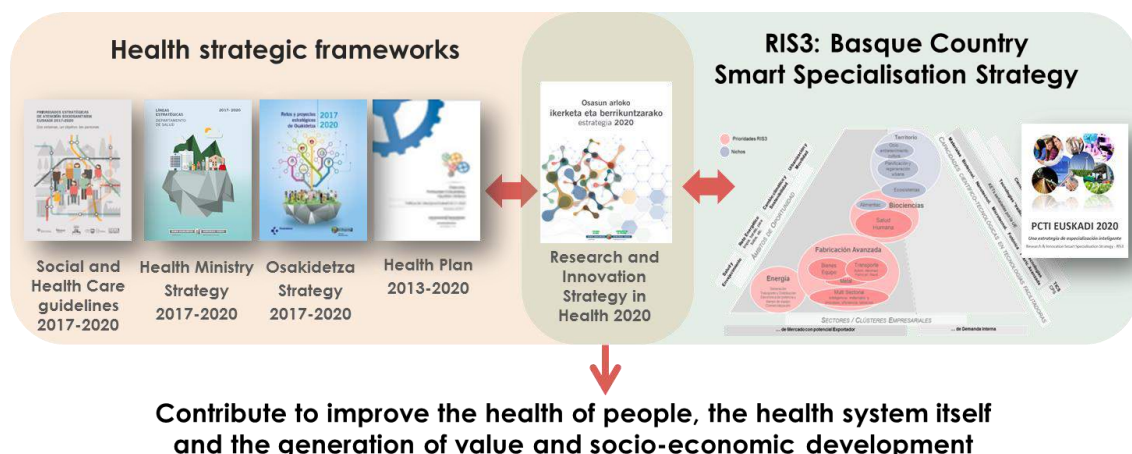
The "PCTI Euskadi 2020" takes as its reference the RIS3 smart specialisation strategy adopted by the European Union as a mandatory requirement for access to the cohesion funds.

The implementation of Europe 2020 has deepened the need for greater effectiveness of resources destined for growth, particularly of European Funds. As a result, we have seen the need to design national and regional research and innovation strategies for smart specialisation (RIS3 strategies).

The following vertical priorities, differentiated between strategic priorities and areas of opportunity, have been identified:

Strategic Priorities:

- Advanced Manufacturing
- Energy
- **Biosciences / Health**



The Biosciences / Health strategic priority comprises four strategic initiatives, being one of them the EIP-AHA.

### EIP-AHA:

The Basque Country is part of the **European Association for Innovation in Active and Healthy Aging (EIP on AHA)**, and is recognised as a Reference Site with the highest rating.

Reference Site: regions, cities, organizations or health services that implement a comprehensive and innovative approach to active and healthy ageing, and that can provide evidence and examples of impact to other regions.

- EIP-AHA ("Triple win") target:
  - Improving the health and quality of life of Europeans with a focus on older people;
  - Supporting the long-term sustainability and efficiency of health and social care systems;
  - Enhancing the competitiveness of EU industry through business and expansion in new markets
  
- Value: Cooperation between EU countries and regions, industry, health and social sector professionals, older people's and patients' organisations.
- Positioning of the Basque Country:
  - National and international recognition and visibility
  - A privileged position in the European strategy for active and healthy ageing

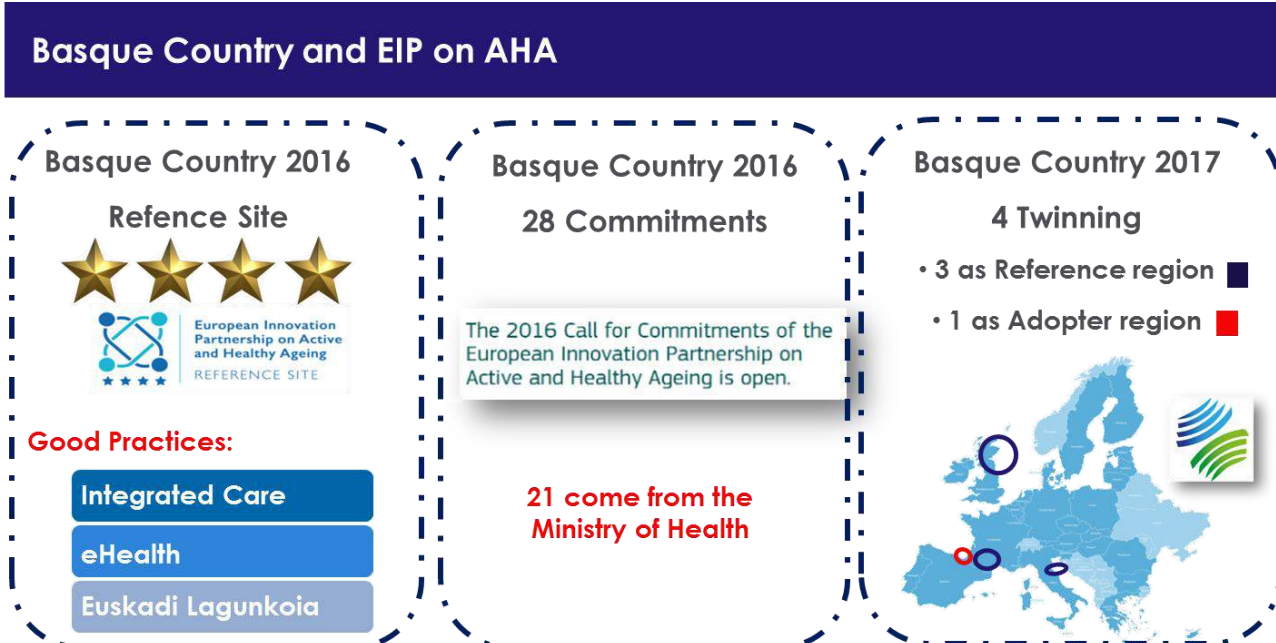
Work Areas are established within EIPonAHA through Action Groups (AGs), and the Basque Country participates in the 6 AGs:

- Adherence to prescription
- Falls prevention
- Lifespan Health Promotion (Fragility and functional impairment)
- Integrated care
- Independent living solutions
- Age friendly environments

Technological area: based on ICTs.

