Patient-centred health innovation with an economic growth

4D Cities Final Report

March 2015
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Today cities face new challenges in new environments that require local administrations to adopt different roles, among them undertaking cross-cutting coordination and invigoration of policy areas that involve all related agents in a given theme.

The health area has mostly been associated to healthy lives of the population, but it is less often approached from the view of integrating all agents (the learning and knowledge sector, private companies, the health system and the citizens) in patient-centred policies, as it has been raised by WHO and the European Commission in a number of reports and publications. In the 4D Cities project we have introduced this perspective in the development of new integrated solutions that promote Health Innovation in the local context.

I would like to thank the URBACT programme for giving us the opportunity to participate in this learning and exchange project with other European partners. This is an extremely useful tool for us policy-makers to help deciding and defining strategies in our cities.

I also wish to thank all project partners for their involvement, their work in close cooperation with other cities and their valuable contributions along the project. This has been a good teamwork that broadened our views and enriched our local projects.

This 4D Cities Final Report reflects on the knowledge acquired over the project period. It contains key learning, policy recommendations and the plans developed by the project partners and their local groups. We expect that the content included is of interest to other cities involved in promoting integrated policies in the field of innovation in health.
I. Presentation

The cities of Igualada (Catalonia, Spain), as the Lead Partner, Baia Sprie (Romania), Eindhoven (Netherlands), Jena (Germany), Leeds (UK), Novara (Italy), Plunge (Lithuania) and Tartu (Estonia) compose the URBACT II 4D Cities network.

The focus of the 4D Cities project is Health Innovation with an economic growth in the local context. Eight partners came together to share best practices, local policies and governance tools with regards to Health Innovation as they conceive it in their respective locations.

The network objective has focused on identifying the potential for local governments to promote the uptake of innovation practices by the Health sector, placing the citizens at the core of a health development model while, at the same time facilitating local economic growth. Central to the project is the key role of local decision-makers in fostering the integration of public policies and the development of new governance. Both horizontally with the municipal services and vertically, by joining forces with higher levels of administration.

This is the final report of the project, for capitalisation purposes. The main outcomes and key policy guidelines are collected whilst the eight cities present their projects, in the form of Local Action Plans. These plans were developed in cooperation with their local groups and with the support and expertise of the 4D Cities project partners.
II. Health Innovation in the City. State of the Art

Introduction

In the 4D Cities project, Health Innovation does not have a primarily technological connotation. Tech innovation in the medical field is generally pursued by the research and scientific institutions. In 4D Cities, partners addressed Health Innovation from a broader sense of the term. This involves the reorganisation and restructuring of local health systems, changes in health care services delivery and engagement of local health stakeholders, particularly patients. All of which contributes to the process of modernising and connecting the health system to a broader ring of health related actors in the city and abroad.

They ambition to bring together two apparently conflicting goals: the enhancement of the local health sector in favour of citizens’ wellbeing and the health sector as a source of local economic growth. Their proposals are innovative in ways that make it advantageous for citizens, attractive for companies, cost-effective for the health services, and catalytic for new research and knowledge. Counting on inputs from a wide range of health stakeholders, they create virtuous circles in their cities.

Each partner of the 4D Cities network is advancing a different model in Health Innovation. The 4 Dimensions involved in the project, from the perspective of the Quadruple Helix, are at different levels of progress in every city. Equally, the unique compositions of local environments differ from one partner to another, all this giving eight unique city profiles.

Below is the breakdown of the 4 Dimensions and their components along with the picture of the 4D Cities project scheme:
health sector with the most suitable workforce. Finally living labs, hospital simulators, and other public-private initiatives of experiential training reinforce the quality of the education provided in health. Igualada is an example with its 4D Health Innovation Simulation Centre.

- **Citizens**: People and their knowledge are assets in their own right. This can include patients, health services users, relatives, carers, expert patients, patients associations, community support groups, volunteers, self-help and religious groups and more. Leeds has provided remarkable examples of these local assets and the key role they play in innovative health approaches.

**NEW ENVIRONMENT**

- **Knowledge-Professional training**
  - Universities
  - Professionals
  - Training centres

- **Companys**
  - Business association
  - Innovation companies
  - Scientific parks
  - Chamber of commerce
  - Social companies

- **Health system**
  - Hospitals
  - Health care centres
  - Emergencies
  - Public health polices
  - Veterinary

- **Local government**

- **Citizens**
  - Patients association
  - Collectives association
  - Public administration
    - Health
    - Innovation
    - Education
  - Social Services

**NEW CHALLENGES**

- New jobs, new skills
- Citizen implication through new agents interaction – Legitimation

Summary diagram of the 4D Cities approach and stakeholders
Health Trends with a Local Impact

To contextualise the project and the innovation strategies based in the local health sector, it is worthwhile to present recent and relevant health trends in Europe, as they have a direct impact on cities. They are also depicted in the infographics included.

Stress Factors

The healthcare sector is one of the largest in the EU, both in terms of public budget spending and with regard to the generated economic activity. It absorbs increasing shares of public budgets, that is, almost 15% of public spending in average EU countries. Public health structures are becoming unsustainable in many countries as keeping up with the increasing demand of care services quality standards is becoming complex and costly. On average, public budgets finance almost 75% of health systems in European countries.

In Europe, 72% of people live in urban areas. The responsibility of the local governments for their citizens’ wellbeing is creating pressure on the public budgets and challenging local policy-making. Citizens’ demands for more suitable solutions and for participation are altering old models of governance, also in health. Engagement of local groups in sector policies is becoming a common practice. In welfare provision, local councils are responsible for an important share of health and social care services and expenditure. We have seen that a number of European countries including The Netherlands and the UK are experiencing decentralisation of health competences towards the local governments. Thus programmes are being decided closely to the patients and the users.

Ageing societies are straining the correlation between patients’ needs and services structure. 18% of the European population is 65 years or older and this percentage is projected to increase up to 25% by 2030. Many of the care services required to meet these population health and care needs are being delivered at the local and community level and it is becoming apparent that services to assist older citizens will require a focus on broad personal care, rather than hospital attention.

Along with ageing, another major trend is chronic diseases. There is an increased prevalence of chronic and non-communicable diseases, the reasons are twofold: medical and biomedical research have allowed former life threatening diseases to be treated and become chronic; but also diet and people’s lifestyles bring a new range of illnesses. This has completely changed the way to address illnesses and the way professionals communicate and interact with patients in health centres. Personalised care and monitoring of patients is undertaken by primary health care centres and by care professionals at home.

To illustrate this trend with an example, one of the most prevalent diseases in western countries is diabetes: 32 million adults aged 20-79 years old had diabetes in the EU in 2013 (6% of the population in this age group) and it is projected to reach around 38 million by 2035. A total of 100 billions of health spending in 2013 was to prevent and treat diabetes and its complications.

Other major affections with increasing impact in health delivery services and budgets: Cardiovascular diseases represent 40% of mortality causes (in 2011 a single bypass cost 13.800€). A hip replacement, one of the most common surgical operations in developed countries, has wide prevalence among the elderly (and the cost is of

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6.800€ average). Hypertension, accounts for a 13% of mortality in the world. Cancer is accountable for 26% of mortality causes and it involves intensive care and medication, and essentially, a great loss of human capital.

Consumption of pharmaceuticals has increased partly driven by growing demand for drugs to treat ageing-related and chronic diseases. For example, antihypertensive medication nearly doubled between 2000 and 2012 on average in EU countries and cholesterol-lowering drugs have more than tripled across the EU from 2000 to 2012.

Knowledge and research in the medical field have progressed to reach the highest technical excellence ever. High specialisation of medical knowledge has allowed to have more personalised diagnosis and treatment. Cutting edge drugs, treatment, technologies and scientific advances are improving health conditions and people’s wellbeing. However, the cost of it all is overriding the capacity of welfare provision, politicians and experts say. If we expect a change in the ever-increasing trend of disease, treatment and spending, then things need to be done differently. Focus has to be put on prevention-education-wellbeing avoiding medical dependency as much as possible.

Positive trends

The healthcare sector does not only challenge the local policies and budgets with straining factors, it may also be a source of opportunities and income for the city.

The health sector is responsible for approximately 10% of the EU GDP. This can be translated into economic activity that concentrates regionally and locally. The health sector is also a major purchase unit, generating demand through substantial public procurement (health public procurement is 12% of total EU purchases). It also brings about tangent economic activity by servicing a large portion of the population.

The health sector is a major employer since it engages about 7% of European workers (more than 15 million people). In a city with a hospital, they are usually the largest employer of the local population. Also, the health sector accounts for a higher average of upper-level educated workers than other sectors: 40% of health and social work sector have tertiary qualifications, while the average across all sectors is 26%.

Between 2008 and 2011, in the midst of the financial and economic recession, EU countries lost more than 2,5 million jobs. In the same period the healthcare sector generated over 2,8 million new jobs. Projections state that a total of 8 million job vacancies are estimated by 2020, mostly in the area of healthcare needs, which represents a shortage of healthcare workers in the EU leading to a 15% gap in care coverage.
Health offers opportunities for economic development in a number of sub-sectors. Health-related ICTs (telemedicine and telecare) and the European medical device industry are important. The medical device industry alone has a total turnover of more than 70€ billion, with 80% of the companies being SMEs (approximately 7,000).

Finally, we identified as a relevant trend in Europe, the increased mobility of citizens and patients. 20 million Europeans received medical treatment in another EU country in 2010. This gives an idea of the potential that some cities have in seeking health specialisation while also offering supplementary activities in wellness and the health tourism sectors.

The European Context in Support of Health Innovation

The EU is putting a lot of attention on the impact of lifestyles, consumption and behaviour habits as a way to improve the health of individuals, reduce the cost of the public health care bill and to improve labour market participation. Relevant European documents focus on the importance of the health sector and determine its relevance as a major growth driver and as a key source of wellbeing for the population.

The Seventh Framework Programme and the EU Programme for Research and Innovation for 2014 to 2020, Horizon 2020, provide financial opportunities to address the societal challenge of an ageing population and embed innovation in public health and the management of health systems.

The Commission proposals for the next programming period (2014–2020) provide for the support of the Cohesion and Structural Funds to incentivise member states’ investments in health. This topic is included in most of the thematic objectives of the Common Strategic Framework. It foresees investment in health infrastructure that fosters a transformational change in the health system, in particular reinforcing the shift from a hospital-centred model to community-based care and integrated services.

It also mentions improving access to affordable, sustainable and high-quality healthcare; supporting the adaptation, up-skilling and life-long learning of the health workforce and fostering active, healthy ageing to promote employability and enable people to stay active for longer.
The EU Health for Growth Programme (2014-2020) sees the health sector as an economic opportunity and proposes to develop innovative and sustainable health systems. Also the EU Strategy Health 2020 as well as specific funding calls are giving financial support for innovative health initiatives.

One of the focal points of the EU health strategy is ageing. The European Innovation Partnership on Active and Healthy Ageing (EIP-AHA) of which our partner Eindhoven is a very active member, is an ambitious strategy that promotes innovation in this area. Ageing is seen as an innovation opportunity since it requires innovative solutions to address major age-prevalent chronic diseases, integrated care delivery systems, independent living and social inclusion.

ICTs applied to the health sector have been acknowledged as an increasingly central topic in tackling dependency: Redesigning e-health in Europe for 2020 report, issued from the 10th High Level e-Health Conference (Copenhagen, May 2012), addressed smart health. ICT companies are usually young and dynamic start-ups, which are well adapted to the new health-based market.

With regards to innovation at the municipal level, EUROCITIES distinguished three different types of innovation: Market innovation, referred to the development of products and services to improve economic performance; Public innovation, comprising public sector efficiency and cost effectiveness; and Social Innovation, understood as the development and implementation of new ideas to meet social needs. In general, Social Innovation is an important focus of the 4D Cities project and a topic that is gathering much attention from the Commission too.

This report intends to summarise a list of actions, tools and policies that can be promoted by the cities and health stakeholders to make the health sector an economic driver for the city, taking advantage of the above-mentioned positive trends and with an innovative approach.
III. European Health in Figures

**Spending**
- 9.3% GDP (OECD 2012)
- 15% Public spending

**Source of Funding**
- 73% Public Health Financing
- 27% Private Insurance

**Health Trends**
  - 2002: 18%
  - 2012: 16%
  - 2030: 25%

**Dependency**
- 7% Europeans 60+ years suffer from dementia

**Cardiovascular Diseases**
- 40% of mortality

**Diabetes**
- 6% Europeans 25-79 years had diabetes (2015)

**Cholesterol**
- 2000 vs 2013: Drug use X3

**Obesity**
- Affects 1/6 adults (16.7%) in the EU

**Cancer**
- 26% of mortality caused by cancer

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IV. Key Findings from the 4D Cities Exchange

Quadruple Helix Approach in Health Innovation

Urban challenges are highly interrelated and require new and integrated governance and policies. That is why strategies planned from a quadruple helix perspective with all relevant stakeholders involved and contributing, are more likely to achieve a consensual, solid and innovative strategy.

It is true that putting diverse local actors to cooperate can be, and it is, a source of conflicting interests and opposing views. In a local health ecosystem, economic actors, mainly health sector related companies, look for business opportunities while minimising their risks; knowledge and education institutions, including university, secondary, life-long learning programmes, want to have more and better students and keep good standards of research outputs; what citizens expect, particularly patients, carers and relatives is good access to safe and quality services; finally health professionals, from the specialised surgeon to the home care nurse, want good working conditions and professional opportunities. Local policy-makers should be committed to harmonise, coordinate and monitor all these interests and encourage participative efforts for the sake of a local development of the health sector that is sustainable and responds to everyone’s needs and expectations.

In a project of Health Innovation in the context of a city we have learned that all local health actors need to interact to identify challenges and share knowledge. The role of the political leaders is to anticipate future scenarios and generate the pre-conditions for economic growth emerging from health sector based innovation. The local government plays a central role in fostering positive relations among the local health stakeholders and controls new governance conditions to achieve sustainability. Only by doing things differently will we obtain different outcomes. Thus, we need to innovate in health to overcome the sector crisis, to reach a more efficient, safe and humane health standard, as well as to remain competitive.

4D Cities project findings are organised here according to the above-mentioned 4 Dimensions of the local helix and the set of cross-interactions among the groups of stakeholders. This key findings section captures the main ideas with regards to what works in Health Innovation projects from this comprehensive view.
Business Sector Performance in Local Based Health Innovation

A number of the 4D Cities partners come from successful track records in medical, bio-technological research and innovation. After the learning and exchange experience, what the 4D Cities project has made clear to all partners is the importance of **citizens as a central element in Health Innovation**. Recent health and population trends have changed the perspective from a technological approach to a more socially balanced innovation in the health sector. The increasing social and care needs of an ageing population, the highest rates ever of non-transmittable and chronic diseases, the impact of diet habits and lifestyle have all changed the needs and priorities in product and service design.

As a consequence, **new research and business models** are required to adapt to this new scenario. Because behaviour is a key component in health, companies from the medical sector need to be more “social” in their search of new products and services. The technology industry applied to health (eHealth, mHealth, etc.) is booming, however, high rates of investments can be spent with poor results if the technology is not adapted to the user. In collaboration with knowledge institutions, experiential tools like living labs, hospital simulators and experiential design scenarios, recreate situations in which users and patients are able to try and discuss with multidisciplinary professional teams their experience of new solutions, while developers check suitability and commercial viability.

The 4D Health Innovation Simulation Centre of Igualada recreates a hospital and its related services. It trains professionals and students on a virtual stage putting the patient at the centre of research. At the same time it allows health companies to participate in testing and interacting with patients to better understand usability.

Also due to the existing demand of more and better health care services, **social economy** has seen an increase of activity in the area of public health services provision. Often in the form of public-private partnerships, social enterprises, cooperatives, mutual companies and other user-led organisations are in close contact with the patient and user. Because they are value-driven organisations, which apply market-based strategies to achieve a social purpose, they adapt very well to the healthcare sector, providing services for the elderly, frail, dependent or chronic patients and creating opportunities for local jobs. They know how to support communities and, at the same time enable the identification and development of opportunities in the care market.

**Ideas that Change Lives is a start up Fund that, in cooperation with Leeds Community Foundation, supports the development of a care and support market, builds the capacity of local communities and improves choice and control for people who need care and support services.**

In this new person-centred perspective, **prevention and healthy lifestyle** promotion has turned to be another relevant business area in the local health sector. It is clear to medical professionals that they cannot be left alone in the task of keeping population healthy, and that people need to be more responsible for their health habits. Substantial investment has been allocated to prevention through public programmes and campaigns –anti-smoking, against alcohol abuse, in favour of sports practice–, and private sector is also creating awareness of healthy products, diets and habits. Consequently, today citizens are more health conscious and willing to invest in their

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2 See page 19 of 4D Cities Output Report: “Health Sector Innovation Opportunities for Cities”.
wellbeing. Thus, market opportunities have opened up for new “good for you” products and services as well as for health tourism and wellness.

Plunge has a sharp approach towards prevention programmes and health monitoring of citizens, their Local Action Plan proposes undertaking a comprehensive set of measures to promote healthy habits among different population groups.

Health Innovation as a local growth driver requires a public policy strategy that promotes the specialisation and uniqueness. Health specialisation has to fill a niche and be the best version of it, so as to become a unique pole of attraction in a given area of competence and attract international investment. Ideally, the strategy should be embedded in and in coherence with a wider regional or national plan.

The case of Eindhoven and the Brainport Development area is one of a highly coherent economic development strategy at national and regional level. The Synthens Innovation Centre is the Eindhoven based agency that supports health-based companies in the region.¹

Key success factors for good market prospects of the private companies are the permeability and accessibility of the public health sector. Companies, particularly SMEs need more transparent and easy access to the public health system, which too often is limited to big players. Removing obstacles in public procurement, easing administration and bureaucracy burden facilitates collaboration with new players and opens innovative solutions. Moreover, inviting companies to participate from the very beginning as an active stakeholder in the local project, allows them to keep track of the process and contribute to design a model that fits both the public and the for-profit interests.

Small entrepreneurs are uniquely positioned to contribute to the economic revitalisation of the health sector. Health Innovation benefits from the SMEs flexibility and capacity to take risks. Start-ups are integral to market innovation and the promotion of economic competitiveness. They are following the trend for niche products in the eHealth and mHealth market with creative solutions including technological instruments for patient monitoring, data management, storage software and more. On the other hand, spin-offs, usually the outcome of the value chain of research-development-innovation, bridge the gaps between basic research and market opportunities. Both forms are a symptom of lively economic activity. They require support to become viable and sustainable and benefit from rewarding measures when successful.

¹ See page 17 of 4D Cities Output Report: “Bringing Citizens into Health Planning”. See Plunge and Tartu’s Local Action Plans

² See page 13 of 4D Cities Output Report: “Knowledge Capital in Support of Local Health Innovation”

³ See page 15 of 4D Cities Output Report: “Business Opportunities of Local Health Innovation”
Clusters as a tool for improving health companies’ competitiveness

A cluster is a geographic concentration of interconnected companies that operate in the same economic field, share specialized suppliers and associated services, and have common strategic challenges.

The clusters appear in a territory often due to historical reasons, and develop based on a growth and merger process, in contexts of strong rivalry and cooperation at some stages of the value chain. This favours the rapid transmission of information on markets and suppliers, productive specialisation and attraction of talent and capital.

Clusters, therefore, are realities existing in the territory, in some cases for centuries, regardless of how they were denominated: violins in Cremona, wine in Bordeaux or tanners in Igualada.

Policy models of economic development based on clusters assume that the company’s competitiveness depends primarily on its individual strategy as well as the quality of the environment in which it competes (existence of infrastructure, sector related industries, sophisticated demand, availability of training and human resources...). In this sense, any company, regardless of the sector industry and technology where it operates, can become internationally competitive if it has components of strategic differentiation.

Michael Porter’s “The Competitive Advantage of the Nations” depicted the model of economic development, which has underpinned today more than 3,000 initiatives worldwide.
Cluster policies

Governments articulate polyhedral policies to stimulate the complete value proposition of clusters, embodying it with tangible, realistic and exciting actions. These policies are essentially typified by the following traits:

- **Focus**: Resources by definition are scarce, so trying to generate impact in all areas of the economy is a pipe dream. Because to govern is to prioritize—especially in times of crisis—clusters provide a clever and focused way to concentrate resources and public performances. At the same time, clusters are a perfect intersection for other business policies such as corporate financing, technology transfer, training and attracting foreign investment.

- **Transformation**: A cluster is an optimum instrument for promoting industrial change, an essential challenge of our economy, based on the adoption of successful business models.

- **Traction**: Mainstreaming of clusters, with a focus on the value chain and growth projects, pushes support and tangent economic activities. Cluster leaders set the course, while successful practices generate a replica effect on the rest of the community and on the economy.

- **Efficiency**: With a much lower budget than in other policies, the cluster achieves a higher multiplier effect. This is partly due to the fact that it often relies on intangibles. Moreover, it takes advantage of economies of scale, both in the business analysis phase and in the promotion of changes.

- **Adaptability**: Cluster companies are the ones that determine the action plan for the cluster revitalization. The plan will be fully adaptable to their needs and expectations. Additionally, the cluster is a living project, that is, some of the essential parameters (perimeter, leaders, project results, new members...) are permanently modified. Each cluster will have a personalized action plan according to its distinctive qualities.

- **Reality**: Assuming that there are no good sectors or bad sectors, clusters need to be rooted in existing regional or local backgrounds. The main focus should be compatible with innovative initiatives, in line with socio-economic and technological developments that may lead to a cluster initiative ex novo. A cluster must be built on the existing strengths, though leaving room to stimulate new areas with growth potential.

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1 Source: Alberto Pezzi based on estimated data of TCI network, Red Clac and The Cluster Initiative Greenbook.
Responsibility: The role of a cluster manager provides a visible face in the interactions with the public administration. In addition, due to its relations with companies in the sector, this figure gathers expertise and capacity, becoming an authoritative voice that can provide both, a strategic vision and a capacity to appropriately invest and manage public resources.

Proactivity: A cluster initiative is usually boosted by the public authority and followed by a private leadership. The process starts with a political decision to increase the competitiveness of an economic sector. This initial phase requires a proactive team: to visit the companies, stimulate working groups, lead benchmarking trips, ultimately, to work hand in hand with the private sector, and not passively from their office.

Positive: Any sector has a rosy future if appropriate strategies are implemented. Clusters detect and implement winning strategies for business.

Subsidiarity: By promoting cluster structures, administration outsources part of its public policy and transfers it to more flexible and focused ones. By closely coordinating with the cluster, the public powers will avoid duplicating efforts. However, they should not try to lead the organisation but to provide for full potential, allow others to do and promote self-organisation of the cluster system.

Clusters in the world

1 Data from The Cluster Initiatives Greenbook, 2003
Clusters of health technologies

Health technologies are an emerging and strategic sector with high capacity for corporate growth. They are creators of wealth, innovation engines, leaders of world-class research, and able to sustain the development of a local business sector which is not necessarily based on big players.

In Catalonia, for instance, the Health Tech cluster works with an innovative, transversal and patient-focused approach, working on the basis of the flow from prevention, diagnosis, treatment, monitoring and rehabilitation, all interrelated in a dynamic ecosystem.

Increasing business competitiveness within a health tech cluster relies on a number of aspects: improved visibility and international positioning of the cluster, creation and attraction of new businesses, increased average technological level of companies, networking, strategic research and technology transfer, co-operation between universities-hospital-business, and new product development.

Salmons: business people implementing key strategies for success

Clusters are led by key entrepreneurs with a willingness to change. We call them salmons because they feel comfortable swimming upstream and breaking pre-set dynamics. These people are moved by their personal commitment to innovation and their roots in the territory, and not by their post or the organisation they represent. They are excellent at managing their professional activities, but also have their own view with regards to the sector development and usually show an active commitment with the cluster community. They may be known or may be "hidden".

Every cluster is triggered due to the leadership and commitment of these salmons. They implement innovative projects for the sake of their profit but also aim at a broader positive impact. They not only think of what the cluster can do for them but also what they can do for the cluster.
Business Cooperation: teamwork improves individual results

In the current environment defined by the speed of technological change and the globalization of markets, size is a critical aspect, not only in terms of success, but even survival. Business cooperation becomes a good strategy to achieve critical mass and improve the international position.

Business cooperation is not an end in itself but a means to increase the competitiveness of companies. In defining winning strategies there is often a need to travel with a partner that allows us to maximize the window of opportunity and minimize risk. The optimal environment for detecting a potential partner is the cluster, since the competitor next door is usually the best potential ally to share problems and opportunities.

Mass meetings, arranged by the public agencies and sector or regional agents set to discuss cooperation in general asking for the goodwill of the business community, without specifying alternative projects, demotivate and creates antibodies for collaboration with third parties. On the contrary, the psychological process issued from successful cooperation, usually of initially little projects, facilitates generating confidence among entrepreneurs who share the same vision. Then, transformative initiatives to improve strategic positioning will follow. In any case, we will need transparent and pre-established collaboration rules.

Working in clusters is based on the idea that cooperation is a tool aimed at improving competitiveness, which provides a threelfold value proposition: market intelligence on the sector, permanent opportunities to generate valuable contacts with companies and agents of the value chain, and a platform to promote projects aligned with future challenges.
Future Challenges

Future challenges of clusters involve being able to keep pace with the changes of companies. If they are going to be global, then clusters need to be global too. This will be achieved by networking with other national and international clusters, in an inter-cluster approach that maximizes the advantages of cross-fertilization, with a continuous professionalization and permeability of governance structures.

A cluster of health technologies is no exception and has to deal with, in particular, the following trends and changes in the business:

- The ageing population and the impact of chronic diseases: The inverted demographic pyramid of Western countries makes it necessary to understand and take advantage of new business opportunities derived.

- The mHealth provides a feasible way to keep health benefits: Mobile technologies for health are growing exponentially, as elements to better monitor disease, empower patients and reduce healthcare costs.

- Health Technologies. From suppliers to strategic partners: The innovation should not focus solely on the product, but must cover the entire value chain of the health system by identifying opportunities that offer improvements or added value to it.

- Changing the paradigm. The 4 P medicine (personalized, preventive, predictive, participatory): We must strive for a shift from reactive medicine focused on the disease, to a preventive medicine focused on wellness.

- The 5th P. Towards open data in health: Open data is a huge transformation engine that provides transparency, creation of social and commercial value (new business models) and increased participation and commitment.

- Health and wellness tourism as a growth niche: It is a mix of supply of health services and tourism services, which include the usual intermediaries in the tourist sector but also in the health sector.

In short, we need to build on the distinctive capacities that we have, with an international vocation, and a constant generation of activities and projects with high added value. A major challenge.
Harmonising Knowledge Capital with the Local Health Innovation Model. The Key to Excellence

The proximity of research and knowledge capital is a powerful incentive for private investment in any sector, including the health industry, as well as a great potential for local development. To aim at excellence and have the best professionals available requires training and curricula provided by the University but also by the secondary and professional training centres, life-long learning and retraining programmes. They have to adjust to the local employment needs of the private and the public health care sector. A good strategic fit will come out of an exchange and collaboration between the knowledge and private sector stakeholders, with the support of the decision-makers who, in turn have the capacity to ensure the availability of the best matching education and training programmes in the city.

In this respect, one successful model of collaboration is the German Dual Training System, adopted by other regions in Europe. The Dual Training System combines professional studies with training-at-work in private companies, under a contractual three-way agreement between company–school–public authorities. The benefits are for the three: acquisition of labour market-relevant skills and earning and learning situations for the trainee; low recruitment costs and next generations of skilled workers assured for the companies; and relatively low rate of youth unemployment.

In Jena, the University of Applied Sciences, Jena Ernst Abbe Fachhochschule, provides with all needed professionals skills for the health sector. An entrepreneurial climate within the University encourages the creation of start-ups, by facilitating advice from experts, promoting inter-disciplinary collaboration or organising business promotion activities for students (seminars, gatherings). Tartu offered two good examples of this University Innovation oriented focus: the Idea Lab, which facilitates students to start their own company with the support of experts and inter-disciplinary teams and the Competence Centres which are research organisations focusing on the long-term co-operation between research institutions and companies.

Universities, science parks and research hubs in general have a calling effect on young professionals and families because they add value in relation to business investment options while making the cities dynamic, lively and appealing. However, not all cities can afford having a University campus and highly specialised research institutions. A key discovery from the 4D Cities project has been the understanding that Health Innovation does not only rely on technological innovation. The incorporation of patients and their increasing care needs requires the right mix of professional profiles, including professionals in social disciplines, and from all levels of specialisation. That is the reason why, for 4D Cities partners, “Excellence” refers not only to the best education system, but also the best training and skills in correlation with the required workforce of the local health sector.

Jena has acknowledged the need of a mix of tertiary graduates which includes physicians and specialists, but also healthcare professionals such as nurses and carers, hospital managers, etc. The University of Applied Sciences, Jena Ernst Abbe Fachhochschule, provides with all needed professionals skills for the health sector.

An entrepreneurial climate within the University encourages the creation of start-ups, by facilitating advice from experts, promoting inter-disciplinary collaboration or organising business promotion activities for students (seminars, gatherings). Tartu offered two good examples of this University Innovation oriented focus: the Idea Lab, which facilitates students to start their own company with the support of experts and inter-disciplinary teams and the Competence Centres which are research organisations focusing on the long-term co-operation between research institutions and companies.

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7 See page 20 of 4D Cities Output Report: “Knowledge Capital in Support of Local Health Innovation”
The training and education system has to provide the right competences and abilities to the health professionals. The new patient-centred approach requires listening and interacting with a more informed patient. This translates into the need of a new range of abilities that go beyond the strictly medical knowledge. The capacity to interact with the patient, to work in multidisciplinary teams and to react well in stressful situations are key professional competences that can only be tested and trained in close to real scenarios. These competences are not natural abilities, but capacities that need to be developed, learned and practiced. Living labs and simulation centres (or safe living labs) are experiential training centres that facilitate the acquisition of such professional skills and abilities. They enhance professional capacity while increasing patient safety. At the same time, these set-ups offer direct and experiential knowledge on people’s needs.

At the Igualada 4D Health Innovation Simulation Centre health-related competences are trained and evaluated.

Finally, Universities also have a role to play in evaluating the performance and impact of the health system, analysing topics such as economic and behavioural aspects, gender sensitivity, social inclusion, socio-cultural dynamics, and Return (and Social Return) on Investment.

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8 See page 15 of 4D Cities Output Report: “Business Opportunities of Local Health Innovation”.
Training professionals in healthcare systems

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Generally, a professional in the healthcare field becomes officially acknowledged as such, after a certification degree, this endorsement is done after an almost entirely academic training during the undergraduate period. What this means is that a great part of the graduated healthcare professionals do not have an experiential training, thus are not actually well prepared to do real work with patients under stressful situations, in multidisciplinary team work, or in cases requiring specific communication skills with the patient. However, all these are essential capacities in the very high complex healthcare system; these professional competences must be trained, acquired and evaluated during work in close to real contexts, transferring the learning curve to the patients.

In terms of education, when a healthcare professional incorporates real experience from the beginning of the training and education process, that is, in the undergraduate period, key professional competences combining technical and non-technical ones, are firmly assimilated, translating into a lower risk for the patients. With this new approach, these type of competences are acquired progressively and the gap between the under graduated and post graduated periods is more integrated in a continuum, with less impact.

In medical studies, academic competences are mostly based on knowledge, so they tend to be more theoretical and not very suitable to confront real situations in which challenging conditions demand experience. The type of competences that a medical and healthcare professional needs to acquire has to do with a combination of knowledge, abilities and attitudes. A good balance among all of them offered from the beginning of the healthcare professional training will help to ensure a safe and more adjusted service for the patient.
In a healthcare training system pursuing this model, all the stakeholders must be included in the process of building the curricula. Beyond University authorities, healthcare facilities, professional colleges, scientific societies and also patients and caregivers’ representatives must be included in the group of experts that contribute to create the curricula. In doing so, the healthcare professional profile will be more transversal and patient-based, consequently, creating a more efficient healthcare system.

In terms of strategy, and following some initiatives like the ones promoted by WHO, Health Education Systems should follow patient-centred curricula, particularly focused on patient safety. If healthcare strategies want to move from professionals’ centred healthcare, mainly doctors, to a patient-centred strategy, this has to be conceived from the very beginning of the healthcare training and education process.

It’s well assumed that healthcare services should be delivered on the basis of an interdisciplinary teamwork, centred on the patient and with organisational structures around the clinical process. However, training of healthcare professionals particularly in the under graduated phase, is still done in “silos”: nurses, doctors, technicians, pharmacists etc. are rarely trained in multidisciplinary teams and close to the real work, but rather isolated and on theoretical basis. Providing safe scenarios where interdisciplinary teams are trained becomes the real challenge for the healthcare systems. Highly complex set-ups with all the stakeholders implied are extremely helpful to have a direct experience of the medical case. Learning in these conditions helps either under graduated and post graduated trainees.

Considering the above, professional knowledge can become a very relevant capital either in the private or the public sector. Capacities developed through this model affect professionals but also other health actors; innovation in the capacity building process is crucial in dealing with the changes that the healthcare system has undergone during the last decades, such as ageing, pressure, patient demanding information, moving from hospitals to home healthcare or major ambulatory surgery, and TIC influence on managing data either clinical or not clinical.

Health professional education and quality should not relate to incentives. The premise of “higher quality is related to higher feedback” is rarely implemented in healthcare systems today. Promoting training programmes with patient-centred strategies and interdisciplinary teamwork incentives will make it easier to manage the patient case. Personal competition should be avoided and the expected results should be based on the patient instead of professional hierarchic organisations.

Involving all the stakeholders in this strategy is extremely needed, as well as counteracting resistance to change from different health sector lobbies. Real engagement from the quadruple helix set of Health actors: knowledge (universities, professional schools), business (healthcare providers, ICTs, etc.), health (facilities, professional colleges, scientific societies, healthcare innovation) and people (patients associations and citizens’ representatives) is absolutely mandatory if we want to move from the classical education to the 21st century model of healthcare education closer to the reality.
Innovating in the Health System for Funds Optimisation and Patient Safety

High specialisation of clinicians should come along with more and better interactions with other specialists and non-medical health personnel as well as with patients and their social environment. The 4D Cities project has put emphasis in the idea that local health services must respond to a new model that focuses on the patient as the centre of professional activity and as a primary source of information, overcoming the medical work in silos. Due to the importance and prevalence of chronic diseases, multiple health condition of patients and resources dedicated to dependency, a new type of healthcare services are required, inter-disciplinary services which take into account the person as a whole.

The change in the form we look at the patient has enormous consequences in the way health care services are organised and delivered. Knowledge shared in the 4D Cities network transnational meetings pointed to four key ideas that enable this change: a case-centred management with a 360° view of the patient; easing the journey of the patient through a health continuum; enabling team working in the service provision; and integrating services both vertically and horizontally to better respond to this new business model.

The concept of case-centred management puts the patient as the focus of the medical services, in the sense that professionals diagnose and treat each patient with a 360° view that includes both medical, care information and services. The patient is medically assisted and humanely supported by a multidisciplinary team that takes care of the medical condition but also of other social and psychological aspects that influence performance of the treatment and recovery process.

Baia Sprie has created an Integrated Centre for Socio-Economic and Medical Analysis. By integrating some local services procedures, it gathers comprehensive socioeconomic data of the people and patients attending health facilities. The same city has re-opened the hospital as a centre for terminal phase patients and palliative care, with psychological support for patients and their families.10

In the attempt to ease the patient’s journey along the health services, experts in Health Innovation recognise the need to enable a health continuum that smooths the path from one service to another, being accompanied until full recovery and return to normal life. The continuum ‘Recovery-Rehabilitation-Reablement’ requires streamlining a new organisation of health care services that is based on close collaboration and information flows among physicians, carers, patients, social services and other involved services.

A condition for good implementation and functioning of the health continuum is teamwork that allows cooperation, interaction of medical services and health care providers into multidisciplinary teams to implement integrated health solutions.

The health institutional system is still based on professional hierarchies, power arrangements and incentives which do not facilitate communication of professionals. Because today patients have a complex mix of diseases and medical needs they need to attend different medical services. Therefore, an integrated organisational model focusing less attention on the professionals and more on the patient, saves time and money for the health system. By integrating in health, social, medical and health care professionals can communicate better across sectors and specialities, as well as with the patients themselves.

The provision of services is coordinated, more flexible and personalised, responding better to the patient’s individual needs. The patient has one single point of contact and the information flows easily.

In Leeds, a number of initiatives and projects are taking the integrated care approach. Patients may have a single ‘care co-ordinator’ and be surrounded by a professional team of nurses, community matrons, social workers and other professionals who are in regular communication to share data and observations.¹¹

Better patient/service communication and needs understanding leads to improved quality of service, saves money due to prevention of duplication and prepares the service provision for the future. Health professionals working at the frontline of healthcare delivery are best placed to collect and understand patient needs, opinions, inputs and assess the value of the service offered. This is why all project partners agreed that care personal, nurses, social workers, etc. have to be better considered and listened to, due to the importance of their role.

Medical treatments and interventions have greater performance and impact when patients benefit from care and support that helps dealing with personal and psychological condition: anxiety, uncertainty, loneliness and others may hinder the results of the treatment. Having psychological support and practicing stress-relieving techniques has proven to reduce the number of visits to the GP and hospitalisations as well as to improve performance of surgical operations and other medical treatments. The health sector then has to intensify and enhance the collaboration with professionals in psychological and socio-economic areas.

Information and Communications Technology (ICT) is transforming the health care system. Improved and more integrated patient data and information allows more precise treatments and faster, more accurate and safer decisions. In the same way, ICTs are substantially changing the paradigm under which the activity of the government is developed. The public administration has created new types of organisation and deployed new forms of relationship with the citizens. Data collection and treatment, telemedicine and eHealth and mHealth sectors, as well as the use of digital interactive platforms are all new tools that generate new opportunities for health sector enhancement and people’s engagement.

The Leeds Innovation Health Hub boosts innovation of the health sector through a combination of medical technologies, the use of health informatics and the participation of the local communities.¹²

¹¹ See page 23 of 4D Cities Output Report: “Health Sector Innovation Opportunities for Cities”.

Citizens’ Wellbeing and Patient Empowerment

We have seen that technology-supported innovations in the healthcare sector for which business and research companies offer solutions require the participation and engagement of the patient and user not only during testing process but from the very beginning. Health-related companies with a business model that puts the patient at the front have better chances of success in obtaining and marketing the right product. Jointly developing solutions will result in a better adequacy, usability of new devices, medical and pharmaceutical products.

Patient empowerment is an inherent concept within Health Innovation with a patient centred approach. The increased levels of dependency generated by an ageing population, with more chronic diseases and long-term care needs, call for investing in citizens’ health education to promote self-consciousness, self-care capacity and more responsible and aware patients with regards to their health options and treatment. Access to timely and adequate information, extended use of self-managing technological tools, peer-to-peer support and patients training, enormously improves quality of life. It gives increased autonomy to the patient and prevents unnecessary visits to the doctor and health services, saving in healthcare logistics and human resources.

Besides being more and better informed, the patient needs to be more responsible of his condition. Habits, behaviour, attitudes to risk, values and preferences, etc. are important aspects of the medical knowledge that the doctor requires to successfully manage illness. An informed discussion between doctor and patient about trade-offs and priorities should become part of the shared risk and responsibility.