Tractor projects (European):

- Carewell: Multi-level integration for patients with complex needs
- MasterMind: MAnagement of mental health diSorders Through advancEd technology and seRvices
- Scirocco: Scaling Integrated Care in context
- TITTAN: Network for Technology, Innovation and Translation in Ageing
- ITHACA: InnovaTion in Health And Care for All



## 2.7 Osakidetza's Challenges and Strategic Projects 2017 – 2020

Research and Innovation is one of the 6 challenges addressed by Osakidetza according to the 6 Lines and Objectives established by the Ministry of Health for this period.

This challenge aims to address the following:

To participate in the deployment of the R+D+i strategy of the Ministry of Health, by means of the deployment of actions linked to the evaluation, the taking of decisions based on technology foresight and assessment, innovation management (including transfer, exploitation and deployment), collaboration with companies and stakeholders in the framework of an open innovation model, the health system as a "tractor" of innovation and the deployment of the 'Research and Innovation Strategies' strategy for Smart Specialisations' (RIS3) of the Basque Country, in the field of biosciences.

Participate in the deployment of the strategy, developing actions that allow the fulfilment of the Strategic Objectives:

- selection and deployment of research and innovation agendas
- governance of R&D&I structures
- information systems and use of different data sources
- regulatory framework for R&D&i
- open, connected and internationalized system

### 2.8 Health Plan 2013 – 2020

The Health Plan is a fundamental tool for promoting improvements in the effectiveness and efficiency of health services, as provided for in the Health Order Act –“Ley de Ordenación Sanitaria”- (8/1997), the regulatory framework of reference, which in its article 13 establishes that the Basque Health Plan is the highest planning and programming instrument of the system.

Innovation is a transversal element for the Health Plan that considers the following aspects in the Plan:

- Equity and responsibility  
To promote research and innovation as knowledge generators to support the improving of the health and the quality, effectiveness and efficiency of the health system
- New technologies  
Adapting new technologies based on evidence of their usefulness and efficiency for the elderly, in line with the Basque Government's Public Innovation Strategy
- Physical activity  
To promote the practice of physical activity by the population, following the guidelines and strategies defined in the Basque Country's Physical Activity Plan.
- Health and nutrition  
To promote innovation and research in healthy eating habits

### 3. Eco-System

#### 3.1 Basque Country Eco-System Context

The Basque biosciences sector is, like its international counterparts, an emerging sector in continuous growth. A highly R&D-intensive, internationalised sector in which the company has a strong presence public-private partnership is essential. A sector that requires transversality in the support policies and instruments that are consistent with the complexity of the ecosystem that supports it. And within this sector, in the health segment, the health system is an essential component.

The health system is, in fact, a research and innovation agent, but it also acts as promoter, demonstrator, prescriber, buyer and user of new products, processes and services. And, in this context, the evolution of the health system must be underlined within the Basque research and innovation ecosystem. Sustained support for R&D&i in the health system is now leading it to a new stage in which it is possible and necessary to capitalise the progress made to date, through a strategy as a roadmap to achieve a greater impact of R&D&i activities, both in terms of improving health and contributing to the development of the biosciences-health sector, that is, generating value and contributing to the creation of wealth in the Basque Country.

### Health system: about research and innovation

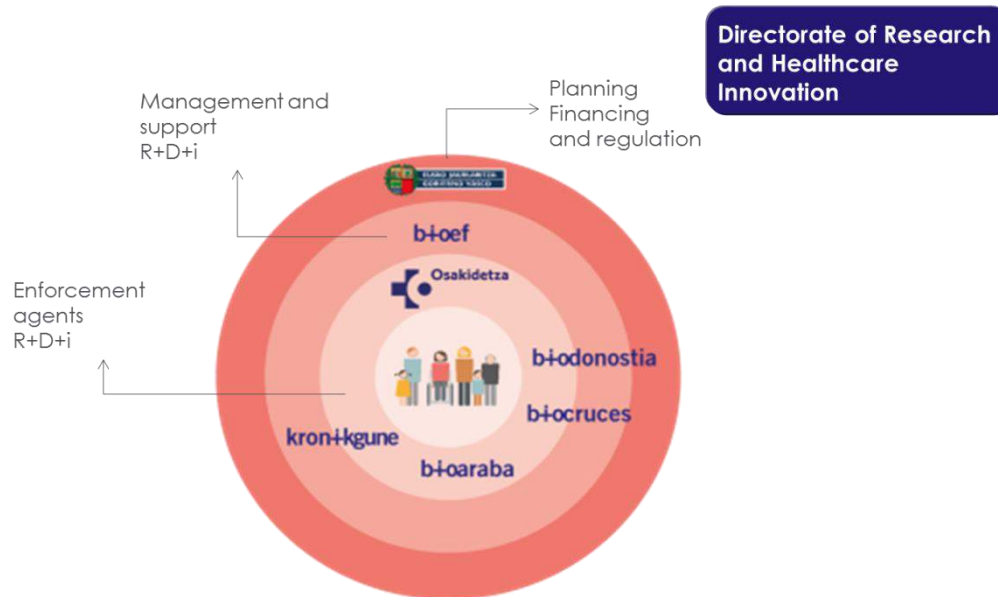
A partner in the life sciences ecosystem



The Basque public health system is also part of an ecosystem, the Basque bioregion, which is made up of different types of entities such as companies and scientific-technological agents, and in which investors and public administrations also take part, and which support the development of the sector.