Patient empowerment also relates to the capacity to co-create in the health services. Patients and citizens role in health projects has traditionally consisted of informing and consulting. However, we have learned that equipping people with the necessary skills and tools can make their voices to be heard, shared, and integrated into solutions, making them co-responsible of decisions and projects. Patients and patient groups that go beyond just making demands can come to play an important role in prioritising in services, process and products they want, need and can afford. Increasing levels of engagement go from training through to empowering, jointly prioritising, co-creating and co-delivering the health services with the patients. Actually, available health information has massively increased with widespread access to online resources and has led to patients organise in groups and networks to become informed, mobilise resources and consolidate opinion. In short, they are an influential part of the health system.

Plunge’s Community Health Boards are a good example of local health policy planning with the participation of patients and citizens.\(^3\)

Social Innovation is a tool that deeply changes the way to approach public health policies. Social Innovation in health promotes community engagement, bottom-up driven thinking and prioritising for investments. The citizen is part of the transformation process and helps designing the strategy by being a source of information and by being involved through open consultation and co-creation for needs-based Health Innovation. As a result, prioritising in health is based on citizens needs and expectations.

\(^3\) See page 38 of 4D Cities Output Report: “Health Sector Innovation Opportunities for Cities”
Professionals from social disciplines (sociologists, psychologists and similar), health care personnel, social workers, patients or even ambulance drivers can jointly undertake field research and propose solutions as they have access to direct observation and first hand information on the needs and demands of users. Multidisciplinary teams are best placed to participate in Social Innovation projects because they benefit from cross-sector interfaces, which often produce best ideas from integrated perspectives.

Finally Social Innovation in health requires new behaviours and governance policies as well as change of mind-sets both in the public decision-making system and amongst the citizens.

With the support of the Young Foundation, Leeds engaged in a Social Innovation project to increase care outside hospital.14

Along with this change of policy-making and co-creation model, a new discourse over the rewards or returns of Social Innovation is needed. Social Innovation is not the objective in itself, but a tool. In other words, the importance of evaluation of social return of investment and tools to assess impact and the accomplishment of expectations is highly required and one of the key learning aspects of 4D Cities.


The asset-based approach considers the existing health-related social capital of the city. It brings the citizen in on the design and implementation of products and services, and challenges local governments and health services to re-cast their relationships between commissioners, providers, service users and communities. An asset can be practical skills, capacity and knowledge of local residents, friends and neighbourhood networks and connections, effectiveness of local community and voluntary associations, resources of public, private and third sector organisations available to support a community, etc.

Within local assets, community support groups have revealed themselves to be an important part of the patient personal support in health care delivery. Because the patient-centred approach is multi-faceted, it calls on all agents in the community, from neighbourhood-centred services that integrate health and social care with the support of family and volunteers, to community and faith groups that can provide peer support.

Armley Helping Hands is part of a network of over 30 organisations throughout Leeds whose aim is to provide facilities for educational, recreational and leisure time activities with a view to improving quality of life, promoting independence, safeguarding older people and reducing social isolation.15

Some care-integrated programmes have started to rely on such community assets and practices. This is the case of Social Prescribing System, where doctors select and make referrals to services provided by community-based support networks, voluntary programmes and self-help groups. Services generally consist more of physical activity and social relations than of medicines and treatments. With this community-based system, clinicians address wider social and lifestyle aspects, which is particularly useful for elderly people and people with long-term conditions. The social prescription increases patient confidence and self-efficacy while at the same time giving opportunities to build social networks. The system has proved to reduce the need for visits to the doctor. This opens the door for the reallocation of resources.

14 See page 20 of 4D Cities Output Report: “Health Sector Innovation Opportunities for Cities”.
15 See page 26 of 4D Cities Output Report: “Bringing Citizens into Health Planning”.
Citizen involvement in creating good health and care

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Health 2020, the World Health Organization Europe’s policy framework and strategy, calls for civil society to have a greater role in health and also commits to building people-centred health systems and more resilient communities. These are not new ideas; they stem from two broad sets of arguments. One an enduring critique of the limitations of professionally designed and led health services and public health programmes. It is not that health professionals are not needed, it is that the imbalance in power between lay and professional reduces choice, stifles options for change and results in a failure to address fundamental issues around how we live and the factors that shape our health. The other set of ideas focuses on the value of community as a determinant of health. The positive role of social networks, lay insights and the power of peer support all contribute to health improvement and social support. There are opportunities and challenges if the Health 2020 vision for citizen empowerment is to become a reality. It is in this context that URBACT 4D Cities is exploring citizens as co-producers of health in relation to health innovation, health systems and economic development. The aim of this paper is to provide a brief introduction to citizen involvement in health and to highlight contemporary issues for community-centred health systems.

What is citizen involvement and why do it?

It is useful to start with what is meant by citizen involvement. The core idea concerns people’s active participation as opposed to being passive consumers of health care. Many terms are used to define who is involved – ‘health consumer’, ‘service user’, ‘community’, ‘citizen’ and ‘public’. Community is often used as a shorthand term for neighbourhoods or for groups of people linked by a common interest, but communities are in reality complex social structures and people have many different allegiances and identities. Overall there is strong evidence that social relationships, in particular having social support and wider networks, underpin good health. So while some citizen involvement is about the individual dimension, for example shared decision-making between clinician and patient, the collective dimension is important for public health.

Another key concept is that of power. Citizen involvement should lead to a shift in the balance of power. There are various ladders of participation that illustrate the continuum from tokenistic involvement through to consultation, collaboration and finally citizen control. The problem is this is a very simplified way of viewing involvement, built on an assumption that empowerment is the only goal. Contemporary debates acknowledge that there are many dimensions to citizen involvement and different situations call for different approaches which should be fit for purpose.

The rationale for citizen involvement has been well advanced over the years. Justifications fall into three broad areas:

- Involvement as a means to bring about better, more effective services or public health programmes better attuned to needs. In other words citizen involvement is a means to an end. The goal might be improved quality, identification of needs, increased uptake or more culturally appropriate health programmes.

- Empowerment as a health goal. Here participation is valued as both a process and an outcome leading to greater individual or community empowerment, increased citizen control and in some cases social action challenging the status quo. Approaches based on empowerment principles tend to be developmental and allow citizens to determine what should happen and what outcomes result.

- Rights-based justifications that emphasise democratic values and citizenship. These encompass the right of citizens to participate in their health care and collectively to have some voice in health planning.

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How does citizen involvement work?

Citizen involvement is a broad field where there is a huge range of methods, tools and frameworks for practice. This is not because of a lack of consensus on what to do, it is because different involvement methods need to be matched to the purpose of involvement, the social context and population. For example, the methods used to involve individuals with lived experience of diabetes in designing health education materials would be different from a community consultation around health impacts of a transport strategy. A recent project by Public Health England and NHS England has mapped the different approaches that can be used to actively involve communities in health. The ‘family of community-centred approaches for health and wellbeing’ includes community development, time banking, volunteer and peer models, community engagement in planning, research and regeneration and community hubs.

Community-centred approaches are complemented by individual-level approaches. For example, recent work by the King’s Fund, a leading UK think tank, has drawn together research on patient activation looking at how individuals can gain the skills and confidence to engage in their own health and care. There has also been a growing interest in the UK in coproduction approaches, where design and delivery of health and social care is achieved through genuine partnerships between professionals and service users.

Citizen involvement is rarely a stand-alone activity and can be nested within wider initiatives. One European example where a tradition of community involvement has flourished alongside action on the wider determinants of health is the Healthy Cities movement. Cities participating in the WHO European Healthy Cities Network have been found to be actively involving citizens in consultations, representative decision-making structures and health empowerment projects.

What emerges from the rich tradition of citizen involvement in the UK and internationally is the importance of the quality and depth of relationships between citizens and public services. This requires attention to aspects such as organisational capacity, workforce development, diversity and equality, and training and support for engagement. The UK’s National Institute of Health and Care Excellence identifies five prerequisites for success when undertaking community engagement:

- Taking account of lessons learned from existing community initiatives.
- Investing in long-term initiatives.
- Identifying the changes needed within the organisation to support community engagement.
- Agreeing levels of engagement and power sharing between statutory and community organisations.
- Building mutual trust and respect between statutory and community organisations.

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Contemporary issues

URBACT 4D Cities taps into an appetite for more transparency, accountability and choice in health, and a growing understanding that civil society has a major role in creating the conditions for good health. A number of contemporary issues around citizen involvement relate to this agenda, but I would like to highlight three. Firstly, notwithstanding the wide acceptance of the benefits of citizen involvement, health systems largely remain professionally-led and often fail to build on community assets or include people as equal partners. In the field of public health, despite strong evidence that social connections, citizen control and voice are related to inequities in health, participatory approaches are still not mainstreamed. A real shift is needed to make the rhetoric of citizen involvement a reality.

Secondly, our notions of what a community can be are continually being expanded. The development of virtual communities supported by web-based media opens up different platforms for people to participate and connect across traditional boundaries. At the same time, new barriers around digital exclusion are exposed.

Thirdly, greater involvement of civil society necessitates a change in emphasis from small scale community health projects towards health programmes capable of supporting broad community mobilisation. We have some UK examples, such as community health champions where 18,000 plus people have volunteered to promote health in their community, but such programmes are the exception rather than the rule. There are many opportunities for sharing learning within and between countries about how we scale up citizen involvement and change service cultures wholesale. In that way we can respond to the call to action presented by Health 2020, which advocates new partnerships and participatory governance to deliver health goals.

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Patient-centred health innovation with an economic growth 4D Cities Final Report March 2015

Working on the Local Action Plans in Plunge
New business models need to be "social" in approach. Engage patients and users in developing new medical devices, drugs and services.

Social economy adapts well to the healthcare sector. Cooperatives, mutuals and other user-led organisations are closer to the user and the patient.

Corporate programmes to enhance healthy working conditions and habits result in higher productivity.

Increased people's health consciousness and healthy lifestyle increases market opportunities for wellness economy.

Living labs, simulators and other experiential tools enable interaction with patients; facilitate testing of professional skills and abilities; allow direct observation and patient participation in improving design and usability of health solutions and services; create integrated scenarios for companies to work with health professionals and users. As a result safer health care services and improved market opportunities.

Secondary and vocational training, and life-long learning programmes offer relevant curricula and increase employability of students, young and unemployed citizens.

Survey local students on their interests in health areas and inform them of available curricula and job opportunities.

Validate professional experience and knowledge obtained through actual work experience.

The University may contribute to keeping medical records and data collection and advise on security protocols and confidentiality.

The University and other local education centres can participate in research and needs assessment projects with groups of citizens and patients.

Concentration, specialisation and competitiveness gives prestige to a location and makes it attractive for investment.

Easy access of health companies, particularly SMEs, to a more permeable public health system.

Involve the private sector in the Health Innovation strategy from the beginning.

Health Innovation relies on ICT companies for a number of issues.

Creating conditions for cluster development with a wide competitiveness. Enabling actions for cluster promotions: participate to international research and innovation projects, create synergies with the University and Science Parks, stimulate spin offs from the R+D value chain, business support services and structures for start ups, facilitate networking, seek public-private partnerships and funds, etc.

Universities can assess and evaluate performance of the local health system and undertake studies on socioeconomic and behavioural aspects, health inequalities and similar.

Professionals trained in integrated health service provision and multidisciplinary teams adjust better to patient oriented services.

Local education system should fulfil workforce needs of the local innovative health project, with improved and tailored curricula.

Availability of health professionals includes not only medical staff but also health system managers, e.g. public and business administration, hospital managers, etc.
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<tr>
<th>Knowledge</th>
<th>Business</th>
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<tr>
<td>Specialisation in health with an economic growth requires access to enabling knowledge capital, R+D potential and innovation capacity of the value chain.</td>
<td>A development agency supports health-related business activity through networking activities, B2B, training, fairs, that activate business synergies and growth potential.</td>
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<tr>
<td>The local education system has to offer training and curricula that meets private companies’ workforce needs.</td>
<td>SMEs interaction with other bigger companies from the health sector and related industry (technology, software, social...) opens business opportunities.</td>
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<td>Cooperation between research institutions and companies within the University can offer multidisciplinary support, focused training and expert coaching.</td>
<td>Strong business networks internationally competitive attract new inward and external investment.</td>
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<td>Interaction between companies, and knowledge and research institutions makes the business sector understand and develop meaningful products.</td>
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<td>Intellectual property policies allow management of innovation. Contracts with companies protect their good work within an open source context.</td>
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<td>Range of health-sector stakeholders strengthens excellence and participation to international research and innovation projects, create spin offs from the R+D value chain, business support services and private partnerships and funds, etc.</td>
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<td>Strengthen knowledge coherence through facilitating studies that complement each other and promoting collaborative programmes between faculties.</td>
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<td>Health Sector</td>
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<td>Good communication flow between patient and medical professionals for a more personalized support to the patient.</td>
<td>Evaluate patient safety and satisfaction of performance of new and existing health services with a set of quantitative and qualitative key performance indicators.</td>
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<td>Front line health workers are the best placed to understand patient needs and opinions and assess the value of the service provided.</td>
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<td>Health empowerment can be attained through education at schools, patient training, use of eHealth and mHealth and peer support.</td>
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<td>Patients’ involvement in health prioritizing, co-creating and co-delivering leads to increased engagement and self-responsible attitudes.</td>
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<td>Community-based support networks, voluntary programmes and social prescribing tackle wider social and lifestyle aspects, particularly for elderly chronic and mentally affected people.</td>
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<td>ICT-based health tools enhance care services (integrated data records and treatment, telemedicine, digital interactive platforms,...).</td>
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<tr>
<td>Expert patients are a very valuable tool in transferring health knowledge and increasing self-care skills.</td>
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<tr>
<td>Patients associations, self-help groups and neighbourhood networks help in socializing and improve personal and health condition of elderly, chronic and dependent patients.</td>
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<td>Social Innovation provides a participative and empowering method suitable for health cooperative decision-making.</td>
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<td>Collect information from schools, primary health centres, social services, etc. for a perspective of the city profile, health needs and inequalities.</td>
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<tr>
<td>Invest in informing local population through schools, primary health care centres, youth centres, etc. on healthy habits to reduce public health costs in the mid term.</td>
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<td>Local family-friendly policies help retaining skilled professionals and prevent loss of trained workforce.</td>
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<td>Local policies in support of the 4 Health Innovation dimensions</td>
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<td>Knowledge</td>
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<tr>
<td>Enable suitable education and training to adjust to the local</td>
<td>Provide regular and tailored information to companies on local legislation, fiscal and tax benefits, professional qualified workforce, etc.</td>
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<td>specialisation in health.</td>
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<tr>
<td>Involv higher levels of administration with education competences.</td>
<td>Proactivity with the business sector, interacting and understanding companies’ needs supports projects and investment decisions.</td>
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<td>Political support may come in the form of competences or of budget</td>
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<td>contribution.</td>
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<td>A local interlocutor may be designated to keep an open and permanent</td>
<td>Offering an international perspective and position of the city and the health strategy adds interest for new investors.</td>
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<td>consultation with local companies.</td>
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V. Policy Recommendations

The 4D Cities project addresses the local governance process for boosting innovation in the health sector in order to foster productivity growth, competitiveness, economic development and improve the quality of life for its citizens.

The policy guidelines synthesised in this section, comprise the most relevant outputs issued from the project exchange and sharing activities. We expect them to be transferable to other cities intending to implement a Health Innovation project with a quadruple helix perspective. But we understand that a number of the tips are also useful for local governments intending to make the health care sector more efficient and patient-oriented.

The underlying idea behind these policy recommendations is that, to generate innovation opportunities, the health sector has to be open to the rest of the local health stakeholders and become collaborative, transparent, adjustable and dynamic. As the pivotal player, local government can reassess its relationships with the local actors and encourage new and better interactions among them so common interests pave the way for mutually beneficial activities. Even though local governments do not have full authority over the health system regulations, many actions can be undertaken to promote changes in this sector.

The multiplicity of policy frameworks, local assets and priorities of project partners suggests that the guidelines below will need to adapt to each model and be instrumental in the development of their Health Innovation strategy. The recommendations that may be new and meaningful for one partner can be too obvious for another. However, what has turned to be common to all of the 4D Cities partners is that they are reconsidering their projects and strategies by involving the citizens and the patients in their new proposals with a stronger citizen and patient-focused approach.

As the starting point, recent demographic, scientific and economic developments are changing the health priorities environment with far-reaching consequences to local governments. An increase in population age, their related care needs, coupled with cutting-edge research and expensive technology which increases health budgets is putting the squeeze on local budgets. The question now is to understand how city councils, who are responsible for social and health care services, overcome the challenges and create opportunities for growth.

Almost 20 policy and governance measures address the role of each of the 4 dimensions of the project:

- How to support the private business sector and to ease the interactions with the other local stakeholders.
- How to adequate knowledge capital to the Health Innovation needs.
- How to enable the local health sector to be open and collaborative.
- How to involve and empower the patient as a central actor.

The following is meant to be a collection of what we have learned from the knowledge and experience of the 4D Cities partners. Obviously they can be widened and adapted according to each city’s set of priorities, political will and capacity of action.
1. Differentiate the area of excellence in health and stress the competitiveness and uniqueness of your city in that Health Innovation field.

- Ground the local strategy on broad and accurate analysis of strengths and assets in the health sector, both public and private.

- Seek involvement of local key health stakeholders and make the project attractive for them, so they are willing to endorse it and partake.

- Look for support at higher administrative levels (regional and national). Have commitment of institutional bodies with responsibilities in health and innovation, e.g. Health Innovation Unit, Ministry of Health and Economic Development, Science Park, Chamber of Commerce, etc. This will facilitate the project to be coherent and embedded in broader regional strategies.

- Reinforce and sharpen the location profile with existing knowledge capital around the particular health area.

- Invest in research–development–innovation programmes and liaise with international and complementary knowledge clusters and other Health Innovation actors.

2. Create a business friendly environment for the health sector and a strong companies’ support system.

- Be proactive in favouring company decisions on investment, offer custom–made information and support with regards to health sector trends and needs and market opportunities.

- Undertake B2B, international and sector-based fairs, regular and focused networking activities, training in relevant health sector areas, international forums and seminars, business assessment, incentives for hiring young or unemployed, etc.

- Mainstream communication and consultation channels with companies, for example, enable a local interlocutor (a key account manager, a director for innovation in health) to act as focal point to identify companies requirements, beyond tax incentives including skilled professionals, training, better communication, network of industry contacts, and technology.

- Involve the private business sector in the design of the Health Innovation project from the start, so they can better grasp, participate and monitor.

- Promote Business to Consumer (B2C) model for a user focus product and service design.

3. Be supportive of Small and Medium Enterprises (SMEs) with special attention to ICTs and Social Enterprises.

- Facilitate access of SMEs to public procurement in health.

- Facilitate interactions between SMEs and local health sector players, both public and private, to understand market needs and develop meaningful products.

- Enable advantageous financial structures and services that favour start-ups and spin-offs from the innovation value chain.

- Give particular attention to sector-specific
projects of SMEs in the ICT sector. ICT companies are important actors in generating new solutions in health.

- Encourage the emergence of social enterprises, user-led organisations, mutual and co-operatives with legal and fiscal incentives, public-private partnerships, and collaboration agreements.

4. Mind innovation outcomes. Address issues related to intellectual property and rights.

- To the extent local government has competences in this area, design a local policy around patents and intellectual property rights (IPR) to protect local innovation.

- Manage intellectual property agreements and policies that mind differences between new and existing companies. Prize the ‘clever’ things that companies have developed, protecting innovation outcomes in an open research context.

- When such IPR regulation capacity does not exist within the local competences, facilitate information and legal and professional advice services.

5. Assess sector education and professional needs issued from the Health Innovation project.

- Develop tools and indicators to assess sector trends and estimate future needs of professional profiles.

- Consider workforce needs both in the public health system and in the private health sector.

- Involve employers in the identification of workforce needs so they also take responsibility for workforce development within their sector.

6. Accommodate the local offer of knowledge, education and training including non-medical professionals, to the sector professional needs.

- Because the compulsory education system is not fundamentally a local competence, it is useful to seek for some degree of operational autonomy in education and training before higher levels of administration.

- Improve the supply-demand coherence promoting collaboration agreements among health stakeholders, i.e. setting up vocational training agreements with the business sector.

- Coordinate and integrate public polices, other than education or health, that help ensure availability of students and workforce, i.e., making the city attractive for young students and families.

- Ensure the academic disciplines of non-clinician healthcare sector professionals required in the Health Innovation model: psychologists, community and social workers, nurses, sociologists, ...

- Besides, ensure profiles for healthcare management, business administration, ICTs literacy, etc. to support the health sector in the city.

- Include secondary and vocational training, life-long learning programmes as well as degrees in applied sciences.
7. Make the University ready and available to support Health Innovation and entrepreneurship.

- Inform and foster University and Faculty Deans so they accommodate specific Health Innovation programmes and training, consistent with the city project.

- Take advantage of the facilities and services available at the University to promote business development, i.e. expert advice, entrepreneurship incentives for students, training, seminars, gatherings, support services for start-ups, rewarding schemes to best projects, etc.

- Support University cooperation with national and international research institutions to increase international competitiveness of new companies.

8. Offer information and support services to the citizens (i.e. students, unemployed) to ease their way into the new local labour market issued form the Health Innovation project.

- Attract people to the local education system providing information about the degrees available locally and the career opportunities.

- Enable access between career paths and promote educational opportunities with “ladders” and “bridges” to allow mobility.

- Offer retraining and life-long learning to provide unemployed people with new skills.

- Formally acknowledge people’s non-formal education and experience, by guiding and helping them in the process of validation and accreditation of professional competences.

- Create a job bank, a job notice board and/or job fair locally to facilitate companies the search for professional profiles they require and to intermediate between the companies looking for specific profiles and the people looking for jobs.

9. Ensure training in health-specific professional competences and skills.

- Ensure that professionals acquire a combination of knowledge, skills, attitudes and responsibilities that adapt to a more social approach and the patient-centred model.

- Promote public-private-people partnerships that enable user-centred, research and open innovation ecosystems, such as living labs or simulation centres or other experiential scenarios.

- As part of their training, local students can participate in pilot projects towards assessing needs and testing solutions in health care or even designing products and processes. The experience can be included in the official curricula.

10. Undertake locally based research and data collection for an accurate understanding of the local population profile and needs.

- Enable a data collection system that allows segmentation and identification of local groups and patients: children, young, drug-dependents, elderly, women, etc.

- Collect health related information from health facilities but also in other sites: schools, youth centres, care houses, etc.

- Facilitate information sharing with other municipal
departments in order to cross data and get a broad local perspective that orientates prevention and health policies with an integrated perspective.

- Evaluate safety and satisfaction of health services and products using interviews, surveys, follow up contacts and interdisciplinary meetings.

11. Undertake pilot initiatives and demonstrate positive impact before scaling.

- Implement Health Innovation pilot initiatives to show efficiency and return on investment to the key local stakeholders and authorities.

- Assess the impact on citizens’ satisfaction and wellbeing with specific methodologies using indicators such as Social Return on the Investment and Cost-Benefit Analysis to monitor, evaluate, and assess impact and achievement of patients’ expectations.

12. Enable a patient-centred approach to offer more personalised medical attention.

- Ensure close collaboration and information flows among all professionals involved in the health continuum including clinicians, nurses, carers, community service providers, social services, etc.

- Enable good patient–professional communication to better assist and understand preferences. Count on front line personnel such as home care or primary health care workers.

- Make the health services designate a single interlocutor to guide along the medical and care path so the patient has an easy access to information and treatment.

- Develop tools for individual disease management such as patient data.

13. Integrate health services vertically and horizontally for a more efficient and safer delivery.

- The local government, in coordination with the health sector, can support the coordination of services to close the health and social care division facilitating the continuum from hospital to home care, as well as the coordination of medical specialisations to tackle patient’s multiple health needs through team care delivery solutions.

- Ensure availability of professional profiles halfway between medical and social care.

- Ensure interactions of nurses, physiotherapists, clinical assistants, dieticians, medical practitioners, pharmacists, etc. working as teams instead of as separate disciplines.

14. Establish collaborative processes with local health support groups and community services.

- Encourage collaborations between neighbourhood community support groups with health care services to help dependent and elderly people keep active, motivated and healthy.

- Set collaborative agreements such as social prescribing programmes that involve community based assets to complement traditional health services.

- Support volunteering through local campaigns and policies, i.e. reward schemes including training, accredited experience or other services valuable to them.
15. Allow co-creation in health using Social Innovation tools.

- Rely on local assets and community knowledge and to develop and implement innovative solutions in the health sector.

- Enable the professional teams and local connectors to interact and mobilise citizens and patients around health projects.

- Create the conditions for commitment, engagement of patients, health professionals, local companies and other health stakeholders to share knowledge, priorities, propose ideas, help in the formulation of policies and contribute to the ideation and evaluation of initiatives.

- Use Social Innovation as the tool to guide in this process for open consultation and co-creation, count on professionals from the social field to lead the process.

- Be ready to assume a certain level of risk.

- Mainstream solutions, ideas and outputs into local policies and public services to create sustainable changes in governance.

- Plan to overcome potential hostility to changes with campaigns and policy influencing.


- Support the modernisation of the public health sector including digitalisation, telemedicine for care and dependency management and mobility, assistive and alert technologies, online interactive and participation platforms, etc.

- Make sure technological solutions are accepted and adapted to the patients by supporting companies-knowledge-patient collaboration schemes that ensure the usability of ICT in health, before integrating them with the regular flow of care.

- Beware of open sources, interoperability, carefully regulate confidentiality and use of medical record history.

17. Empower citizens and patients socialising health care knowledge and promoting self-responsibility and autonomy.

- Multiple condition and poly-medication can be better managed with accurate information and training on self-management. Provide quality, monitored and evaluated training in self-care and autonomy on most common diseases.

- Involve “expert patients”.

- Empower patients to be the owners of their own data and history, to understand their condition to be able to decide or co-decide on the care plan together with the medical and care professionals.

- Socialise health care knowledge and training in health facilities but also in schools, neighbourhood-centred services, family and community organisations, patients associations, schools, volunteers and other similar places.
18. Develop integrated public policies to promote healthy habits.

- Move from reactive to a preventive health approach. Invest in public health prevention policies including awareness-raising campaigns, public service information, education and services aiming at a behavioural change.

- Undertake programmes that closely support people to take action with methods to acquire the skills, confidence and tools to turn personal intentions into action.

- Incentivise healthier consumption and diets very early on in school education.

- Develop a local environment and infrastructure that facilitates people’s health, i.e. promoting local sports events.
VI. The 4D Cities Journey

- **1. Tartu, September 2014**: Communication & Fundraising
- **2. Leeds, October 2014**: Health Sector Innovation Opportunities for Cities
- **3. Jena, November 2013**: Knowledge Capital in Support of Local Health Innovation
- **4. Edinburgh, May 2013**: Urban Innovation for Local Health Innovation
- **5. Naples, February 2013**: Local Health Planning
- **6. Prague, June 2014**: Local Health Planning & Urban Development
- **7. Bari, June 2013**: Bringing Citizens into Health Planning
- **8. Igualada, March 2015**: Final Meeting: LPs and Outputs

**Igualada, March 2013**: Kick-off Agreement on Project view and contents
VII. 4D Cities Local Actions Plans

Presentation

Our project findings have provided 4D Cities partners with new thematic contents and points of view, as well as examples of good practices and methodologies that enrich their Local Action Plans. Some partners recognised to have broadened their views on the topic of Health Innovation. They have identified new challenges, problems and solutions that they had not considered before, increasing expected outcomes.

For all partners, the URBACT experience has incentivised the consultation and participation of local stakeholders around the topic of health, an issue usually hermetic and left to sector professionals. 4D Cities has demonstrated to city authorities, practitioners and local groups that it is possible to experience participative democracy and influence local policies when there is political will and the means are made available.

Many cities have succeeded in organising and engaging local groups of stakeholders on a consolidated permanent basis. They are now actively involved in their local projects and co-creating in local health policies. This is the case in Jena, for example, where the project has made this collaboration a central part of the Local Action Plan. One of the project objectives of the German partner is converting the ULSG into a Steering Group under the umbrella of the Jena Alliance for Professionals.

In the case of Plunge, the initial 12 members of the local support group broadened while advancing the local health plan. “The partnership between ULSG members was fruitful, well organised, strong and active. It has brought together 19 different stakeholders and united them to a strong network.

The partnership with the media during the project implementation got stronger and it has been focused on improving the quality of journalism, strengthening websites, and building stronger contacts with national level”.

Some project members mentioned enhanced collaboration among different local services and policy areas. Public health but also education, business, social care services and patients have been sitting together to discuss new project proposals in Health Innovation. However, some city partners experienced difficulty in bringing the decision-makers into the project. More presence and involvement of political leaders from the local and regional contexts would have given support and reinforced decisions. Also, a number of partners have mentioned to have intensified contacts at higher levels of governance to embed their strategies in a broader regional project. This is the case of the city of Tartu or the Brainport Development support to the local project, presented by Eindhoven.

With regards to potential of transferability, exchange and peer review activities have revealed significant differences among the health systems in terms of funding (public-private), competence distribution (government-local) and levels of service integration. In this sense, transferability conditions are easier to identify and happen between cities with similar regulatory frameworks. Top-down organised public health systems tend to have little participation of non-medical staff and usually rely heavily on public budget. On the contrary more decentralised systems tend to be more permeable and have a more social and participative approach, allowing co-prioritising and co-delivering care services and a more diversified source of financing.
Best-practice examples were of great interest to partners in picking ideas from successful initiatives on both sides. All partner cities agreed on the need of a strong leadership as a key component for transferability and embracing of innovative ideas.

For some 4D Cities partners, innovation has meant a shift from working in the Health Innovation field with research and economic stakeholders to developing a set of objectives defined bottom-up. The participation of experts in methodological aspects of patient engagement and social impact measurement revealed that the most important aspect of a Health Innovation project is to find out the needs of the patient, the community and/or the citizens. Without good, direct, well-assessed information on people’s expectations and preferences there will never be suitable services, products or treatments for them.

Once understood that designing a good strategy and meaningful healthcare interventions requires user input, engaging people in prioritising and planning, as well as methods to assess accomplishment of their expectations becomes a priority for all project partners.

For a number of cities the importance of assessing and analysing the local situation and trends before undertaking a strategic decision ensures the timeliness of a project and eases monitoring and impact measurement. This has been a repeated idea in the analysis and peer reviews of partners’ LAPs.

In a multidimensional project, as is the case of the 4D Cities, the content links to a variety of fields and potential actions to undertake. This can be seen in the sections on key project findings and policy recommendations of this same report.

Since the network is composed by different city profiles, history tracks, governance, levels of patient involvement, business development, etc. full accomplishment of all the recommendations highlighted is difficult to find in one single city. Each partner has focused its LAP in developing one or more dimensions, thus balancing the 4 Helix.

Health Innovation involves a diversity of local sensitive and strategic aspects related to health and economic growth. Transfer of knowledge and learning does not easily translate in immediate practical application, since conflicting agendas often arise. However, partners have put great efforts in mobilising communities and opening the discussion in their cities and among health actors engaging them in the international networking events. Linking the international and local level of discussion and work has been challenging but also highly appreciated by LSG members, and has often lead to a change of mind-sets.

There is probably room for improvement in the transfer from learning and capacity building at transnational level to its implementation through local action plans and local support groups, but the experience has been useful in terms of offering new views and approaches, as well as credibility and prestige to local projects in many cities.

Below are the summaries of all partners’ Local Action Plans. They reflect the impact that the URBACT II 4D Cities project has had in their local projects.
The health system is challenged to face the increasing demand of healthcare and social services arising from an older population (in Igualada, 17.76% of the population is 65 years and over) together with the budget constraints. As health services need to be sustainable and appropriate to the patients needs, governments have to reinforce and focus health policies on the prevention and promotion of healthy habits.

In this context, one of the main strategic priorities for the EU is promoting an active and healthy ageing, as can be seen in several initiatives undertaken by European organisations, such as the EU Strategy “Health 2020”, some policies promoted by WHO, the European Commission supporting the network “European Innovation Partnership on Active and Healthy Ageing”, as well as specific funding calls to finance policies to deal with fragility included in the “Horizon 2020” programme. At the same time, the Spanish Government is also focusing on the prevention of dependence and specifically, promoting the prevention of fragility and falls of the elderly. Finally, the Catalan Government is also interested in influencing the effects of the growing trend of ageing by promoting healthy habits and prevention. In that regard, one of the goals established in the Catalan Health Plan 2011-2015 is to reduce by 10% the incidence of the hip fracture in people aged 65 or over.

Therefore, the coordinated actions to reduce the hip fracture in Igualada are aligned with health priorities at European, national and regional level and respond to both the health system and patients needs.

3. The rationale

Hip fracture is one of the main problems of the elderly and a major cause of mortality in this segment of the population. Its high incidence, both in social and economic terms, requires the development of specific policies and actions to reduce its impact.

61,000 hip fractures are recorded in Spain every year (which represents between 25%-30% more than some years ago) and the incidence rate is 511 cases per 100,000 inhabitants over 65 years. Igualada’s Hospital registers 140 hip fractures every year. As far as the mortality rate is concerned, 2%-7% of patients die during the hospitalization acute phase and 17%-33% die in the first year after having suffered the fracture. The mortality rate after a hip fracture doubles those people of same age without a fracture. Hip fracture also increases the dependence since only 50% of people recover the functional capacity they have before the fracture. Last but not least,
15% of patients who have suffered a hip fracture suffered a second fracture which increases more their dependence and mortality rate.

In addition to the social impact, hip fracture represents a high economic impact in the health system, with a cost of 8.365,25 € per patient and a total cost of 395,7 million € in 2008 for the Spanish National Health System.

4. The Theory of Change

It is estimated that 1 in 3 women and 1 in 5 men over 50 years will suffer an osteoporotic fracture. Osteoporosis is characterized by low bone mass that weakens the skeleton. Therefore, people who suffer from osteoporosis have a very high probability of having a fracture when there is a fall or a blow. Nonetheless, as osteoporosis is an asymptomatic disease, people don’t have signs or symptoms until being fractured.

According to some studies, 70% of traumatic bone fractures in people over 45 are due to osteoporosis. Other studies demonstrate that 50% of people who suffer an osteoporotic fracture will suffer another one. Additionally, another study from the WHO and the International Osteoporosis Foundation (IOF) indicates that the number of hip fractures due to osteoporosis will be tripled within the next 50 years. Thus, strategies to deal with this problem should be focused on a preventive approach.

IOF recommends preventing fragility fractures starting with pilot projects with a very focused group since it is easier to follow it up and evaluate the results. Thus, actions included in the LAP addresses the prevention of the hip refracture since it has a very high impact for both patients and the health and social system. However, most of the actions to boost the prevention of hip refracture are also applicable to other fragility fractures so that once evaluated the results they may be scaled up.

5. The project objectives

As mentioned above, the actions designed are focused on preventing the hip refracture, that is, they are addressed to those people who have already suffered a hip fracture previously. The main objectives are as follows:

- To reduce by 10% the number of hip refractures in 1 year.
- To prevent the osteoporosis by promoting healthy habits and an adequate pharmacological treatment.
- To prevent falls by promoting an adequate rehabilitation and a favourable environment.
- To slow down the dependence and improve the functional capacity of people who have already suffered a hip fracture.
- To train not only patients but also their relatives and carers to improve the self-management capacity to prevent a new fracture.
- To train professionals in new competences or in new methodologies and processes in a safe environment by using simulation, before being implemented with patients.
- To reduce the healthcare and social costs.

6. The local policies and areas involved

As patient is the focus of the service, actions have been designed from a patient-centred approach and a multidisciplinary perspective. Therefore, all
the actions included in the following 4 areas have been designed by multidisciplinary teams set up by the professionals that directly interact with citizens as well as the citizens themselves. The concrete developed areas are as follows:

- Prevention of Osteoporosis by:
  1. Promoting healthy habits among population related to exercise, diet and sun exposure.
  2. Designing the adequate pharmacological treatment related to prescription, administration and treatment compliance.

- Prevention of falls by:
  3. Designing the type of rehabilitation, that is, community, group and individual as well as defining the location of the activity.
  4. Promoting a favourable environment to prevent falls and disseminate the appropriate technical support.

Key members involved in the designing process are those working at the front line with patients. They know at first hand their needs and demands so that this will facilitate its efficient and suitable implementation.

As far as the implementation of this multidisciplinary approach is concerned, professionals, health related services, citizens and companies will have the opportunity to work together in the 4D Health Innovation Simulation Centre, where the wide variety of players involved in a concrete process can use simulation to recreate the real environment or situations with no risk to people.

Besides de collaboration and co-creation process with local stakeholders, the involvement of other public administration and government bodies has prepared the field to be able to undertake the present innovation project. In that regard, the 4D Health Simulation Centre is receiving the support from the Catalan Autonomous Government and specifically, from the Ministry of Economy and Knowledge (Universities and Research Secretariat) as well as the Ministry of Health (Agency for Health Quality & Assessment).

7. The governance. Who does what

Partnership has been set up taking into account all the agents and services involved in the prevention of the hip refracture, for instance, citizens, the hospital, primary care centres, community pharmacies, residences, community networks, 4D Health Innovation Simulation Centre, professional training centre, enterprise in the rehabilitation area as well as the municipality.

Besides citizens, a wide range of professionals have been involved in the co-creation process, for instance, orthopaedic surgeons, geriatrists, anaesthetists, pharmacists, primary attention, occupational therapists, nurses, nutritionists, physiotherapists, sports coaches, teachers of related studies, professionals from different areas of the municipality such as public health, community support, sports and economic development, among others.

The Economic Development department of the City Council has been the driving force of the process and has raised awareness about preventing the hip refracture from an integrated approach and by putting the citizen at the centre of the system. In that regard, the municipality has created the conditions, mobilized and boosted the collaboration of the agents involved. It has also been
necessary to mobilize and raise awareness among institutions’ decision-makers so as to get the involvement of professionals that daily deal with this topic.

Empowerment of stakeholders not only as a source of information but also in the designing and co-creation process has been a key point because both patients/citizens and professionals are those who better know the demands, needs and challenges to be solved.

8. What we learnt. How we use it

Professionals and citizens have increased their capacity of working together, since policies have been produced by multidisciplinary teams set up by both citizens and professionals coming from different areas.

The first-hand knowledge as well as the integration of different views and proposals coming from health care professionals, professionals from the knowledge sector, citizens, the business area and policy makers has enriched, widened and better fit the concrete measures to be developed to prevent the hip refracture to the citizens’ needs and demands.

In addition, professionals have realized of the importance of putting the citizen at the centre of the healthcare system since the citizen is the unique “common” agent along the process and who interacts with the other stakeholders, being them from the health system, knowledge organisations or the business sector.

9. The innovation

- The change in the approach of the hip fracture. In that sense, the classical approach of focusing on the falls as the main cause of the hip fracture has been replaced by the concept of “Osteoporotic fracture”, which means redirecting the cause to the illness of the bone. Thus, actions must be aimed at preventing osteoporosis, although it is essential to continue preventing the falls.

- The multidisciplinary management of the whole process, not only the health care assistance once the patient has been fractured but also the preventive actions to avoid suffering a new fracture.

- The demand-led approach since measures and actions to be implemented have been designed by people who know the demands from patients, that is, the citizens itself as well as professionals working at the front line.

- The use of 4D Health Innovation Simulation Centre as a tool to train professionals in new competences and skills, test new processes and methodologies before being implemented; organize training or actions focused on awareness-raising among population; test the usability of new products, among others.

10. The benefits

- Reduced number of hip refractures.

- Improved quality of life of people that have suffered a hip fracture.

- Reduced number of falls by doing an appropriate rehabilitation and having the adequate environment.