## R+D+i Components and Functions



This ecosystem, characterized by being in an emerging phase of its life cycle, presents its own data and dynamics, briefly summarized below:

- The sector is heterogeneous in nature, as it includes both biotechnology-based companies as well as medical equipment, health devices, ICTs and bioinformatics, consumables or manufacturers of prostheses and implants. Many of these companies are grouped in the Basque Biocluster - Basque Association of Biosciences Companies.
- Pharmaceutical companies, which have a long history of experience, have been joined by new business groups, that have grown at a faster pace and that have had an international presence, and young start-ups, in a process of generation of new business that is still going on. The bioregion is made up mainly by a diversity of small companies, characterized by their youth, their long maturation periods (and the related financial needs), the existence of highly qualified personnel and gender parity, intensive R&D activity, and the inherent international vision. The sector still has limited economic weight although growing: 75 companies, with a turnover of approximately 375 million euros and employing around 3,000 people.
- The ecosystem is based on a research community that has grown thanks to the generation of new high-level scientific and technological capabilities and investment on existing capacities in this area of RIS3. The annual investment has reached 100 million, with the health system accounting for 45% of the total. Other relevant agents in R&D investment in areas related to health are the CICs (mainly bioGUNE and biomaGUNE), some of the BERCs (structures for generating knowledge in areas of scientific interest; Bizkaia Biophysics Foundation, Achúcarro, BCBL, BCAM), and the Technology Centres. And at universities (one of which includes

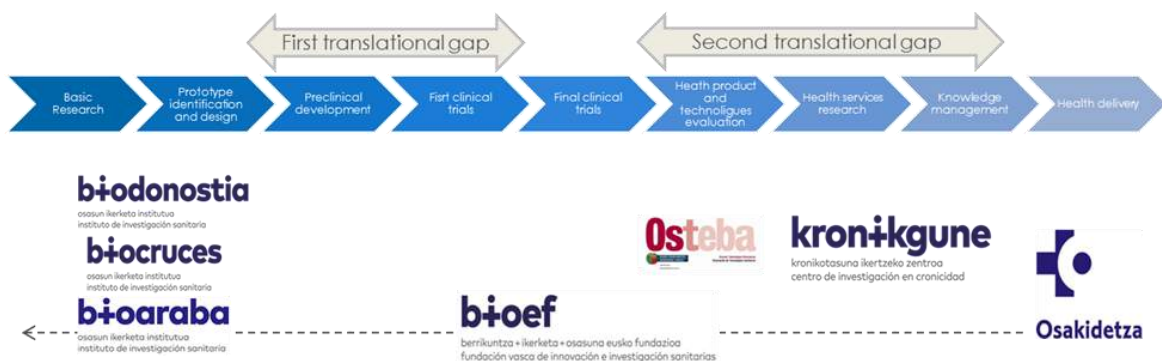
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health professionals and hospitals the field of biosciences-health is precisely the area that concentrates a large part of the resources and research results: 20% of the staff researcher, 27% of publications, 48% of patents, and 10% of spin-offs generated by universities.

- The sector is in an emerging state of clustering, in progression to a new state of growth that requires, among other things, strengthening the connection and collaboration between the different scientific-technological agents, as well as between these and other components in the bioregion, like companies.



In the sector, the health system is an essential partner because of its different facets as a generator, user and purchaser of innovations. And the other elements of the ecosystem, in turn, have the ability to influence the health system. Therefore, the knowledge of the situation The starting point also requires an understanding of the framework for the interaction between the elements, in the context of R&D&I.



### 3.2 Basque Bioregion

Since the 2000's, the Basque Government has been committed to decidedly help promote its regional economic mesh evolution within the continuously changing and increasingly competitive World, so betting on new sectors with high knowledge and innovation components. One defined outcome was its plan, first of its kind in Spain, specifically aimed at the development and growth of the biosciences: the BioBasque Strategy. The plan, under its current design, is chiefly managed and implemented on its executive side by the SPRI Group (the governmental agency for business development).

Bioscience has revealed itself -worldwide- as a sensible field to invest business development efforts into. Risky by nature and typically requiring medium to long maturation terms, but offering high rewards. The Basque Country has promoted and witnessed the emergence of a science and technology community, made of public research centres, university departments, advanced technology alliances and companies, that sets the foundation for the bioregion.

The Basque bio-sector is now, more than ever before, a strategic axis. The Basque bio-companies hone qualities that help improve the economics and welfare of the region, a factor that also makes society more resilient to downturns. They heavily invest in R&D, attract highly qualified professionals and focus on specialized demand with World-wide market footprint.

### 3.3 Health Cluster

A registered non-profit association established October 27th 2010. Its mission is to coordinate, represent, conduct, facilitate and defend the interests shared by its members, in collaboration with public administrations and other bodies relevant in the field of biosciences. As well as to contribute to the development, growth and internationalization of its members and of the biosciences sector in the Basque Country.



One major component is that of health-related (human or animal) biotechnologies, inclusive of drug discovery, development and production, regenerative and personalized medicine, in-vitro assays for diagnosis and prognosis, advanced ophthalmic, immunology, nanotechnologies, services to clinicians, etc. Members' businesses and competences also encompass bio-solutions for agro/food chains and environmental safety, advanced materials and engineering, IT, imaging, turn-key lab/plant construction and systems, among others.

Basque Health Cluster exerts itself to stay a dynamic and open association, striving to bond companies and other organizations whose activities fall in the general "bio" environment. It offers ample kinds of opportunity to perform businesses for those firms,

associations or other bodies wishing to benefit from the know-how and portfolio of the Biocluster's members.

The goals of the Basque Health Cluster reflect those of its members, as by facilitating what concerns the leveraging of synergies via agreements for collaboration, partnering or distribution, or the pursuance of strategic alliances.

The association's sovereign authority resides in its General Members Assembly, which is called and meets by request and is made up of its members' official delegates.

The Assembly elects two organizations, which manage and represent the Association:

- Board of Directors, in charge of the regular management of affairs in between Assemblies.
- Steering Committee (three members of the BoD), which cares after the day-to-day running of the Biocluster.

### 3.4 Interreg supported projects

The Basque Country is taking part in several Interreg projects in the different programmes under the territorial cooperation scheme:

- Spain-France-Andorra Territorial Cooperation Programme  
The Spain-France-Andorra Territorial Cooperation Programme (POCTEFA) is a European cross-border cooperation programme created to promote the sustainable development of the territory of Spain, France and Andorra. POCTEFA 2014-2020 is the fifth generation of community cooperation between the northern and southern slopes of the Pyrenees and their coastal areas.
- Territorial Cooperation Programme of the South-West European Space  
The Southwest European Space Territorial Cooperation Programme (SUDOE) comprises the Spanish, French, Portuguese and British regions (Gibraltar) and aims to contribute to the growth and sustainable development of this Southwest European Space by developing transnational cooperation projects.
- Atlantic Area Territorial Cooperation Programme  
The Atlantic Area Territorial Cooperation Programme covers Ireland, Spain, France, Portugal and the United Kingdom and its main objective is to contribute to the territorial cohesion of the Atlantic Area by strengthening cooperation through the co-financing of transnational projects.
- Interreg Europe Territorial Cooperation Programme  
The Interreg Europe programme is an interregional cooperation programme and covers the entire territory of the European Union, Norway and Switzerland. Its aim is to help European regions to design and implement regional policies and programmes more effectively, in particular the Structural Funds and the

programmes of the EU Investment Funds for Growth and Jobs, but also, where appropriate, the programmes of the European Territorial Cooperation objective of which INTERREG EUROPE itself is a part. The aim of the programme is to do so through the exchange of experience, knowledge and good practice between the main actors in the different regions.