- Raised awareness among citizens of having healthy habits and increased self-management and self-care capacity.
11. The measurement

Indicators will be measured one year later after the actions and measures have been undertaken. Some of the indicators are as follows:

- Number of hip refractures.
- Number of people who have taken part in actions that promote healthy habits to prevent osteoporosis (actions related to exercise, nutritional aspects and sun exposure).
- Number of people who have followed a pharmacological treatment to prevent osteoporosis.
- Number of people that have followed rehabilitation treatment to prevent new falls.
- Number of people who benefit from adapting spaces to prevent new falls, that is, at the patient’s home or other centres where patients live or visit, for instance, residences, community networks, primary care centres, hospitals, etc.
- Number of actions done to disseminate the available technical assistance and support material addressed to hip fractured patients to prevent new falls.
- Number of professionals that have taken part in training activities using simulation.

12. The transferability

Cities interested in undertaking measures and actions in favour of improving the prevention of the hip refracture have to bear in mind to put the citizen at the centre of the health care attention and involve all the professionals (citizens, geriatrists, surgeons, nurses, physiotherapists, rehabilitators, nutritionists, pharmacists, occupational therapist, trainers, decision makers, among others) and services (hospital, primary care, pharmacies, residences, community networks, sports centres, etc).

As important as involving the professionals working at the front line is raising awareness and ensuring the involvement of politicians and decision-makers so as to carry out the policies to prevent fragility fractures.

Additionally, cities interested in promoting this type of actions can take advantage of the 4D Health Innovation Simulation centre so as to test new methodologies or processes by using simulation before new actions are implemented or to train health professionals to work with an interdisciplinary approach.

Finally, most of the actions to prevent the hip refracture can also be replicated not only to other cities but also to a wider focus group, that is, to other fragility fractures. Thus, once evaluated the results, they can be scaled up to boost, for instance, the primary prevention of the hip fracture or wrist or vertebra fractures.

13. The next steps

Some actions will have to be tested before being implemented. Thus, 4D Health Innovation
Simulation Centre will be used as a training and testing tool to be used by professionals and patients and will recreate the real environment, such as the home, hospital, primary attention, pharmacy, etc.

Besides promoting the implementation of the actions included in the prevention of the hip refracture and searching sources of funding, it is also essential to disseminate the concrete solutions developed. On the one hand, it will be disseminated at local level so as to raise the awareness of citizens in terms of having healthy habits and prevent both osteoporosis and falls. On the other hand, it will also be disseminated to other administrations promoting health at regional, national and European level (i.e the Health Department of the Catalan Autonomous Government, the Ministry of Health of the National Spanish Government, the WHO, the European Commission, etc).

Additionally, actions implemented will be followed up and evaluated and amendments will be promoted if required. Last but not least, the focus of the actions will be broadened to boost the primary prevention, that is, focus the actions to prevent the first hip fracture.

14. I want to know more

- M. Àngels Chacon Feixas, Project Coordinator and City Councillor of Economic Development in Igualada City Council.
- Enric Macarulla Sanz, Director of the 4D Health Innovation Simulation Centre.
- Enric Duaso Magaña, doctor in the Acute Geriatrics Unit at Igualada’s Hospital. Anoia’s Health Consortium.
Recruitment strategy for the health sector in Jena

1. The project

The health sector in Jena is depending on skilled employees. Currently there is no dramatic lack of staff, however there are first indicators of a changing development (length of vacancy when replacing an employee, number of applications, standard of qualifications of applicants, decreasing interest in completing a vocational training (=duale Ausbildung). On the other hand, the demographic development in Germany will create a higher need for staff in the health sector due to the growing number of older people and with that an increase of business with thus creation of new jobs to be filled. The ULSG is trying to ease recruitment in the medium and long run.

2. The context

Due to the demographic development (death > birth) and the fact that people are going to live longer, the costs for health care will rise. The need for new skilled employees will increase (for replacement and for necessary expansion of services resp. products offers).

Currently the industry has to face the following challenges:

- Wages are not competitive, except medical engineering industry.
- Image of some profession is extremely low (e.g. ambulatory care).
- Work conditions are not adequate.

Besides this, the care industry will face a new type of patient: Patients will become older (with more chronic and mental diseases/multi-morbidity or multidiseases). Employees will need different and higher level skills.

Additionally the wages are differently fixed between the federal states in Germany and may vary even in cities and urban areas. This also affects doctors. Thus in some urban regions there is already a lack of doctors due to non competitive wages/income.

Also in other branches such as medical engineering industry there is a strong demand for highly skilled people especially due to the permanent need of innovation.

Overall, the health care industry has to face challenges with regards to recruitment and new strategies and it looks like nationwide the industry is not prepared yet, mainly also due the strong influence of federal regulations and laws.

3. The rationale

The need for more skilled staff within the next 5-10 years is to be expected. However the health industry is not popular yet as potential employer, except the sector of medical technology, which is quite visible in the economic landscape of Jena. The economic relevance and the positive prognosis with regards to employment in the health sector as a whole is not known yet to the public and especially to potential young staff.

Additionally, the part of the health care industry which is potentially in a high demand for staff –the care sector– has to face numerous issues: wages may be not competitive, image is damaged, workload may be physically and emotionally challenging.
In Germany as a whole and especially in Jena more and more students are leaving school with A-level and the intention to study. The number of applications and their standard of qualifications for a vocational training (duale Ausbildung) which is a key pillar of the German enterprises, is going down every year.

Citizens in Jena will need continuous and guaranteed care if they are sick as the case may be of getting older, but it is also important to keep a certain standard in regards of city branding to be attractive for potential employees. At present, available childcare is one key factor when deciding as a family whether to move, in the near future it could be the availability of care for parents.

4. The Theory of Change

Base work
We have planned to collect facts and figures on the health sector in Jena. This was mainly done with a study, which we commissioned. Change: it brought even for us as ULSG new insight regarding the impact of the health sector in Jena as an employer.

Operative work
Currently our ULSG is working on a brochure to raise interest especially of young people for a career in Jena’s health sector. It will also be promoted by an interview/articles in a targetgroup focused magazine in Jena. This brochure will be used e.g. at the traditional days of vocational/professional orientation in Jena and open days.

Strategic work
In April, the ULSG will be transferred into the Jenaer Allianz für Fachkräfte (Jena Alliance for Professionals) to continue its work. Change: In the mid-term, we expect to create awareness and attractiveness for health sector in Jena as a career field.

5. The project objectives

The ULSG of 4D Cities Jena is intending to address the following:

Identify and create awareness of the economic importance and impact of the health sector in Jena as a whole, especially in regards to positive prospects for the future, number of employees in this sector and turnover. Thus we would like to increase and demonstrate the attractiveness of the health care industry as career field thereby emphasizing various related job profiles.

Furthermore, it is of great benefit that, due to the 4D Cities project, stakeholders were connected for the first time. We would like to continue this process. The strategy is aimed to work sustainably, that means the ULSG will be converted into a steering group under the umbrella of the Jena Alliance for Professionals.

6. The local policies and areas involved

The intention of the ULSG via the 4D Cities project matches perfectly with the strategy of the Jenaer Alliance for Professionals. The success of a high-technology site such as Jena was and is depending on the availability of skilled and highly skilled employees.

Employment strategies involve many social actors and partners. Thus it is important that the multiplicity of actors in Jena and in the region are communicating with each other, matching strategies and measures and thus mutually motivating each other to work on this topic.

In the meetings of the Jena Alliance for Professionals, held once or twice a year, missing links and information resp. measure gaps, also deficits and
problems in the overall strategy are identified and activities are coordinated. The Jena Alliance for Professionals has been established as an information platform to avoid e.g. parallel initiatives and to increase the efficiency of measures. It serves as an organ for the different coordinating sub-groups and numerous partners, at the same time with the goal to identify topics on a social and political level and to discuss them on a federal political level. The co-ordination of the Jena Alliance for Professionals lies in the hand of Jena Business Development.

The current ULSG will be transferred into a steering group of the Jenaer Alliance for Professionals.

7. The governance. Who does what

The City of Jena is a well-connected business and science location. However, in our Local Support Group members who had never worked together before joined the group and they now cooperate on the same topic. This has been an important and inspiring step!

Besides the city administration of Jena, the Ernst-Abbe-University of Applied Sciences, the business association Medways e.V., the University Hospital and the maintenance base Jena, the group also includes the local Employment Agency. If necessary in course of the process the team will be supported by guest experts.

The cooperation between local government with Jena Business and the local stakeholders is not at all based on any kind of hierarchy neither a kind of steering the process by order. Quite the opposite the interaction is based on the partner’s confidence in each other. Jena Business is in this context to be seen as a player who communicates, motivates, gives feedback of partner’s work, sets new topics on the agenda and creates connection between new partners.

The governance is as well characterized by bringing different stakeholders together and therefore different points of view are brought into the discussion. The process is supported by the local political authorities, as Jena Business is acting on behalf of the Mayor and the City Council of Jena.

8. What we learnt. How we use it

This is our first EU-project for our board of economic development, in which we actively participate. By transnational meetings and by the assistance of our Spanish lead partner, Igualada, an important exchange of know-how came into being together with the other participating EU cities, additionally enriched by external experts, which were invited to the meetings. Thereby significant differences among the systems became clear, but so were best-practice-examples which could be transferred. 4D Cities partners like Leeds, Eindhoven und Tartu were and are helpful for our benchmarking system.

Additionally, during its life cycle, the project continuously offered new methods and skills to work in and with the ULSG namely, the work on the Local Action Plan. And the city partners were involved in the process e.g. by being asked for need for further special training or special experts. The permanent insisting of finding out what is the real challenge to tackle and what is just a side aspect, created helpful distance to the own project and think it better.

Last but not least the bringing together of stakeholders sometimes for the first time in this special setting was fruitful. Within our ULSG e.g. two stakeholders jointly handed in a funding project application for a call by the Federal Government of Germany – successfully by the way.
9. The innovation

For the first time the approach started to overview the economic value and importance of the health care sector in Jena. So far the medical device industry and some parts of corresponding research were interacting. The care sector was represented in the “Pflegestützpunkt” co-run by the city, however there was no link between the two sectors nor was the importance of the health sector in Jena evaluated or at least tried to start to evaluate.

Another innovative aspect was that, with the setting up of our ULSG, we made it possible that e.g. medical device sector –a ULSG member– was meeting and discussing with city government (social affairs/offers for elderly people) –another ULSG member. The interaction within the ULSG developed during the project, e.g. the representative of medical device and the representative of city government applied together for a nationwide funded project “Living and getting old with advanced technology”.

With regards to the city branding, 4D Cities project offered a new aspect. As the citizens benefit not only as employees from secure working places in health sector, however they also profit as patients through the development of medical therapies and thus gain more quality of life resp. city becomes also attractive due to its offer of care for parents who are moving with their child for his/her new job to Jena.

10. The benefits

A benefit at the beginning was to get an overview of the economic relevance of the health sector in Jena, which was not known so far.

Secondly we brought stakeholders together in our ULSG meetings; some of them met for the very first time. Later, they even worked together not only in our ULSG but were also involved in new common bilateral projects.

An outcome as a motivational tool for the ULSG members and sort of test tool will be a brochure to be completed during the next weeks, which is intended to attract awareness to career options in the health sector in Jena especially for younger people.

A fundamental benefit of the project would be the sustainable working on meeting the future need for more and better-qualified staff in the traditional health care sector in the long run.

11. The measurement

As in the ULSG we have focused on labour and especially on attracting more and qualified young staff as a first step, the outcomes will have to be seen in the long run. Major parts of the health care sectors have to face a massive image problem and to work on this image problem needs sustainability. In the medium run, the number of visitors of open days at e.g. university hospital/care education sector respectively at the information exhibitions could be an indicator. In the long run a measurement tool could be the number of applications within a stable demographic setting to be able to compare it with past figures. Also the number of students enrolling in the newly offered study programmes at the Ernst-Abbe-University of Applied Sciences.

12. The transferability

We pointed out that the legal regulations are set up from the Federal Government, however the consequences are local for the patients and the delivering industry. The abovementioned issues are similar in a lot of German cities as these problems cause consequences nationwide.
Generally the health care sector is facing the problem that the market value, in terms of number of employees, turn over figures and the positive prospects for the future due to demographic development are not very well-known. Some parts of the industry are facing an image problem (especially the care sector); the positive aspects of a career in healthcare are not evident to people, especially within the group of young people. Trying to find enough young staff to start e.g. a vocational training in health care is to be seen in the context of arising competition of finding enough and good qualified students for vocational training at all. And the competition between the regions in Germany will get stronger as some federal states such as Bavaria or Baden-Württemberg have already for quite some time full employment and have to act strategically. Thus the procedure to first, analyze the economic importance and then, try to set up a sustainable system of finding enough employees in the long-run, is adaptable to cities.

13. The next steps

1. Study re economic importance has already been realized: First set of figures was collected showing the importance, in particular labour-wise.

2. Focus on attracting young people to choose a profession in the health care sector: strategy of benefitting from embedded measures such as training for pupils, information exhibitions, open days events etc.

3. First measure: creating a brochure (with an emotional approach) to counteract the bad image of health care sector.


5. Sustainable approach: the ULSG Jena will be transferred as a steering group into the Jenaer Allianz für Fachkräfte (Jena Alliance of Professionals) to continue to work on recruiting a strategy and widening the target groups.

14. I want to know more

- Evelyn Voigt, Vice executive director of care at the University Hospital in Jena, the biggest employer in town/region, with more than 4.900 employees, is the only teaching and multicare hospital in the Federal State of Thuringia, offering 26 specialised hospitals.

- Professor Dr. oec. Heike Kraußlach, Studien schwerpunkt: Personalwirtschaft, Ernst-Abbe-Hochschule Jena/University of Applied Sciences, Fachbereich Betriebswirtschaft.

- Ernst Abbe University for Applied Sciences is the biggest in Thuringia with about 5000 students. Professor Kraußlach and her team launched a new research project for the region of Thuringia called Corporate Health Management (see Jena Transnational Meeting Report and presentation of November 2013).

- The University is as well working on new study offers in health care launched in 2014.
Baia Sprie

Delivering integrated services in public health–social–education field

1. The project

As a result of the participative process of co-creating the LAP with all stakeholders, at the end of the 4D Cities URBACT project in which we saw best practices from the other cities involved, the things that we learned lead us to the conclusion that all the proposed projects are interlinked and directly co-dependent one to each other.

We are proposing a number of 5 projects (initiatives) that are addressing the needs of the population in an integrated manner, in health, social and education fields:

- Integrated Centre for Socio-Economical-Medical Analysis Initiative.
- Re-opening the public hospital from Baia Sprie as a centre for terminal-phase patients palliative care with 20 beds.
- Units and projects for services outside the hospital Initiative.
- Baia Sprie population as co-owners and co-generators of their own health Initiative.
- Centre for Smart Development Initiative.

The main project and by far the most challenging one is Re-opening the public hospital from Baia Sprie as a centre for terminal-phase patients palliative care with 20 beds.

In the current resume of the LAP, the main focus will be on this initiative, underlying the interconnections between all proposed projects.

2. The context

In 2011, the Romanian Minister of Health closed the local Chronic Disease Hospital Baia Sprie, and by that, the entire Baia Sprie area (consisting of 22,500 people) was left with no option for local medical services.

This action has to be linked together with the fact that the region was always a mining region, that more than 70% of active population was involved in mining industry, and that once with the closing of the mines Baia Sprie was left with a huge economic problem, doubled by the medical problem, due to the chronic diseases of the miners.

In August 2011, at the initiative of Baia Sprie Mayor and after a public subscription, Medspria was borne as a private medical company. The initial Medspria shareholders structure consisted of 77 individuals, 9 companies, Baia Sprie City Council and a nurse union. The objective of Medspria was to re-open the hospital at its full capabilities. It was the only hospital closed by the Government that was re-opened. Even more, a new concept was raised — placing the people in the centre of the health care system, being co-producers and co-owners of their own health and health system generator. Although the great idea behind the project, its objective is not yet met, the hospital running currently only 5 medical units and facing huge underfinancing problems.
3. The rationale

Physical rehabilitation of the old hospital building is needed in order to be able to function as a hospital in modern conditions. Contracting good doctors and hiring personnel is a must after the rehabilitation. Opening the hospital as a centre for terminal-phase patients’ palliative care.

Yearly, aprox. 1400 new cases of cancer are identified in Maramure county (0.28% of the county population). Out of this number, more than 50% (700-800) people are dying the same year. There are not enough beds in hospitals and not enough specialised personnel to take care of people in terminal phases of their lives (data collected from interviewing Dr. Dumitru Filip – chief oncologist at public county hospital Baia Mare and Dr. Calin Pop – former General Manager at public county hospital Baia Mare).

4. The Theory of Change

We want to be able to take care of these people in terminal phase of their lives, offering them professional medical services and assistance, psychological and/or religious counselling, decency and dignity by not being thrown out of the hospitals and sent home to die alone.

A hospital that can offer medical services with permanent care with 20 beds can address 5–7% of the total number of 700 people annually (if referring only to the Baia Sprie area population related to the total number of population in Maramure county) and 35–45% of the total number of 700 people (if referring to Baia Sprie area population together with Baia Mare area population – Baia Mare is the capital of the county located only at 15 km distance from Baia Sprie). The people involved are those being ill and also their families.

We will be able to take care of 20 people that nobody else wanted to take care of. More, we will offer not only medical services and a bed to stay in, but also present other people that cured from the same “final” condition with good care, keeping the loved one close, treating not only the body but also the soul. We will have doctors and nurses that will talk to people, treating them as people, and not only as sick dying people. We will also have priests that will offer their time and attention to people who will ask for them. We will offer psychological consulting for the family.

5. The project objectives

Create an integrated view and approach in seeing and addressing Public Health, by gathering together all the actors, all the stakeholders and linking them in offering better services for the population in all inter-related fields: Social, Educational, Health.

Regarding the Public Hospital Initiative, the objective is to re-open it as a centre for terminal-phase patients palliative care with 20 beds.

6. The local policies and areas involved

We are developing projects in Health area, Social area and Education area in an integrated manner, realising that all the projects we proposed for LAP are in fact projects with links in all of the 3 domains.

We reached the final form of the LAP after many ULSG encounters, after all the URBACT meetings, summer universities, elected representatives training sessions, national dissemination schemas. We hope that in the time of implementation of the projects all these actors will still work together and improve current projects and develop further ones.
For instance, The Project of Integrated Centre for Socio-Economical-Medical Analysis Initiative will give data and support for a best decision in what kind of units and projects are proper to develop outside the hospital, but also an interested view of the link between lack of education and lack of health.

Moreover, by trying to convince as much as possible from the total population of becoming shareholders in MedSpria, they will earn the right to choose for their own health, by creating themselves the exact services they need.

The Centre for Smart Development will give the frame where NGO’s and private companies can deliver education, basic education related to health or advanced trainings needed in order to be able to serve in medical field (nurses...)

7. The governance. Who does what

The project coagulates the following actors, stakeholders in a strong partnership: MedSpria board, Mayor of the city and local City Council (local government), terminal phase patients, families of the patients, National House of Health – Maramures county, county public hospital.

MedSpria board will invest time and money in the project, being the investors, for renovating 1 floor of the hospital building facilities for 20 beds, hiring doctors, nurses, setting the partnership with churches and psychologists.

For the patients in terminal phase of their lives, and for their families, there will be organised discussions with other sick people that were cured, psychological meetings, they will be the beneficiaries of the treatment in a decent, loving environment. They will have the time to prepare in silence and in dignity, with the help of a priest or a psychologist for the big passing by, having their families close.

The National House of Health – Maramure county will be involved in the operational stage of the hospital, by supporting a part of the costs of the hospitalisation and services. The objective is to proof that the case (“externalising” services to private hospitals) can be a best practice that can be replicated for other services in any place of Romania.

For the Public County Hospital, there will be a decreasing demand for one request, allowing doctors and nurses to have less patients for which they can allocate their time and resources. In terms of costs and bed, there will more available beds for patients with good chances to be cured.

For the big public –people living in Baia Sprie area, they will be the indirect beneficiaries of the project and at the same time they will be co-owners and co-producers of their own health, by becoming shareholders in MedSpria.