In this sense, like ITHACA, TITTAN is another Interreg Europe project -in which BIOEF takes part as Project Partner-, that aims to tackle the active and healthy ageing challenge, by improving the quality and performance of the European regional healthcare systems in relation with the healthy and active ageing. Its specific objective is to exchange, benchmark and implement good practices and measures in 7 European regions about policies which can foster the design, up-taking and use of innovative technology-based products/solutions.

The TITTAN learning approach is focused on 3 Thematic Areas (TAs): how to uptake innovative health products/services through new public procurement practices (PCP and PPI); how to promote the establishment of innovation ecosystems in the health sector; how to raise citizen´s awareness about using new technologies for improving quality of life.

## 4. Interventions and Implementation Across the Innovation Cycle

### 4.1 The Innovation Cycle in the Basque Country

The Basque Country EEPE introduced visiting delegates to a range of initiatives and interventions that are part of the milieu of approaches to scaling up smart solutions that can help to improve health, care and wellbeing in the city region, support the sustainability of the health and care sector and boost economic growth and the profitability of local SMEs. Some involved efforts to strengthen capacity and resources across the innovation cycle. Some offered support tailored to tackling the specific challenges of the health and care sector and of the region's profile. Others reflected interventions and products that have been developed and implemented within the Basque Country.

### 4.2 Initiatives and Projects

#### **4.2.1 INNOSASUN: Interaction Platform of the Basque Public Health System with companies and other agents for R&D&I activities.**

In 2016, Research and Innovation Strategy in Health 2020 of Basque Government was presented, aiming to achieve the greatest impact of the activities of R&D&I developed by the health system, both internally and in collaboration with third parties (Industry, Research Centers and others technological and educational agents). This impact should be translated into an improvement of citizen's health and an upgrade of the system itself in socioeconomic terms, linking to the Research and Innovation Strategy for Smart Specialization (RIS3).

One of the main actions in this regard is the implementation of INNOSASUN Programme, which was started at the end of 2014. INNOSASUN Programme is a support mechanism to articulate interaction among Basque Public Health System and business sector, meeting needs of both sides and providing an ad hoc support. This activity is enabled by Health System's capacities, knowhow and its extensive and collaborative network, working as innovation ecosystem and living lab.

INNOSASUN Programme is coordinated by the Unit of Relationship with Third Parties within BIOEF, providing support and expertise form Health Research and Innovation network, which comprises Basque Health Department, Basque Public Health System (Osakidetza), Health Research Institutes, Osatek, Kronikgune and socio-sanitary space.

Attending to outside-in innovation, INNOSASUN plays an important role because the interaction of companies and technological agents with the health system facilitates the search for technological partners which have innovative solutions to the needs arising from the Healthcare System. Therefore, INNOSASUN provides adapted support to those unmet needs and born ideas within the Healthcare System working in transferring these needs

and ideas to the industries and research centre of the region to try to engage them in order to provide innovative solutions in a win-win scenario.

Moreover, INNOSASUN works with research centres and industries in reducing the gap between the research and the market by offering several services to external organisms according to the next main activities:

- Advice and guidance in the development of new products/services, acting as facilitator in connecting company and clinicians' point-of-view.
- Coordination and management of demonstration clinical studies, validation and/or cost-effectiveness studies.
- Supply of biological samples, through the Basque Biobank for biomedical research projects.
- Provision of data for market research or other analysis.
- Channelling of needs and/or proposals to other mechanism.



For these reasons, INNOSASUN works in close collaboration with the Technology transfer Office (TTO), which is also part of BIOEF, managing the relationship of the Health System with the companies and other socio-economic agents related to the transfer of research results.

### 4.2.2. EIP on AHA Reference Site; Basque Country 4 Stars Reference Site

The Basque Country has set out a framework for the transfer of innovation knowledge between sectors. Work is in progress to address sustainability and foster innovation in healthcare, promote technological areas related to health with higher capacity for

development, and opportunities for economic growth and employment with the creation of new markets.

The Basque Country is part of the European Association for Innovation in Active and Healthy Aging (EIP on AHA), and is recognised as a Reference Site with the highest rating. Activities cover all pillars of the European strategy reflected in EIP on AHA. As well as assessment of global strategies developed in the Basque Country, some Good Practices and Commitments have been presented:



### ➤ Integrated Care Strategy

Integrated care is a key factor for the Basque healthcare strategy, where work has been underway for several years. In fact, it was presented as good practice in 2013 and awarded with three stars. Since then, the Basque Country has continued to work in this direction playing an active and committed role, and integrated care has continued to develop and make progress with the aim of improving health and quality of life of patients and citizens of the Basque Country, carrying out prevention action, fostering empowerment of patients and creating personalised plans for patients.

This strategy has created an integrated care model focused on people and patients capable of providing continuity of care both at health and social care levels. They have implemented new structures, processes and tools that have allowed us to meet the health needs of patients in the Basque Country, with a high degree of efficacy, efficiency and coordination between healthcare professionals and social workers.

Key components of the Good Practice are:



- the creation of Integrated Care Organisations (ICO);
- integrating communication systems;
- using risk stratification tools and healthcare plans based on the needs of complex patients;
- introducing new nursing roles;
- social-health coordination;
- patient's empowerment and self-care plan; and
- integrated action plans targeted at different groups/population.

### ➤ The Basque Country eHealth strategy

This e-Health strategy supports integrated healthcare to address ageing, chronicity and dependency in the Basque Country. This strategy includes:

- Osarean – this model provides healthcare focused on prevention, follow-up and health advice.
- Osabide Global – is a programme which provides the patient with integral information and where unified Electronic Medical Records (EMR) are stored.
- Osanaia – facilitates: the management of care provided by the nursing department; and setting up and managing personalised nursing care plans; as well as changing plans according to patient's needs.
- Presbide – electronic prescription service provided by a single system for both primary and specialist healthcare.

### ➤ Euskadi Lagunkoia

Euskadi Lagunkoia is an initiative promoted by the Basque Government Department of Employment and Social Policies and the Provincial Council of Bizkaia, launched with the support of Fundación Matia and the University of Deusto. This initiative intends to encourage the participation of the elderly and all citizens in general to improve Basque neighbourhoods, town and cities to achieve friendly environments for the elderly, reorganising structures and services to make them accessible and adapt them to the different needs and skills of individuals.

The aims of this initiative are:

- make the most of elderly people's potential in the life of the Basque Country towns and villages to generate well-being;
- create and foster community participation processes;
- create a network of friendly initiatives in the Basque Country; and
- facilitate the introduction of changes to environments to improve the quality of life of its citizens.

### 4.3 Scaling Up Examples

#### 4.3.1 Euskadi Lagunkoia

Euskadi Lagunkoia is a cross-cutting initiative engaging citizens, public and private sectors to create enabling environments for older people, launched by the Ministry for Employment and Social Policies with Matia Institute.

Euskadi Lagunkoia is a proactive strategy to make living spaces more age-friendly, without physical obstacles and barriers. Its goals are the following:

- Tapping the potential of seniors in villages and cities as welfare generators.
- Promote community participation processes.
- Create a Network of friendly initiatives.
- Facilitate changes in the environments to improve quality of life.

First a Practical guide to implement in municipalities was developed with tools and best practices to build a friendly territory. Baseline assessment was made in 15 towns, with secondary data sources, an Age-Friendly Survey, Citizen forums (345 participants) and other 77 stakeholders involved (Cities Councils, schools, associations, business, etc.).

In a second phase (2015-2016) it was scaled up to 18 new municipalities. In February 2016 joined the network 3 capital (Jun 2016: 36 municipalities involved in total).

In order to promote and develop the project a work plan was established in collaboration with the Federation of Retirees and Pensioners of the Basque Country (FEDERPEN). In this way, in new municipalities the elderly associations have created self-managed groups for carrying out the qualitative assessment through meetings and citizens forums, promoting empowerment and leadership to older persons.

Nowadays, more than 50 City councils, 4 Government Departments, 37 Elderly Associations, 24 Schools, 82 Business and 49 others are involved, implementing several actions such as:

- Age-friendly Business: The initiative provides educational and self-assessment materials to participating businesses to facilitate development. Information also includes how businesses can provide quality service for older adults that are affected by loss of mobility, vision and hearing impairments and dementia. The educational course was piloted in 6 municipalities and 82 businesses involved.
- Dementia Friendly Community Guide: Dementia Friendly Guide aims citizen awareness and guidelines on how to help people with dementia in their daily life. The Guide was launched with the collaboration of the Alzheimer Associations of the Basque Country on the World Alzheimer's Day (September 21st, 2015). This guide was distributed in all municipalities involved in Euskadi Lagunkoia (social centres, health centres, cultural centres, etc.) and other municipalities and stakeholders interested (20.000 hard copies)
- Time Bank: To promote communication and mutual support among neighbours and time swap. 1 town involved.

- Age-Friendly places: Working groups led by people of all ages in order to detect improvement proposals, recover public spaces, encourage citizen participation and strengthen social networks in the neighbourhood. Supplemented for mapping places by citizenship. 1 town 23 participants.
- Legacy: Intangible cultural heritage transmission by the older people. 12 (9 online) documentary videos (5'). 2646 views.  
SUBS in EN: <https://vimeo.com/94079856>
- Web platform Euskadi Lagunkoia: With the aims to share good practices, documents, guides and news; and to promote the participation 2.0 by the blog section, Bank of time and AF Mapping.
  - o <http://euskadilagunkoia.net/es/>
  - o <https://www.facebook.com/euskadilagunkoia>
  - o <https://twitter.com/euskadilagunkoi>
  - o <https://vimeo.com/channels/740257>

### 4.3.2 Act@Scale project



Osakidetza and Kronikgune take part as Project Partners in the ACT@Scale project. The overall goal for ACT@Scale is to identify, transfer and scale up existing and operational Care Coordination and Telehealth good practices.

ACT@Scale taps into experiences from successful real life deployment projects in 5 European regions and moves beyond condition specific areas by focusing on how innovative healthcare solutions are scaled up successfully on an organisational level. By using indicators to assess real world services and linking drivers and outcomes, ACT@Scale will provide guidance on changing care service delivery in European regions and beyond.

ACT@Scale consolidates identified best practice Care Coordination and Telehealth concepts that can be leveraged by the participating regions but also transferred to other regions.

#### 4.3.2.1 Telemonitoring services for Congestive Heart Failure

In this case, the initial situation is as follows:

Telemonitoring services for Congestive Heart Failure have a formal risk stratification approach used to identify and select patients at individual level. This risk stratification approach is fully implemented. A descriptive method is used to formal target, identify and select a patient. It is based on rules-based thresholds for certain parameters or pre-established decision criteria that describe a high-risk patient. There is no Population Risk Stratification tool used, only Yale Index (individual clinical assessment).

The Program does not define different interventions according to different levels of risks in the target Population Group. There may be some specific clinical decisions according to patient's evolution but not a formal care plan. Diagnosis, severity, patient-level clinical requirements, specific characteristics are taken into account to match specific interventions to patient's needs. The care plan includes usual care, reactive to patient demand. It includes the full range of patient care options that a clinician can provide or offer to meet an individual patient's needs, such as medication reviews, referral to specialist, social care, rehabilitation and community nursing services (episode centred).

There is ICT support for care plan delivery, follow-up and event handling. It fosters patient empowerment and self-management, facilitates remote supervision, supports health professionals in decision making process and facilitates collaboration among professionals across healthcare levels.