8. What we learnt. How we use it

Starting with summer 2011, after the closing of Chronic Disease Hospital Baia Sprie, the city, through its Mayor and local Council were convinced that if they could reopen the hospital, all the medical problems of the people from Baia Sprie area would be solved.

Working within URBACT II Programme, by being a partner of the 4D Cities project, gave the opportunity to the City of Baia Sprie to meet other cities, to face others problems, to see others best case scenarios, to ask its citizens, to create and generate meetings of the ULSG, in just a few words –to broader the view. So, this document changed before even started to exist from a LAP
Baia Sprie

on opening the hospital to its initial state to a LAP for Integrated Public Healthy Services in Baia Sprie.

As a result of the participative process of co-creating the LAP with all stakeholders, at the end of the first year participating in 4D Cities URBACT project, the focus of the LAP is set to be as follows: a Local Action Plan for Integrated Public Healthy Services on 4 major priorities of the city: **Public Health, Social field, Economic field, Education**.

Running more than 15 meetings with all the members of the ULSG on one hand, and 3 big meetings with more than 50 persons from all types of stakeholders around the city on the other hand, when writing down the projects to be eligible in the final form of the LAP, the conclusion was surprising. All of the projects had some interconnections between them, and most important, all of the projects had touched points in 3 major fields: **Health, Social, Education**.

The conclusion is that we narrow the approach and eliminated the segregation between projects – having 2 projects on Social field, and 3 on Health ... and in the end we developed all the projects in order to have good roots in a new centralising field: **Public Health–Social–Education Field**.

9. The innovation

We promote the concept – Baia Sprie population as co-owners and co-generators of their own health Initiative. By this initiative, we are trying to attract more than 50% of the adult population of the Baia Sprie area as shareholders and active actors in defining, controlling, financing and monitoring all aspects related to public health through a private medical company – MedSpria.

We also promote the concept of externalising a series of services out of the big public health system into smaller, private units, dedicated and focused to a relatively small niche, where patients will be better treated and public money will be better spent.

10. The benefits

- Regarding MedSpria unit and board, MedSpria will become the standard in treating people in last phase of their lives.
- Regarding patients in terminal phase of their lives, we will be able to provide extension of their life with loved ones close, with hope and peace in mind.
- Regarding the National House of Health – Maramures county (governmental institute for health), the case will become a best practice that will be extended to other services.
- Regarding Families of the sick people we will be able to increase awareness about cancer.
- Regarding Public county hospital we will be able to increase the number of beds for people not in terminal phase of their lives and to be able to transmit more hope for the sick people with good chances to cure.

11. The measurement

We expect to reach the outcomes described earlier by measuring the following indicators:

- Double the life expectancy for more than 20% of hospitalised people.
- 5% of the hospitalised people will not die (unless much later and/or by another cause).
• 1 new kind of service will be “externalised” from the public county hospital to private ones.

• Create a support group for cancer in Baia Sprie.

• 2 events yearly for disseminating the importance of prevention of cancer by screening.

• Oncologist training programmes for every family doctors in Maramures.

• Extend the number of beds with 50% in next 3 years.

• 10% more time for the doctors to talk with patients.

• 5–10 more free beds available monthly in public county hospital.

12. The transferability

When the initiative will be fully operable it will bring hope and dignity to patients in terminal phases of their lives and their families. It will also be a proof that the concept of externalizing services out of the public health system (services with impact) is working.

Every community will be able to find biggest problem inside and try to solve it the same way we are doing it.

Conditions – open mind, public awareness and a lot of work.

13. The next steps

• A feasibility and technical study for the rehabilitation will be run by an external partner (architects house, consultants company) that will be contracted in order to deliver the technical parts and annexes.

• Identifying possible existing funding schemas.

• Physical rehabilitation of the building. Endowing the new units with specialised equipment, drugs and supplies.

• Contracting good doctors and specialized personnel. Opening and running the new hospital and medical units.

14. I want to know more

• Mr. Dorin Pasca, Mayor of the city of Baia Sprie.

• Mr. Zoltan Molnar, Medspria Medical Unit Manager.

• Mr. Iulian Furnea, External expert, advisor for 4D Cities project.

• Mr. Bogdan Breban, Projects Implementation Unit, Baia Sprie City Council.
**Plunge**

**Physical activity for Plunge health and wealth**

1. **The project**
   Project goal is to develop physical activity for better health and wealth of the residents of Plunge district.

   Main expected outcomes are:

   1. Active and healthy leisure and daily physical activity becomes a generally acknowledged value of the residents of Plunge district.

   2. Better conditions in Plunge district for everyday physical activity by creating new infrastructure for active leisure and combining it with the existing ones into an integrated system.

   3. Constant monitoring and impact measurement of active lifestyle on health of Plunge's residents.

2. **The Context**

   Citizens’ involvement in decisions regarding health and healthcare traditionally was very low in Plunge region as well as in most European countries. Public health specialists based on statistic data have identified several priority problems in Plunge district, like very high suicide rate, unhealthy diet of children and ageing of population, lack of physical activity, smoking, alcohol consumption, high rate of cardiovascular mortality, over-usage of medications, etc.

   From the economic point of view it is several times more useful to invest into teaching health than treating patients due to unsuitable life style.

   Taking into account that population of Plunge is ageing and considering migration abroad or to larger cities of Lithuania, it is essential to prolong healthy and working age and to create conditions for people to stay in the labor market as long as possible, to strengthen health of workers, and encourage active and healthy lifestyle. Moreover, it is essential to decrease morbidity, disability and mortality of elderly working-age population with a view to encouraging active and healthy ageing.

   Also, as increase of mental and physical disorders among children and teenagers is observed it is necessary to develop cooperation between family, educational, health care, social care institutions, business and NGOs. Risk factors of health and early symptoms of illnesses of children and adults are often not noticed on time due to insufficient professional skills, lack of medical personnel and unregulated cooperation.

   From the urban point of view, the district of Plunge, with its unique nature, existing parks and developing infrastructure (bicycle roads, farm tourism homesteads) has exclusive conditions for active leisure time and physical activity. However, it is under-exploited.

   From the political dimension monitoring of health indicators has insufficient influence on future instruments of financing and programmes of physical activity.

3. **The rationale**

   In Plunge district, similar to Lithuania in 2013, the highest general morbidity cause among
adults remained with respiratory (539,7/1000 people), vascular (387,9/1000 people), connective tissue and musculoskeletal (289,9/1000 people) diseases. General morbidity with diseases of digestive system, nervous diseases, traumas and other consequences of external factors, behavioral and mental disorders in Plunge district were higher than in Lithuania and Telsiai county.

The number of doctors in Plunge decreased by 5.21% in 2013 compared to 2008. Meanwhile in Lithuania and Telsiai county this number increased.

International practice and research justify that development of physical activity helps to decrease prevalence of harmful to health risk factors. Positive experience of physical activity in childhood and youth helps to lay background for active and productive life in the future: it is important to foster positive approach to health by promoting active lifestyle, seeking to broaden knowledge about healthy life, encouraging active leisure of families and strengthening partnership of parents in educational process.

Physical activity of children is essential for prevention of diseases, productivity of children, better stress resistance at school, better relations, lower morbidity and fewer tendencies to harmful habits. Physical activity is also related to another health supporting behavior: healthier diet, fitness, work / leisure time, better personal hygiene and body care, absence of bad habits, etc. Passivity, on the contrary, has negative impact on mental health (cognitive function deteriorates, it is difficult to concentrate), back pains and poor posture appear, risk of obesity and depression increase.

It was determined that physical activity, such as walking or cycling, etc., reduces the early risk of death from various chronic to non-communicable diseases.

4. The Theory of Change

Project idea and action plan have been developed through series of interactive workshops with representatives of different community groups and representatives of public and private sector. As a safety catch for project success in the future, is a fact that not health professionals, but community representatives themselves acknowledged that low physical activity for all age groups is a top reason leading to health problems.

With an aim to minimize financial resources required for successful implementation of public health infrastructure, particular attention was spent to investigate existing resources and to plan activities with minimal public input and through private investments, e.g. involvement of bicycle dealers to support development of infrastructure for bicycle roads etc.

Project initiative seeks to address root causes of the low involvement for physical activity of population in Plunge district.

Problem tree methodology has been used for problem analysis performed together with various stakeholders. Following this, groups of problems have been defined, which need to be addressed through project activities:

1. Negative attitude to physical activity and there are no physical activity habits since childhood. It is the consequence of widely spreading passive lifestyle in families and inadequate attitude to physical activity.

2. There is a lack of sports and physical activity infrastructure in the district, although natural environment and existing infrastructure is not properly exploited.
The action plan provides practical measures to increase physical activity of the population, fostering to raise the perception of benefits of good physical and mental health.

Business is encouraged to cooperate with public sector while creating sports and leisure infrastructure in Plunge district (swimming pool, multipurpose sports complex, stadium, outdoor fitness equipment, playgrounds, etc.). Infrastructure of pedestrian and bicycle roads is developing in combination with the existing ones.

It is planned to increase the number of mass sports and active leisure events for families and target groups.

There are encouraging joining European healthy lifestyles initiatives, such as “European Mobility Week”, “International Tourism Day”, etc.

Public campaigns and dissemination of healthy lifestyle events is also planned to increase.

5. The project objectives

Commitment for implementation of project activities already has been stated from representatives of different sectors who also were owners of project idea and had proposed project activities. There are three parallel groups of activities planned that respond to the three project objectives:

1. Create a supportive environment and conditions for physical activity.

2. Develop strategies to change attitudes towards physical activities, i.e. behavioral change strategies targeted to different population groups: children up to six years, school age children, youth, middle age citizens, seniors etc.

3. Improve Plunge’s health monitoring system.

6. The local policies and areas involved

In the process of priority setting and problem analysis, a wide partnership was created, which included representatives from public and private sectors. A supportive political platform for the project idea was put in place, under the leadership of the Mayor of the district, who has profound experience in public health policy (he worked as vice–minister for public health in the ministry of Health of Lithuania). A strong leadership in mobilizing stakeholders from education sector, private enterprisers, NGOs have been demonstrated by health care administration and Public health bureau, also involved.

In 2012 by decree of the Mayor, an URBACT Local Support Group (ULSG) consisting of 16 members was created for the preparation of the Local action plan. Taking into account the progress of the preparation of the Action plan, the composition of the group was changed and new members were involved. It was extended up to 19 members.

The ULSG had regular meetings (every month/second month) to discuss the situation, analyze main problems and needs in health, in economy and other topics with regards to the district. The working group discussed the goals, structure, composition, content and instruments of the Local action plan. Brainstorming and problem tree methods were used to choose new ideas and propositions. Representatives of various fields and mass media were invited to the meetings. After
each international meeting the experience was shared with ULSG members and stakeholders. Progress and results of the joint work on the 4D Cities project were publicized locally and nationally.

Preparation of Local Action Plan (LAP) was developed in coordination with Strategic development plan of Plunge district for 2010–2020. Finally URBACT LAP will be submitted to the political council of Plunge district for approval.

7. The governance. Who does what

There are defined responsible actors for every measure and responsible coordinators for results. The created LAP contact database will enable to create communication corridors with the help of which networks relations will be enabled between different European local action groups, institutions, universities, research and innovation centres and all of this will be directed towards economic growth of cities.

- Plunge municipal council – will participate in the activities of the network of Healthy Cities with a commitment to work and collaborate with the other cities, achieving the Healthy City properties and better health of city residents.

- The Public health Bureau will collect statistical data and will be in charge of issuing meaningful data for project monitoring.

- The Public Health Board will coordinate the municipal fields of health education, alcohol, tobacco and drug control, public health safety and health promotion, will elaborate and implement disease prevention measures, will identify priorities of the municipal public health support programme.

- The Private Health services will carry out preventive inspections and preventive programmes. Together with the Public Health bureau will conduct health promotion activities more effectively strengthening the health of individuals and will introduce the principles of healthy lifestyle, teach how to change lifestyle, manage stress, and will advise in choosing healthy diet and physical activity.

- Private business companies and institutions will establish positive working conditions; will organize programmes on health by themselves and will actively participate in other’s initiatives related with positive to health business surrounding. Also private entrepreneurs will participate in creating new infrastructure for active leisure activities and will give healthy friendly services, such us will organize massive cycling races, etc.

- Educational institutions will actively participate in activities related to Health Promoting Activities at Schools and Kindergartens.

- Citizens not only take care of their own but also family members’ health, and will actively participate in prevention programmes.

8. What we learnt. How we use it

The participants of Transnational meetings have gained a lot of knowledge about health innovation strategies and methodologies. They had the opportunity to ask the opinion of experts on the development of the Local action plan in order to encourage higher interest of the local community in it. It was pointed out that the most important thing is to find out the needs of the community. Only then, according to the experts, the desired results will be achieved.
Transnational meetings enabled the partners to discuss the ways to involve citizens into the process of planning, to formulate the structure of local action plans. Thanks to local and international experts the network of cities deepened their theoretical knowledge about mechanisms of social involvement of citizens, focused on public health planning, setting priorities and applied methods seeking better results of this social project. Local meetings-discussions were organized on the topics of impact of health on economy, differences of health care organisation in Europe were discussed, and health innovation strategies were analyzed in more detail.

The partnership between ULSG members was fruitful, well organized, strong and active. It brought together 19 different stakeholders and united them to a strong network. The partnership with media during the project implementation got stronger and it has been focused on improving the quality of journalism, strengthening websites, and building stronger contacts with national level.

9. The innovation

There are a lot of initiatives and projects in Lithuania to increase physical activity, most of them initiated by public health specialists and/or trainers of physical activity. Our initiative is different, since it was started by community representatives, and had with wide involvement of different stakeholders.

What is innovative in the project is mass character of active lifestyle and activities, taking into account all age groups, social status and economic opportunities. Regular monitoring of health indicators and analysis of changes will have direct impact on forming public attitude to distribution of public assets, attracting private investments and creating long-term development plans.

10. The benefits

Expected outcome of the project is increased proportion of physical activity. This will contribute to better health and wellbeing of population. Due to increased demand for healthy and active leisure, there will be more people employed in related sectors. Due to developed health supportive tourism infrastructure and environment, Plunge district will become more attractive for national and international tourists and the indirect outcome will be a more sustainable socioeconomic development of the district.

Benefits of the project -not only to create a theoretical document, but to work actually, encourage the community to live healthy and actively using the principle of leadership- to invoke leaders while developing various ideas, to listen to the needs of the community, to help people communicate and participate.

Mortality from chronic diseases will decrease, the number of disabilities will be reduced, and working-age people will have more opportunities to participate in the labor market, thus decreasing state and municipality costs on health care and social care, reducing the number of lost working days.

It is expected to reach higher involvement of citizens in physical activities, this will lead to prevention from physical and mental diseases, improvement of working capacity, stress reduction and better attention to professional health. Health of workers of companies and institutions will be improved due to this implemented measures.
11. The measurement

As a result of implementation of the project, 5 health indicators, which are the most problematic in Plunge district will be monitored to see how they change while implementing URBACT local action plan. Monitoring will be carried out in the territories assigned by the municipality with the aim to get detailed information about public health situation.

Public health prevention measures will be planned and implemented. Changes of habits in physical activity of citizens and their relation to health, social and economic factors will be monitored, evaluated and analyzed.

The Public Health Bureau will regularly carry out analysis (body mass index, drug prevention tests, monitoring of quality of bathing water, etc.), and taking into account the needs of the community it will provide health improving services to the population: consultations on smoking and alcohol prevention, healthy nutrition habits, physical activity, as well as organisation of practical training.

Monitoring data will be used for evaluation of effectiveness of programmes implemented by the municipality and it will help to allot financial resources purposively to target territories or indicated target groups.

Every year, Plunge Public Health Bureau will valuate health changes of children and those data will help the Educational system in adjusting physical training courses and methodology at schools and kindergartens according to the main health problem trends.

Figures of local tourists will be evaluated yearly.

12. The transferability

In order to stimulate positive changes in the community towards health promotion, strong leaders and strong partnerships are needed. One of the most important factors for the successful implementation of the main goal of the project and LAP measures is local and national political support. However, it is firstly necessary to recognize problems and to wish to change longstanding habits.

Plunge distinguishes itself from other partner cities for healthy city management structure: there is a Public Health Board, a Public Health Bureau, a Sports and recreation centre and the network of private health institutions is well developed and functions successfully. Active lifestyle infrastructure is in place in Plunge district: tourism routes around the Plateliai lake, pedestrian and bicycle routes, recreation areas and all this contributes to better health of the population. Municipality programmes relate to preserving and strengthening health, by encouraging healthier nutrition habits and physical activity, and to prevent alcohol, smoking and other psychoactive substances.

Also all local governmental institutions, public organisations, business representatives and NGOs should adopt some kind of physical activities, adapting them to the needs of the local population.

Joint efforts should be directed to adapting the environment to the needs of the local population, having the goal to gradually change their personal and communal behavior in real living environment.
Plunge

13. The next steps

It is planned to:

• Share gained practical knowledge and spread best practice;

• Publicize and promote health activities with the help of press, radio, Internet, advertisements, booklets;

• Educate and teach family members about positive impact of physical activity;

• Integrate family doctors in prevention programmes of diseases;

Plunge has now a strong platform between stakeholders who are eager to promote physical activity and healthy lifestyle from private person and family to public life.

Project will create supportive environment for health and physical activity. This will serve as a basis for new healthy and wealthy projects in Plunge district municipality.

14. I want to know more

• Zaneta Piepaliene, Head of Strategic planning and investments department of Plunge district Municipality, project manager.

• Oresta Gerulskiene, doctor of Plunge district Municipality, project coordinator.
Leeds

Leeds Urbact: Five schemes that represent the city’s work of partners from the city council, health services, industry and the voluntary sector.

1. The project

Leeds URBACT is a project working in five areas:

- **Assisted Living Leeds**
  A new one-stop centre that houses a range of specialist services to support people with physical, learning and care needs to live safely and independently.

- **Leeds Care Record**
  Patients often have many different records held across a number of organisations. In Leeds, we have developed a virtual system to hold all data in one convenient place. Held on a secure computer system, it features key health and social care information on an individual – taken from the likes of a GP record, hospital data and social care records.

- **mHealthHabitat**
  With a focus on digital tools, mHealthHabitat engages all areas and ages of Leeds’ communities on a range of health subjects: dementia, sexual health and mental health, among others.

- **MedTech** (utilising technological developments for better public health)
  How can technology from non-traditional sectors (education and industry, for example) be incorporated into the lives of citizens to make things better. We will illustrate this further with Leeds’ work into body suits.

- **Leeds Innovation Exchange**
  This scheme is charged with innovating new products and services into health and social care markets in Leeds. Leeds Innovation Exchange is recognised as a pioneering body, having been granted Integration Pioneer status.

2. The context

Leeds is the third largest city in the UK. It has a population of 750,000, 336,000 homes¹ and a geographical density of 1,967km sq – a large area made up of many urban districts and large swathes of countryside. Leeds is considered the powerhouse of Yorkshire (the UK’s largest county). This provides not only huge demands in terms of health and social care, but is set among a backdrop of a rapidly growing number of older citizens and large inequalities in terms of poverty, education and standards of living.

Overseeing Leeds URBACT is Leeds City Council, whose priority is to protect the vulnerable among children, young people and older citizens. This ensures Leeds is fiercely committed to civic enterprise: innovating in terms of not only health and social care, but industry, education, city development and children’s services.

¹ 336,000 homes are governed by Leeds City Council according to Royal Mail data.
Beyond this, Leeds is considered the largest legal centre in the UK outside of London, alongside a leading UK area on banking and ‘call centre’ services.

3. The rationale

We are committed to citizen-driven engagement to push forward our health and social care services.

Leeds faces huge demands here. This is a time of massive central government funding cuts (£45.4million in 2015/16 after over £200m in recent years). In short, we have to provide more services with fewer resources.