As a first step, a description, identification and selection of patients is defined. Secondly, services responding to patients needs are set and then the "on-boarding" of the required professionals and services.

Afterwards, the driver to facilitate the scaling-up of the "Integrated care for multimorbid patients" program is chosen. In this case: Optimization of recruitment, service selection and service dynamic adaptation, and a multidisciplinary team is set. Next up improvement areas are defined:

- The multidisciplinary working team has defined several improvement areas that include weak communication between professionals, lack of leadership, poor capacity to redefine care pathways, low participation of patients and caregivers etc.

Objectives and the change package (interventions) together with some indicators are set, and a 2 PDSA cycle (one per year) methodology is applied.

The interventions to be carried out are the following:

1. Define the most relevant clinical variables as well as social features and include them in stratification
2. Plan, program scripts and run the stratification's update in a 6-month basis
3. Integrate the patient's health, social and mental health information in the Electronic health Record
4. Make available the resources required (technological tools, clinical guidelines, training) and create reconciled and personalized care plans (including patient's and caregiver's perspectives) available for all stakeholders
5. Define and agree on the inclusion criteria to provide patient and/or caregivers with the monitoring service (telemonitoring, Personal Health Folder, phone-based follow-up) which best fits his/her capacities and disease phase.

Improvement actions to adapt or adopt are defined. In this case:

- Criteria to identify unstable patients and to provide patient and/or caregivers with the most suitable monitoring service
- Creation of personalized care plans

- Staff training on case selection and evaluation, and care plan formulation, follow-up and adaptation.

This scaling up process is still ongoing, developing more improvement actions such as;

- Create and implement a structured empowerment programme (sessions, contents, material and ICT tools) for patients with HF for all Osakidetza organisations
- Regular review and validation of standardised training materials for patients and professionals
- Develop an “Active Patient” programme for heart failure

Agree and share questionnaires, scales and standard forms in primary care and hospitals, to monitor the empowerment of patients and carers.

### *4.3.2.2 Multimorbid Population Integrated Intervention; Integrated care pathway for multimorbid patients*

In this example, at the beginning the situation is as follows:

The Population Integrated Intervention Program has a formal risk stratification approach used to identify and select patient, at individual and population level. It is highly implemented. Clinical criteria and predictive tool are used to formally target, identify and select patients. The Population Risk Stratification tool used is the Adjusted Clinical Groups Predictive Model (ACG-PM). Healthcare professionals can identify individual stratified patients on their health records and suggest changes. The re-stratification frequency is over 12 months.

The Program defines different interventions according to different levels of risks. Different care levels intervene depending of the group risk, and specific workflows are defined for different groups' risk. There is not a formal individualized Patient Care Plan. There may be some specific clinical decisions according to patient's evolution but not a formal care plan. Diagnosis, severity and patient-level clinical are taken into account to match specific interventions to the patient's needs.

Firstly, a description, identification and selection of patients is defined. Secondly, services responding to patients needs are set an then the "on-boarding" of the required professionals and services.

Afterwards, the driver to facilitate the scaling-up of the “Integrated care for multimorbid patients” program is chosen. In this case: Optimization of recruitment, service selection and service dynamic adaptation, and a multidisciplinary team is set. Next up improvement areas are defined:

- The multidisciplinary working team defined several improvement areas that include resistance to change, labour instability, lack of time of professionals, weak training of professionals, lack of leadership, low participation of patients and caregivers etc.

Objectives and the change package (interventions) together with some indicators are set, and a 2 PDSA cycle (one per year) methodology is applied.

Improvement actions to adapt or adopt are defined. In this case:

- Clear definition of care pathways and roles
- Creation of personalized care plans
- Staff training on stratification tools

As a result, an integrated care pathway for multimorbid patients has been generated and it has been deployed in all the ICOs in the Basque Country.

## 5. Peer Evaluation Process, Feedback and Recommendations

### 5.1 Peer Evaluation Process

The Basque Country EEPE event involved diverse stakeholders from across the region's ecosystem. It showcased the strategic and policy context, the shape of the ecosystem and the range of interventions and innovations across, and to strengthen, the regional innovation cycle for health, care and well-being. This final section of the case study presents the findings from the exchange of experience and peer evaluation process and sets out recommendations, for the Basque Country (and particularly the regional ITHACA Stakeholder Group) and for the wider ITHACA partnership, that derive from them.

Visiting delegates to the EEPE in the Basque Country acted as an "evaluation and feedback team" who observed and provided structured feedback to the hosts about what they saw and learnt at the EEPE. This was delivered at two stages. Firstly, during a verbal peer evaluation feedback session in the final afternoon of the EEPE and, subsequently, in written reports.

Visiting delegates were asked to provide feedback on one of five themes. All themes were covered by the delegations. The key themes were:

- Policies, priorities, objectives and aims
- Eco-systems and clusters
- Implementation across the innovation cycle
- Innovation in policy and practice, dissemination and transferability
- Evaluation and impact.

For each theme, delegates' peer evaluation reviews focused on:

- What the host region has done
- Strengths, areas for improvement and gaps
- Good practices - and potential for transferability
- Lessons learnt and their implications
- Recommendations for the host region
- Recommendations for other ITHACA regions.

### 5.1 Peer Evaluation Feedback and Recommendations

#### 5.2.1 Policies, priorities, objectives and aims

Delegates highlighted that health is among the national priorities; EHealth strategy and its development plans are convincing; ICT infrastructure for eHealth is centralized, EHR

unified and integrated (health and social). Healthy aging & quality of life is among 3 priorities of the Basque country.

The strengths they appreciated were:

- Good governance structure
- High quality of life in the Basque Country (BC)
- Capacity of creating and setting up a clear structure to implement the policies in innovation and research sector giving to all actors a clear rule and creating a body to coordinate all the actors.
- Considerable independence level, freedom in innovation policy
- New industry
- Innovation focused on hospitals, medical solutions

The peers mentioned the following areas of improvements:

- Social sector innovation was missing, not presented during the visit, and also health promotion and disease prevention activities have been missing during the meeting.
- Looks like it is very Hospital/Medical solutions focused. Problems about not systemized social care were not shared.

### **Recommendations for the Basque Country:**

- Social care is not systemized in the region, and in regions where it is very systemized are facing problems. It should be taken into account since it is well organized now, but it can be a problem in the future.
- Do not focus only on the hospital part to face the financial sustainability challenge.
- The health market is broader than just the Basque market. There is a need of knowledge about the market in a broad sense. A broader market-focus would be recommendable (more international collaboration), and focus on the hospital market.
- Social Care; people will not take care very much for each other in the future because a lot of family carers are in the working system, and they can fall out from the caring system in the future. This represents a challenge to be addressed in the near future.

### **Recommendations for ITHACA partners:**

- A change of mind regarding the nursing homes for elderly is necessary; these are not places where they are going to cross the door by last time. Break this thought, the life project is not over.



### 5.2.2 Implementation Across the Innovation Cycle

#### What the host region has done; summary:

The region has been self-defined as a big little country, a Competitiveness-Pole where smart specialization in energy, advanced manufacturing and bioscience-health have become the Basque Country's main focus for the forthcoming decades.

The Basque Country is a Strong Innovator Region according to EU (Regional Scoreboard 2016), counting on the Basque Technology Consortium including:

- Cooperative (CIC)
- Technology Platforms (Tecnalia & IK4)
- Basic & Excellence Research (BERC)
- Technology Parks
- Incubators
- Research
- Hospitals

As a big little country, it has many organizational structures being sometimes fragmented, but where people are aware of what's going on with a strong R+D development commitment.

#### Additional feedback:

- There are mechanisms in place to promote Basque R&D capacities and to exploit R&D potentials that the country has.
- Vocational training is an efficient horizontal activity supporting all verticals

#### Strengths

- Strong region in research, with a strong R&D infrastructure, and many people working in research
- Very organized (plans, structures, strategies) and aligned
- Clear focus on bioscience and health, creating a critical mass
- Kronikgune: as a research organization alligned with Osakidetza, the Basque Public Health Service.

#### Areas for improvement

- Big efforts are made on the first part of the innovation cycles, but not in how to implement them in real life; how to scale up.
- Fragmented little big country; many organisations and structures, but fragmented.
- No real coordination for living-labs (having clinical trial services is not a living lab real approach).

### Gaps

- No clues to know real people/patients are involved in the creation processes.
- Living Labs; Involved professionals, but... lack of knowledge about how to attract people.
- Difficulties scaling up to the social sector
- Big efforts but what kind of efforts are put to scale up and implement the solutions and innovations found in the research?. How are the innovations and inventions scaled up? Kronikgune, as a research organization, supports it (organisational innovation, including technology), but not with the social sector, that is a gap.

### **Recommendations for the Basque Country:**

- Up scaling examples are missing. It would be interesting to have an insight of them.  
*See 4.3 section*

### **Recommendations for ITHACA partners:**

- Align the research and innovation priorities directly with the health- and social-care organisations, and look for the support of the front line professionals and policy makers.
- European projects' funding is not the tool to change the management of the care system.
- When policy makers and front line professionals feel that projects are a need, everything goes smoother.

### **5.2.3 Eco-Systems and Clusters**

The region has had a specific bioscience policy since 2001/2 and government support, with a pro-business orientation, demand-side philosophy, and experienced in public-private partnerships, counting on more than 120 life sciences companies, 20 research centres and universities, 6 leading hospitals, with a 20% growth in the sector.

A unique blend of converging technologies, know-how and interdisciplinary underpin biosciences-health sector development.

The initial objective has been to develop a new business sector in the Basque Country related to biosciences, with an integrated approach built around three axes; knowledge

generation, business development and dynamisation, and with the mission to establish a biocluster sector capable of competing internationally.

Delegates supported the following aspects:

- The policy for clusters, for building capacity is strong. A big number of people involved; good eco-system building.
- There is a very developed regional Innovation Strategy preparation process.
- The structure of the working groups in the RIS3 strategy, where many steering groups are in hands of the industry . Strong connection between policy and companies.
- Vocational multi-level education

Peer evaluators found the following gaps:

- User centered innovation is missing
- Social innovation is missing

### Recommendations for the Basque Country:

- Transfer innovation and creativity units from Cruces to other hospitals
- Include the end user perspective; it is missing (business companies, industry...)
- Define better “collaborative innovation” (does it refer to the social area? Does it mean innovation in a broader partnership?)
- Explain better how the system is governed, there are a lot of actors working together in the system at the same time. *See 2.1 section*

### Recommendations for ITHACA partners:

It is recommended that:

- Explain better the structure, its governance, funding...; how are all organization connected?
- Explain the funding schemes for the eco-system
- Transferability of creative processes from setting to setting should be analysed.
- Define why innovation is being made; to be innovative? Or because there is a need?
- Show more practical things like the 3D printing (“see and touch” helps understanding).

*Other examples of practical development can be found in the collaboration between Hospital of Gorniz and the research centre Tecnalía, collaborating in a project to evaluate and find applications of the "Varstiff" technology in the field of palliative care. "Varstiff" is an intelligent fabric developed by Tecnalía through the FIK initiative capable of varying its hardness according to the vacuum it is subjected to. A new restraint system for wheelchair patients with hemiplegia who are unable to maintain upright trunk posture while seated could be developed through this partnership. An assistive robot for the rehabilitation of the upper limbs in people with neuromuscular impairment known as ArmAssist has been also developed under this scheme, protected by two patents.*

### 5.2.4 Innovation in Policy and Practice, Dissemination and Transferability

#### What the host region has done; summary:

The Basque Country has set out a framework for the transfer of innovation knowledge between sectors. Work is in progress to address sustainability and foster innovation in healthcare, promote technological areas related to health with higher capacity for development, and opportunities for economic growth and employment with the creation of new markets.

The science, technology and innovation plan 2015 was defined to revitalise sustainable economic growth, employment and well-being of the Basque Country by boosting science, technology and innovation activities based on the smart specialisation and the efficiency of the Science, Technology and Innovation System. It is framed under two other strategies and plans: the Europe 2020 Strategy and the RIS3 strategy. The plan foresees a public-private investment of €11.1m between 2014 and 2020. A third part will come from public sources and the rest will come from private sources, mainly from firms and for the development of R&D projects.