Against this, the city’s number one priority is to protect our most vulnerable citizens. We will do this by continuing to invest in long-term services and solutions. But, against such financial pressures, we have to pioneer the 4D Cities URBACT approach and innovate in terms of health and social care.

To do this, we consult with Leeds people at each opportunity—a small number of examples being mHealthHabitat’s use of digital tools, Assisted Living Leeds and the neighbourhood networks operating throughout the city to much acclaim.

Across the five areas of Leeds URBACT (see first section) we have looked to work in partnership with innovators in the public, private and third (voluntary) sectors: including Leeds NHS, education providers (universities, for example), industry (we have representatives on our board from the likes of Leeds and Partners, plus Ernst and Young) and voluntary groups.

4. The Theory of Change

We have adapted to our changing, pressurised circumstances to continue to provide excellent health and social care to all Leeds citizens. We have done this through citizen-driven engagement and innovative measures.

One example of this is Assisted Living Leeds, a one-stop centre housing a range of specialist services. We asked residents what they wanted and the consensus was a convenient means of offering support services so that people with physical, learning and care needs can live safely and independently.

At the time of writing, the results are already impressive. In 2014, 80,000 specialist care items were provided and 57,000 collected for re-use by Assisted Living Leeds—their base providing an excellent standard of warehousing, cleaning and equipment refurbishment.

Where does it lead? Our services lead to Leeds’ people living healthy independent lives—wherever practical—in their own homes and not in hospitals or care homes unless there is significant need.

5. The project objectives

- Leeds’ number one priority is to protect the vulnerable.
- All citizens have a right to receive exceptional services.
- We must ensure all new, innovative measures are driven by citizen engagement.
- We have to be transparent.
- The public has the right to know what options are available to them and what records we have on each individual.
The approach has to be joined up. This is not one body working to serve its citizens: this involves numerous partners: Leeds City Council, NHS Leeds, Leeds and Partners and the Third Sector, among others.

Finally, our duty is to ensure all citizens lead healthy and independent lives through Leeds’ progressive services.

6. The local policies and areas involved

Leeds URBACT’s aims complement the wider ambitions of Leeds City Council and partners in the Health and Well-Being Board.

Both Leeds URBACT and the city council’s number one priority is to look after our most vulnerable members of society. This underpins everything we do: from not only innovative health and social care, but to how we improve the city’s skills sets, help business, build infrastructure, encourage Third Sector working, etc.

As such the city council is charged with the sole running of the Assisted Living Leeds scheme. Leeds Care Record and mHealthHabitat are both overseen by NHS Leeds. MedTech is a partnership between the city council and others, including (for example) the University of Leeds. The Leeds Innovation Exchange is a Leeds and Partners–run operation. In all instances, support is offered by other listed organisations on top of other groups, for example industry’s Ernst and Young. In terms of 4D CITIES URBACT–funding Leeds apportions funding on an approximately equal pro-rata basis.

As such, many of the five Leeds URBACT areas (listed above) work together and with other city initiatives.

7. The governance. Who does what

Leeds URBACT is overseen by local government, Leeds City Council but each contributor is an equal partner in delivering successful outcomes.

We work in partnership with the Leeds’ key stakeholders: including NHS Leeds, Leeds and Partners, educational and business organisations and the Third Sector.

Regular meetings are held –usually every two to three months– to update others on individual schemes, other opportunities, etc. Agendas and minutes of Leeds URBACT meetings are available on request and accessible through our shared Dropbox storage.

8. What we learnt. How we use it

In many regards, we have much to do to ensuring Leeds continues to innovate in terms of giving its citizens exceptional health and social care. But, at the time of writing (February 2015) we are proud of the firm foundations we have laid.

Witness our Assisted Living Leeds scheme – its new £2.1m base launched officially this same month. There, the latest technology will help vulnerable residents live safely at home.

Our work with mHealthHabitat takes a digital approach on many issues: ranging from mental to sexual health, whether you are a member of the public or clinician. Leeds Care Record is simplifying the relationship between health professionals and the public – with a huge buy-up by the profession.

MedTech and Leeds Innovation Exchange are at earlier stages of their life cycles, but do have exciting futures.
In respect of how has the initial strategy of Leeds changed during this 4D Cities URBACT process, Leeds has been impressed with other member cities’ work and considers itself an equal partner, both learning and (hopefully) teaching others. At the conclusion event we are looking forward to going into great detail on our Assisted Living Leeds project, as well as learning much from others.

On our priorities being shaped, we have to be honest: huge central-government funding cuts has been a major factor in our need to innovate on health and social care.

Notwithstanding this though, earlier events have shown Leeds new ways of working. For example, Tartu’s Smart City Lab was impressive –on Monday 9 March a delegation from Leeds URBACT will be visiting major local company Premier Farnell to view their ‘The Lab’. We do so in the hope of establishing a long-term city-partnership approach along similar lines to Tartu. In short, whatever the financial backdrop we face true innovation needs to incorporate smart measures such as this.

9. The innovation

Throughout this document we continually give links to a series of innovative measures being carried out in Leeds.

A selection of three key innovations in Leeds health (see bit.ly/leedsurbactbook for more examples)

- Centralised medical records: historically UK health providers have held their own patient records, meaning a patient may have several archives of their health history. With Leeds Care Record this has changed, with all major providers and most of the city’s GPs committed to the scheme.

- Sports: we are working with the Leeds’ two biggest sports clubs (football and rugby league) to push vital messages on dementia and lifestyle respectively.

- Dignity in care: we engage with citizens who see an ability to remain close to their loved ones as a massive part of their care. As such, using Assisted Living Leeds as an example, we ensure they get what they need to remain at home, as opposed to residing in a hospital, for example.

As such, here we give a small sample of other progressive measures, which are all simple and easily transferable to URBACT partners:

Our GPs are committed to simplifying our health records process. This project has been a resounding success with the vast majority –88, at the time of writing, of 109 Leeds GPs– signing up to the Leeds Care Record. How does it work? All health professionals can now access one set of digital records for a patient. It’s more manageable. It’s quicker. Cuts the number of mistakes and oversights. Feedback from all parties is universally positive.

Leeds partnership work goes beyond more traditional city stakeholders. We are utilising the city’s two sports clubs –Leeds United and Leeds Rhinos– to promote key messages on dementia and healthy eating respectively.

Shared Lives Leeds, meanwhile, is a volunteers-led programme, which acts an alternative to traditional residential respite and day services. Its focus on fun is proving particularly effective.

We are increasingly tackling the growing problem of mental health in a positive manner too –via our Health and Wellbeing Board and mHealthHabitat. An example of this is our World Mental Health Day celebration event.
One final simple measure involves exhibiting council-owned art works in our hospitals, to provide a relaxing environment for patients and visitors.

10. The benefits

Citizen-led engagement means we can give Leeds people the health and social care services they want and need.

Ensuring the public lead healthy and safe lives independently in, whenever practical, their own homes is not only more effective but reduces costs while increasing people’s wellbeing. What is more favourable? Time in hospital or remaining close to your loved ones?

Leeds City Council is also committed to protecting our most vulnerable members of society. That means we safeguard the jobs of our frontline services and continue to invest more money in our children’s and adult social care services, at a time when we suffer massive central funding cuts.

On jobs and industry, Leeds Innovation Exchange outlines our current standing: in the city region there are nine higher education institutions, 193,000 health and life science professionals and over 2,000 health informatics analysts as outlined in their November 2014 report.

11. The measurement

We aim to ensure Leeds citizens lead healthy, independent lives with dignity. We measure our health results not in terms of medical indicators but our ability to give residents what they want –to remain living in their own homes, rather than hospitals or care homes.

In the UK generally, social care is seen as key to relieving the growing pressures of hospital admission and care home numbers.

12. The transferability

We are conscious Leeds is larger than many other cities in the 4DCities programme, but we take pride in our changing approach. With mounting financial pressures, our innovation takes a straightforward yet new tact. This is not another example of throwing money at a problem... we simply don’t have it.

The key method to this is citizen-driven engagement. Each health and social care initiative must be sought by Leeds people. We don’t tell citizens what is happening, we get their input –as per this example from our Leeds Care Record work.

Our thinking must be transparent –we encourage public discussion on our Better Lives blog when detailing health initiatives.

We also believe it is important to take every step in unison with other strategic city partners. This is the thinking behind our recent State of the City Health Summit.

13. The next steps

Leeds URBACT’s work so far is only a beginning to build upon. We have laid solid foundations.

Beyond April 2015, we have lined up two immediate opportunities, which we consider exciting, as part of our MedTech work.

Firstly, we are working with University of Leeds’ mechanical engineering unit to ensure their assistive technology research is done with full citizen engagement. In March we have set up a showcase
for learning disabilities advocates to not only learn what the research entails, but to also shape how the project develops. A second event is due to take place in April or May. This will be for older people groups and those requiring prosthetics.

A second initiative is seeing us link up with researchers at Premier Farnell, a Leeds business. We aim to establish a working relationship with public representative group Leeds Involving People to, again, shape future research.

14. I want to know more

- Mark Travis, Leeds URBACT project officer, mark.travis@leeds.gov.uk
- Mick Ward, Leeds City Council, mick.ward@leeds.gov.uk
Novara

Centre of excellence for autoimmunity research

1. The project

In the framework of the 4D Cities project, the Municipality of Novara is developing its Local Action Plan with a particular reference to the thematic related to scientific research for autoimmune diseases. In fact the aim of the Municipality, and of the local stakeholders involved, is the creation of a Centre of Excellence for Autoimmunity Research.

It is important to underline that this structure will be situated in a Novara’s suburban area, called Sant’Agabio that is the subject of a significant renovation project planned by local authority. Consequently the realization of the above mentioned Centre of Excellence for Autoimmunity Research should have positive social effects on the area.

2. The context

In Novara, 43 research groups, 2 university departments and 13 clinical structures have faced the research thematic linked to Autoimmune Diseases since 2002. Currently the results of these study activities are represented by more than 250 scientific publications on international reviews. Moreover 2 biotech spin off companies have been founded in Novara and they are active on this kind of issue: this interconnection between research activities and productive system is one of the strengths of Novara’s area.

Considering this context, the aim of the promoting entities of the present Local Action Plan is to reinforce and consolidate these scientific competences already existing in Novara with the creation of a Centre of Excellence for Autoimmunity Research. This centre can be considered as an important phase of a bigger process finalized to the realization of a national and international reference structure for research and treatment with reference to this particular typology of disease.

Besides, the centre will be situated at Polo di Innovazione Tecnologica in Novara, in the suburban area known as Sant’Agabio. It is necessary to highlight how one of the main objectives of the current town Council is represented by the urban requalification of the suburban areas. One of these areas is Sant’Agabio, a neighbourhood characterized by a strong immigrant presence, more specifically from North Africa. Thus a strategy, where innovation is the key driver, can lead to an urban development that has been forgotten for too long.

3. The rationale

Novara will achieve its objectives by merging the new business scenarios with local industrial history and excellences, which consist of bio-materials, food and nutraceuticals, pharma, beauty and herbal science, medical research, diagnostics and therapy.

Indirect needs are related to the connection and to extended concepts of innovation and well-being even outside the domains of business and industry. Leisure, culture, entertainment and high-quality services should be considered such important drivers of urban development and requalification.
4. The Theory of Change

The problem that the LAP of the Municipality is trying to solve is linked to the opportunity of a relevant joint development for our town (involving local entities and companies), opportunity that the local actors may lose. This chance is represented by the important synergies that the consolidated relationship among research institutions, universities, companies and the Incubator have realized in the past years.

The size of the issue is considerable because, as said, the actors taking part in this process are all the possible institutions working in the health care sector and in particular in the research activities. Thus, the entities involved in the process can be subdivided in the following main pillars:

- The knowledge dimension includes the various Departments of the faculties situated in Novara as for example Medicine,

- The business dimension is represented by the innovative research start up companies located in Novara’s Incubator, called Enne3.

- The third aspect is the dimension of citizenship: in this prospective the Municipality is going to establish a confrontation with the various association of citizens in order to receive their observations and ideas for the implementation of process of the Local Action Plan. The urgency is due to the chance of a transformation of our city that has to be taken in a very short time with the cooperation of all stakeholders.

The added value is represented by the particular and strong involvement of the different local actors in the process of creation of a research centre in a suburban area, whose transformation is one of the objective of the municipal administration: this area, characterized by a strong presence of immigrants should take advantage of the development of the above mentioned centre.

5. The project objectives

Overall goals can be summarized in the implementation of the scientific centre, implementation that can go hand in hand with the development of an important and very populous area of the town. The aim of the centre is to carry out all possible research activities connected to improving the welfare of patients/citizens. All these actions will be focused also on the optimization and possible reduction of costs for treatments. The above mentioned goals are based on a real multidisciplinary approach among all University and Hospital Departments and Clinical Units (e.g.: law, health economics, nutrition sciences, genetics, telemedicine and ehealth, pharmaeconomics, pharmacology, sociology, counselling).

6. The local policies and areas involved

A new identity for Novara and Sant'Agabio area is needed, with the aim to network all its development strategies. In particular, the LAP detects converging focuses about the “City of Health” and the “Green Chemistry excellence pole” already active in the suburb, all included in City of Novara’s PISU (Integrated Programme for Urban Development).

The objective is a well-framed interactive model among education, training, occupation, selfemployment and entrepreneurship aligned with the flourishing opportunities of health and sustainable sciences, that’s aligned with the four “4DCities Pillars”, with a particular focus on University, knowledge, education and youth.
7. The governance. Who does what

The governance of the project is represented by the following entities:

- Enne3 is the University Enterprise Incubator, located in Novara, which works to promote and develop technologically innovative business projects, with particular attention to the territory of Eastern Piedmont.

- Pediatrics Department of the Hospital “Maggiore della Carità” – Novara is the department of the public hospital responsible for the health of children.

- CCIAA is the Chamber of Commerce in the territory of the Province of Novara.

- Piedmont Region is the regional institution responsible for, among others, organisation and management of health sector.

- The Province of Novara is the provincial institution.

- Finpiemonte S.p.A. is the regional entity responsible for public calls related to financial grants for the different productive sectors existing in our region.

- Associazione Industriali di Novara is the Industrial Entrepreneurs Association of our province.

- ARESS is the healthcare services agency of Piedmont Region.

- Università degli Studi del Piemonte Orientale is the university of the eastern part of Piedmont: it organizes courses of Economics, Pharmaceutical Sciences, Political Science, Medicine and Surgery, Natural Sciences, Law, Humanities.

8. What we learnt. How we use it

Smart organisations realize that primary goal is to enhance the life quality of their young and skilled people, while environmental benefits are that what typically support wellness, higher job motivation and innovation. The City of Novara has identified these needs and translated them into Local Marketing issues for attractive areas.

On the other hand, stakeholder interaction and initiatives on dissemination and communication to citizens are key-topics.

9. The innovation

On the project, 4 drivers of innovation can be identified:

1. To disseminate and apply a new definition of HEALTH, from “life sciences” to “healthy lifestyles”, from “therapy” to “prevention and awareness”, including key concepts like food, natural products, waste reduction and recycling.

2. The new knowledge-intensive industry and business will take care of major job attractiveness drivers for high-quality workers, both direct (salary, stability, career perspective) and indirect (environment, community, quality of services and opportunities).

3. Novara as living lab for social innovation, to be more and more reliable on themes like sustainability, new generations, smart-city, deliberative democracy and sharing. Best practices shall include: mobility, connectivity, debureaucratization and e-government, third sector, waste management.
4. Sant’Agabio – a vision for a new urban space between Turin and Milan, between tourist attractions (Alps, lakes) and productive areas.

10. The benefits

Benefits include key-initiatives related to the on-going synergy between economic players able to create a demand for new skilled workers and a new economy induced, within 2-3 years.

The LAP can imagine a growing demographic/working area of Novara by 630 units –570 young people of whom 500 (highly qualified) and 70 (workers armature "consumption" and the management of the houses). This new population could generate 44M€ turnover and a mountain of new income of nearly 14 M€ (8 million for younger workers). A question that creates new wealth and new opportunities in the city and for a generation. It is estimated an induced in ten years of 57 M€.

A question, which welcomes scientific graduates of Piedmont and Lombardy, but that will attract knowledge workers in Europe and beyond to allow Italy to become an attractor of skills and a place of opportunity.

11. The measurement

Indicators for outcomes can be referred to two macro-targets:

1) Novara Autoimmunity Science Park
   - Financial self-sustainability.
   - Number of projects/partnerships between research labs and companies.
   - Number of new Spin-offs/Start-ups.
   - Occupation (educational level & pay).
   - Number of new application for patenting inventions.

2) Sant’Agabio Area
   - Number of new commercial enterprises.
   - Number of new public and/or private services.
   - Utilization rate of the area.
   - Number of new real-estate initiatives.
   - Price increase for square meter.
   - Citizen perceptions of higher life quality.
   - Citizen perceptions of protection from crime.

12. The transferability

Many opportunities of transferability within other Italian cities with same demography of Novara, industry composed by micro and SMEs and a medium-size like University.

13. The next steps
14. I want to know more

- Paolo Sironi, Direttore Generale Comune di Novara.
- Lorenzo Lener, Direttore Enne3-Novara Business Incubator.
Tartu

Development of biotechnology and medical industry in Tartu

1. The project

The city of Tartu needs to be active to foster creation of new workplaces in order to ensure growth of the city, reduce unemployment rate and to provide opportunities for alumni of biotechnology and medical sciences. The goal of the actions proposed is to increase the number of workplaces in biotechnology and health sector by 500 in the next 5 years (by 2020).

2. The context

Tartu is the second largest city in Estonia and often considered to be the country’s cultural and intellectual capital. The city has about 100,000 inhabitants and is the centre of Southern Estonia. Tallinn, the capital of Estonia is situated ca 190 km northwest of Tartu.

Tartu is also the centre of Estonia’s medical and biotechnological landscape. Tartu University Hospital (the only medical care and training hospital in Estonia) and world-class research and development centres gathered around the University of Tartu (which belongs to the top 3% of world’s best universities), strong private medical practices as well as biotechnology companies lay the basis for promising future developments.

Besides being the hub of research and education, Tartu is also an important commercial and business centre and an increasingly popular tourist destination. Although recent economic recession has influenced Tartu (for example temporary increase of unemployment), the growth has been stable and the population has not decreased, thanks to the central role of the city in the region.

3. The rationale

The University of Tartu and other higher education institutions in Tartu (for example Estonian University of Life Sciences and Tartu Health Care College) are constantly preparing new highly skilled specialists for the job market. However, because of the limited workplaces, substantial amount of these young specialists move out of Tartu (to the capital city or abroad). If there are not enough job opportunities and challenges in Tartu, then the share of young people will decrease in the city and the attractiveness of the city will diminish.

The analyses of Statistics Estonia show clearly that the population of Estonia has decreased significantly during the last decades and the situation has worsened the most in southern parts of the country (including around the city of Tartu). There are many reasons for this process but lack of workplaces in the region is definitely among the most important ones. If the number of well-paid workplaces drops then it has a direct negative influence to the whole economy because it decreases demand for other services, which in turn again affects the number of workplaces in the region. Hence, in order to avoid such problems in Tartu it is necessary to act before the situation gets too complicated.
4. The Theory of Change

The goal of the plan is to increase the number of workplaces in biotechnology and health sector by 500 in the next 5 years (by 2020).

The following methods and activities have been chosen to achieve the goal:

- Investment services.
- Cooperation initiatives.
- Research and analyses.
- Study visits.
- Trainings.
- Communication and promotional activities.

5. The project objectives

There are several options for Tartu to activate biotechnology and the medical sector to achieve additional economic growth. For instance there are strong competences in biotechnology, e-health and medical services that are continuously developed further and need to be commercialised even more in the future. The discussions with some of the stakeholders have supported the ideas of developing medical tourism in Tartu. Western Russia is one of the most important markets with great potential for medical tourism. However, as the relations between the European Union and Russia have deteriorated during the crisis in Ukraine the cross-border business environment has become highly unstable. Therefore the local action plan of Tartu is focused on wider activities aimed at development of biotechnology and medical industry in Tartu region.