The Science, Technology and Innovation Plan (PCTI) Euskadi 2020 seeks to position the Basque Country as an innovation and research benchmark in Europe. Its mission is to improve wellbeing, sustainable economic growth and employment by means of an innovation and research policy based on smart specialisation and on making the Basque science, technology and innovation system more efficient.

#### Additional feedback:

- There is a lot of innovation activities going on in the country. It was not convincingly presented that they are and how they are implemented. What is an impact of these activities? How many have found its place in the Basque industry?
- Social innovations are missing or were not in the focus of the presentations.

### Strengths

- Data sharing unified system
- Clear political decisions and commitment
- Strong support to business and research
- Unified data sharing system (EHR)
- Good health ecosystem
- Grants supporting young talents to go in the working market

### Areas for improvement

- What are the plans for the innovation in the future?
- Boost innovation further

### Gaps

- Impact of innovation and how to transfer/scale up is missing
- Which are the achievements of the innovation?
- Citizens' participation is missing. How are they included?

### **Recommendations for the Basque Country:**

- Facilitate time to GPs to be involved in research projects.

### **Recommendations for ITHACA partners:**

- Move forward from an "egosystem" to an ecosystem, breaking down silos.
- Boost transferability.
- There is usually less innovation in prevention; do not underestimate it.

## **5.2.5 Evaluation and Impact**

The feedback received points to the following:

- There are good strategies, scores & evaluations on innovation performance in the region in general (e.g. in terms of achieving plans as defined by Basque country's smart specialisation strategy) (but lack on health&care-specific goals)
- Innosasun Programme is valuable because of the possibility to conduct clinical validations of innovative technologies, including assessment of market readiness;

- QoL aspects: It would be great to see a concrete example of a typical validation – resources, process, results... (outside-in innovation);
- Baliosasun Programme is even more valuable because of the inside-out innovation approach (i.e. driven by the patients who are in the middle of the focus).
  - Big Data RIS3 bioscience-health working group: established methodology for big data analyses. They are trying to establish this methodology as official one (high potential for transferability).
  - Cruces hospital: great to know that one of the most strategic projects is ICHOM (International Consortium for Health Outcomes Measurement) with the aim of measuring and reporting patient outcomes in a standardized way (addressing questions like what patients' life will be like after treatment, will they be able to return to work and to care of themselves). Positive that they included first one medical condition (stroke) and other conditions will follow. Good to know that all the instruments are publicly available but help from consultants familiar with this standard is needed.
  - 3 tools to assess 3 aspects of integrated care (by professionals):
    - o program agreement (level of integrated care between primary and hospital level, level of social coordination in nursery homes, level of coordination over complex patients),
    - o chronicity (IEMAC),
    - o collaboration (D'AMOUR – 10 indicators measuring the intensity of collaboration in terms of governance, formalization, internalization, shared goals and visions).
  - Ageing On: Assessment of physical exercise intervention (physical, cognitive, psychological, clinical outcomes): RCT, 112 participants from 10 nursing homes, aged 70+.

### Strengths

- Big data RIS3 group – applying an official strategy
- Innosasun programme is very valuable
- Most innovative region in Spain

### Areas for improvement

- Define who is responsible for what kind of tasks and for which measurable indicators
- Transfer and translate the research results to the users and industry
- Set up the urgency for the innovation; for what?
- Ways to prioritize different chronic/medical conditions, and healthcare technologies
- More user centred approaches
- What is the benefit that users have?
- The focus is on lots of strategies, but less is activities
- Tools to measure Integrated Care; there are 3, but all of them made by professionals. Where is the patients' perspective? / Vision?

### Gaps

- Business cases were missing
- Impact assessment is missing
- Patient's perspective is not included

### **Recommendations for the Basque Country:**

- Deploy prioritisation strategies for chronic/medical conditions and healthcare technologies so that it facilitates decision to better choose and invest.
- There is quite good evaluation of innovation performance in general, but less on health and care specifically. Try to define and measure these indicators.
- *More evaluation and impact evidences can be found below:*
  - *CareWell project (Multi-level integration for patients with complex needs), Co-funded by the ICT Policy Support Programme and coordinated by the Basque Country, pursued the delivery of integrated healthcare to frail elderly patients through comprehensive multidisciplinary programmes. ICTs facilitate the coordination and communication of healthcare professionals and support patient centred delivery of care at home. The project supported the integration of care in six European Regions. Detailed outcomes and final evaluation for the Basque Country deployment site considers a total sample of 200 individuals recruited; with 101 subjects included in the intervention group. A very low rate of losses of follow up was observed in this sample, being higher in the intervention than in the control group. Some clinical changes were observed in the intervention group, namely, a reduction in Body Mass Index, systolic blood pressure, and the level of blood glucose. Other expected changes were not observed, such as a decrease in glycosylated haemoglobin. The changes were observed in the intervention group, but the difference was not enough to show significant differences between intervention and control group. Changes were also observed in the Barthel index, but were similar in both groups, and cannot be attributed to the intervention. A change in the profile of the use of services was observed in the study. For the intervention group, the corner stone is the role of the primary care services, with a higher number of visits to the GP and a lower number of visits to ER and hospital admissions. Finally, participants of both groups felt that over the time their needs are better assessed, and their role and that of their families increased its relevance.*
  - *For the above mentioned ACT@Scale project, several outcome and process indicators have been developed and used to measure several elements such as; resources, services, integrated care, effectiveness, security equity and efficiency. Some examples of them are; "Number of home visits of care.*

*professionals per pluripathological patient”, “Percentage of pluripathological patients who have entered palliative care with the corresponding coding (ICD-10 and ICD-9)”, “Programmed hospitalization rate of pluripathological patients”, or “Hospitalization costs”. Patient Activation Measure (PAM) showing degree of agreement among caregivers, patients..., for statements about the impact that their medical condition has on their life and well-being is also being used,*

### **Recommendations for ITHACA partners:**

- Transfer and translate research results to the users and industry.
- Try to look for the answer for the following question; what do we innovate for, what do we want to achieve?
- Conduct more evaluations and impact assessment studies to prioritise better and decide easier.
- Focus on health and not in illness and medicalisation.