The actions to be implemented to stimulate and improve technology transfer in Tartu region are divided into four groups:

1. Strengthening the cooperation between companies, R&D institutions and business support structures.
2. Improving the incubation and business development services.
3. Supporting the availability and utilisation of the pre-seed and seed funding.
4. Raising awareness of incubation and business development services.

6. The local policies and areas involved

Although Tartu has several advantages compared to many other cities, a lot remains to be done to fully use the resources present in the city for fostering the economic growth and securing Tartu’s position as a place to start doing business in biotechnology and medical fields.

The main challenges of Tartu have been gathered into the development plan of the city for the period 2013-2020 and among other issues the document addresses the need for developing entrepreneurship, strong economic clusters and knowledge-based economy in the fields of biotechnology and health services and industry. In addition, all stakeholders have emphasised the importance of defining a joint strategy and action plan to foster economic growth based on the innovations in the medical sector.

Some of the challenges can be directly linked to the recent smart specialisation study of Estonia. According to the analysis of current strengths
Tartu

Estonia has a considerable potential in biotechnology (strong research), which has been respectively stated as one of the growth areas. This means that fostering development of biotechnology and medical industry is additionally in accordance with the national smart specialisation strategy.

7. The governance. Who does what

The coordinator of the implementation of the local action plan is Tartu Science Park. Tartu City Government takes the leadership in public authority. In addition, the action plan specifies Tartu Biotechnology Park and the University of Tartu as the implementing parties. These institutions constitute the team for the implementation of the action plan.

Other involved stakeholders are the following:

- Estonian University of Life Sciences.
- Tartu Health Care College.
- Estonian Chamber of Commerce and Industry.
- Bio-Competence Centre of Healthy Dairy Products.
- Competence Centre on Reproductive Medicine and Biology.
- Competence Centre of Food and Fermentation Technologies.
- The Estonian Intellectual Property and Technology Transfer Centre.
- Other relevant organisations and companies.
- Citizens.

8. What we learnt. How we use it

The URBACT programme has provided the network and the tools to find and implement new solutions in European cities. Probably the most important benefit of the project has been the opportunity to exchange experiences between the partner cities of the project 4D Cities.

The approach of organising a meeting in each partner city to look into the individual projects related to health sector has been very useful for understanding the relevant issues in different cities and for finding potential lessons, similarities and linkages. The project and the URBACT methodology have contributed for creating a network that works as a platform for exchanging information also outside the official project meetings. Hopefully this network will continue to exist after the end of the project.

In addition the intensive communication exchange between the local organisations during the joint and individual meetings has been very valuable both for achieving the concrete project goals and for deepening the cooperation among the stakeholders. It is planned to continue facilitating this cooperation after the end of the project.

All in all, the project promoted the cooperation with cities and communities in other EU countries and has stimulated the willingness to participate in future European projects.

9. The innovation

Tartu is a university city and well-known as a centre of education and research in Estonia. More than 60% of the total Estonian research potential is concentrated in Tartu, which means that a significant part of Estonian innovation happens in
the city. The role of the activities proposed in the action plan is to activate the local biotechnology and health sector with different traditional (e.g. study visits) and innovative (e.g. user-driven product development) methods.

10. The benefits

The added value of the proposed actions is the following:

1. New attractive job opportunities for biotechnology and medical professionals and therefore reduced emigration of highly skilled specialists.

2. New jobs for other medical specialists (e.g. rehabilitation) and in different economic sectors (spa, catering, accommodation, entertainment, etc.; indirect impact).

3. Increase in living standards and tax revenues.

4. Better quality of the health services.

5. Better reputation of the city as an attractive tourism destination.

6. Stronger position of the city as a competitive international competence centre.

7. More incentives to stay in Tartu.

11. The measurement

The goal of the plan is to increase the number of workplaces in biotechnology and health sector by 500 in the next 5 years.

The supporting impact indicators of the action plan are:

1. Number of new enterprises in biotechnology and health sector.

2. Incomes of residents – annual equivalent net income of the residents.

3. Employment rate – the proportion of employed people among residents between people of 16 years of age and retirement age.

4. Higher entrepreneurship activity – the number of economically active enterprises per 1000 residents.

12. The transferability

Many ideas used in the action plan are derived from the experiences of other countries and cities. Therefore, in general the initiatives of Tartu can be easily replicated in another city. However, the actual challenge lays in the implementation of the plan. It takes time to initiate and strengthen cooperation between relevant parties and there have to be common and visible benefits for the stakeholders. In addition it is advisable to focus on a concrete sector with untapped potential in order to consolidate local resources.

13. The next steps

The local action plan will be a guideline for joint activities of Tartu City Government, R&D institutions, business support organisations, companies and citizens in developing biotechnology and medical sector in Tartu during the next 5 years.
14. I want to know more

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From Living Lab De Coevering to Brainport Healthy Living Lab fostering a healthy way of life in co-creation with citizens

1. The project

The LSG involved organisations have the ambition to take action and make a large living lab focusing on healthy ageing. In this zone large experiments and implementations with available technological and social innovations will take place. These innovations improve the vitality, healthy ageing and carry for people on individual and community level.

The living lab offers present and yet to establish companies optimal pilot opportunities to test new ICT solutions. With these solutions they come faster to the market and contribute to the high quality of life for people and economic growing potential.

2. The Context

During the 4DCities project the Local Support Group (LSG) initiated Living Lab De Coevering. De Coevering is a district of Geldrop-Mierlo, a municipality located near Eindhoven. De Coevering has 9.290 inhabitants, with more than 50% over 45 years old and 75+ years old representing 7% of the inhabitants. This last group is expected to increase to more than 12% of the total population in 2030. Additionally, the group of 65+ will expand to a third or more of the total inhabitants, which is linked to the expectation that the amount of people in need for care will double compared to the current situation.

De Coevering characterises a high concentration of immigrants and a relative low income as well as low social cohesion and feeling of togetherness. Even though the municipality Geldrop-Mierlo is known for a good offer of sport facilities and social associations figures show that (sport) participation of the inhabitants of De Coevering is really low. Compared to the other districts of Geldrop-Mierlo experience the inhabitants of De Coevering less good health and less (physical) activity. The people over 65 more often experience a chronic disease and severe overweight compared to the other districts.

The municipality of Geldrop-Mierlo wants to present itself as a community which highly values care, sports and exercise, and where a healthy living environment ensures that people with a disability could continue living at home as long as possible. Now, but certainly in the future. The high risk of health problems and lack of exercise in De Coevering is a motivation for the municipality to start (sport) prevention.

Living Lab De Coevering is the start of a bigger regional initiative called Brainport Healthy Living, which Living Lab focus not on a district but on a regional level (the Brainport Region in which with the city of Eindhoven is the core. The Brainport region has a population of 753.000 inhabitants with 17% older than 65 years. The Brainport region is known for its unique ecosystem in which the quadruple helix –companies & care and wellbeing organisations, knowledge institutes, government and end users– work together to accelerate high-tech growth. The Brainport philosophy is a unique form of collaboration that lays the foundation for open innovation: sharing knowledge to multiply knowledge. High-tech and design go hand in hand with top-quality manufacturing and entrepreneurship.
Collaboration and cooperation, a considerable dose of intelligence and the ability to constantly adapt help accelerate the economy and get the individual moving, attracting talented students, knowledge workers, entrepreneurs and investors from around the world.

The region distinguishes itself with its unique open innovation system that results from collaboration, exchange of knowledge and close proximity. Partners share and multiply knowledge in an open environment. From the open innovation ecosystem, clusters of companies and knowledge institutes develop, at the cutting edge of technology, possible solutions for social challenges.

The total health sector in the region generates 9,2% of the added value of the whole region (= 2.3 billion euros) and demonstrates exceptional growth. The regional health care sector indicates 4 hospitals (of which 2 status top clinical hospitals) together representing 2.000 beds and 560.000 first visitors.

3. The rationale

The main occasion for this initiative is our ageing society. The life expectancy increased by 6 years in the past 20 years (World Health Organization). More than 50% of the 65+ population experience less quality of life (National Public Health Compass). We become older but these extra years do not automatically mean more quality of life. At the same time health care costs continue to rise and there is a grand challenge in ensuring quality affordable care to our citizens. The care system in the Netherlands focuses on diagnosis and treatment and hinders prevention. We see that the involved parties in health care system often have contradictory interests. There are barriers in legislation and funding. Income and expenses are covered elsewhere.

In this Brainport Healthy Living Lab we believe that eHealth is a tool to promote health and independence. It covers all aspects of the new model of care: organisation, communication, administrative relations and content of care. But the problem in the current system is as follow: the technology to provide quality of life is available but the adoption and real use is low. There is too much technology available. What is of real value for the user? How does the citizen, client or care professional know what is good and what is not?

In De Coevering Geldrop we developed a method how to co-create meaningful solutions to improve health and activity with citizens from the neighbourhood. In the scaling-up strategy to the Brainport Healthy Living Lab we will further develop and implement technological and social innovations with citizens from the whole region.

4. The Theory of Change

Ageing should not be associated with decrease of quality of life. It is our mission to show in the Brainport region that the quality of life can be maintained in a new model of care focusing on two important aspects:

1. Better health: the ability to adapt and self-manage.

2. Economic value: exploit opportunities and reduce health care costs.

How we are going to do that in this Brainport Healthy Living Lab?

In executing the Living Lab we apply the following principles:
• From technology to usability
This can be achieved by the use of e-health (technology), but only in combination with social innovation. The Brainport region has the ability because the characteristics above mentioned.

• From cost efficiency to income efficiency
At the moment the costs are covered elsewhere than the benefits. We want to bring down the barriers between legislation and funding. We must develop a model of fair (revenue) sharing. We would like to maximize the potential as far as possible.

• From making alone to making together
We believe in an enterprising approach, where public and private funding are combined. The stakeholders from the LSG in the Brainport region have an excellent ability to collaborate. This creates the basis for a digital infrastructure where many parties work together.

• From supplier driven to demand driven
All innovative solutions have to give a visible short-term benefit to the vulnerable groups of citizens in the region. Also on the longer term there must be a visible effect by maintaining quality of life. Only then we achieve a rapid short-term effect and long-term impact.

5. The project objectives
In the Brainport Healthy Living Lab the involved organisations from the LSG have the ambition to realize two healthy extra life years before 2030 within a sustainable health system in a way people can contribute longer economically and socially. We will start in different areas (both in a rural area and in a city area) in the region where De Coevering Geldrop is an important pillar to build on and will be one of the areas.

Goals:
- Start with a five year initiative.
- Grow to 20,000 participants in 5 years.
- Bring a sustainable change.
- Set a model in an entrepreneurial context.

6. The local policies and areas involved
The 4DCities project with the Living Lab in De Coevering Geldrop was one of the drivers to think about the next step in both the municipality of Geldrop as in the whole region. Several smaller initiatives, similar to Geldrop, were seeking for scaling up with more citizens and more impact. At the same time the Brainport Board felt the need to make a step in their policy for the next generation.

Brainport is working with representatives from industry, knowledge institutions and government to strengthen the region from an economic and technology perspective.

By bringing these two drivers together we will connect the social domain and the economic domain. The last years Brainport invested in economic enablers such as the labor market to maintain the knowledge and people in the region and also quality in high tech systems and materials. There is a great opportunity to give the economic enablers more relevance by making them of specific value for the grand challenges such as energy, mobility and off course health care.

For the involved stakeholders this means that they need to have an integrated approach and transcend their own interest in order to come to new business models with the focus on shared savings.
7. The governance. Who does what

The Brainport Healthy Living Lab is a public-private collaboration from a business and entrepreneurial approach focused on the utility of a digital company, which is powered by multiple parties. We will use the model of Social Impact Bonds (SIBs) also called 'Pay For Success contracts'. This is a new form of an innovative financing arrangement whereby governments pay only for measurable social impact after this was achieved.
8. What we learnt. How we use it

In our LSG in Living Lab De Coevering Geldrop we started with a new definition of ‘health’ and we came to a shared understanding of health being the ability to adapt and self-manage for people. In several experiments we found out that the physical health of people is dependent of social components. With a social design approach we stimulated empowerment and self-management of citizens. The aim is to make people feel more engaged and move together. In co-reflection sessions with citizens we organized citizen perspectives for activity and movement. Also they identified needs of the neighbourhood. An important motivation for people being active is the social aspect of it (more important than the health aspect). Physical disabilities and (social) traumas limits people to move and sport more.

An important part of the Brainport Healthy Living Lab is about making concrete neighbourhoods more ‘vital’ by identifying and connecting needs of different groups together – and designing from a systems design perspective in this context. In the past, many projects have been executed on connecting people and their environments to make them safer and more social. However, most of them have failed because many specific solutions are hard to follow up with sustainable change on a systemic level, which is a consequence from an often too strict top-down approach. These are solutions that cannot be imagined by the existing policy makers, who are also part of the same fixating ‘system’. The reality is: neighbourhoods are not owned by just one group of people. This makes tackling problems that rise in the public domain complex and it asks for a more dynamic approach with strong elements of empowering citizens and inspiring bottom-up action. We will bring the experience of Living Lab De Coevering and the involved organizations to the large scaling up Brainport Healthy Living Lab.

9. The innovation

We will be working with real life citizens and real environments to come to innovative proposals together. Work with all different stakeholders and balance their interests. A user’s perspective looking at the special context of the urban real-life environment, and designing a meaningful intervention with advanced technological means, while taking the business side of this into account.
An innovative element of the Brainport Healthy Living Lab is also the focus on large rollout with 20,000 citizens involved.

10. The benefits

- **Benefits for citizens**: 2 years of increase quality of life.

- **Benefits for companies**: open model for testing, developing and implementing their solutions, economical growth.

- **Benefits for health care organisations**: satisfied clients and professionals, improved organisational health care processes.

- **Benefits for municipalities/health insurer companies**: new health care model with outcomes on triple-aim criteria:
  1. Quality of health care.
  2. Satisfied clients/citizens.
  3. More efficient care processes and reduced costs.

11. The measurement

Key elements:

- Assessment indicators.

- Mutual learning.

- Dissemination activities.

- Scaling up of the new GP.

Robust performance monitoring and evaluation of the service will be embedded from the start of the Brainport Healthy Living Lab, to ensure the collection of high quality evidence of the benefits. Economic evaluation is needed to examine cost effectiveness, in order to guarantee the sustainability of the services and unlock the support for corporate strategies and adaptation to change. The evaluation should however, not only focus on the economic aspects but also aspects covering the patient and care giver perspectives, clinical effectiveness, health outcomes, impact on daily activities etc. Use of surveys, routinely collected data and dedicated studies to monitor and evaluate outcomes can be employed for these purposes (e.g. the EHR–IMPACT study24).

12. The transferability

With the involvement of global business partners as Philips Health Care we seek to come to a transferable model. Deliberate efforts to increase the impact of health service innovations successfully tested in pilot or experimental projects so as to benefit more people and to foster policy and programme development on a lasting basis. But for scaling up to happen a true collaboration between the interested partners needs to be established, both for the scaling up within organisation as well as across organisations. According to the magnitude of the practice to be scaled up different type of stakeholders must be engaged. The Local Action Plan of the Brainport Healthy Living Lab will identify key stakeholders relevant for each step of the implementation process. In most complex examples, an effective working partnership is needed at all levels (national, regional and local).
13. Next steps

With the Brainport Healthy Living Lab we will set an example for new health care models and large roll-out of innovative ICT solutions for citizens to gain more quality of life and at the same time create a Living Lab model which will attract business partners from technology developers till investors to stimulate economical growth in the region.

14. I want to know more

- Marieke van Beurden, Programme Manager Slimmer Leven 2020.

- Peter Portheine, Director Slimmer Leven 2020 and Programme Manager Brainport Health Innovation.
VIII. Indicators

This is an attempt to define a list of indicators reflecting positive impacts of local Health Innovation projects with a quadruple helix perspective.

These indicators are defined as if they were to measure a 4D Cities prototype project undertaking actions and impacting in the four project dimensions. Therefore, they are non project-specific outcome indicators.

However, as we have seen from the local action plans, each city partner has a set of objectives to seek towards the accomplishment of an individual strategy. Thus many more indicators can be developed addressing impact measurement for each one of these partner projects.

Impact measurement of the local business development

- Number of newly established health-based companies coming from inward and/or outside investment: number of start-ups and innovation-related spin-offs.

- Increased investment rate from local health-based companies.

- Increased turnover of local business linked to health sector activity: ICTs, pharmaceutical, healthcare, wellness, telecare, home care.

- Increased survival rate of health-related and health linked companies.

- New patents and IPR registers.

- Increased access of local companies, particularly SMEs, to public procurement agreements.

- Increased internationalisation of companies: number of supply contracts, partnerships, projects, networking activity.

- Lower gap of health workforce to meet local companies’ needs.

Impact measurement of knowledge adjusted for excellence in Health Innovation

- Adjusted education and training curricula to the local Health Innovation strategy, including University, secondary and vocational studies and life-long learning programmes.

- Higher enrolment in local health disciplines and faculties including care professions.

- Increased number of reallocated people, from unemployment and shrinking sectors into health sector.

- Increased number of specialised health professionals.

- Increased funds for, and number of R+D projects and local-based researchers.

- Internationalisation of education institutions, particularly the University.

Impact measurement of changes in the local health system

- Lower rates of chronic diseases and other illnesses associated to health damaging practices and life-styles.

- Improved patient’s safety: reduced number of mortality-rates due to medical and human error.
• Improved health indicators among children and young population.

• Successful and scaled innovative pilot projects in the health sector.

• Increased use of telemedicine and tech devices by patients.

• Lower levels of preventable visits to hospital emergency services.

• Lower levels of preventable visits to primary health services.

• Lower gap of healthcare personnel to cover public health needs.

• Increased efficiency of health services: better rates of return on investment.

• Increased digitalisation of the local health system.

• Number of collaborative agreements with health related local stakeholders: public-private partnerships, social prescribing, social referrals, etc.

• More health qualified young staff.

• Improved consideration of health care sector and professions.

• Higher integration of health care delivery system.

Impact measurement of Health Innovation on patients’ contentment and citizens’ wellbeing

• Improved patients’ satisfaction regarding health outcomes.

• Improved patients’ satisfaction regarding communication and interaction with health and care staff.

• Increased number of local assets active in social and health care support: volunteers, neighbourhood networks, expert patients, patients’ associations.

• Increased number of home assisted elderly and dependent citizens.

• Increased levels of patient’s self-care capacities, also in the use of eHealth and mHealth tech devices.

• Increased number of trained groups in specific health treatments: chronic, dependent, drug-dependent, etc.

• Reduced consumption of pharmaceuticals.

• Better styles of life among citizens including physical activity, reduced smoking and alcohol consumption, healthy nutrition habits, etc.

• Increased number of students and young families in the city.
IX. Acknowledgements

Àngels Chacón, in the name of the city of Igualada, lead partner of the URBACT II 4D Cities Project and Mireia Sanabria, lead expert and coordinator of this report would like to thank all project coordinators from the partners cities: Paolo Sironi from Novara, Marieke Van Beurden from Eindhoven, Zaneta Piepaliene from Plunge, Susan Tuck and Mick Ward from Leeds, Siim Espenberg from Tartu, Dorin Pasca from Baia Sprie and Wilfred Roepke from Jena, as well as the experts, colleagues and friends who have contributed and advised to the 4D Cities project. We would particularly like to thank Peter Ramsden, Eddy Adams and Paul Soto, URBACT Thematic Pole Managers, Raffaele Barbato, URBACT Senior Network and Capacity Building Officer, as well as the team of the URBACT Programme Secretariat, for having kindly guided the project coordinators through this exciting and well-thought-out URBACT journey.

We would also like to acknowledge:

- Jacqueline Kuppens, Policy Advisor and Consultant on Social Innovation.
- Enric Macarulla, General and Digestive Surgeon and Director of 4D Health, Centre of Innovation for Simulation in Health.
- Janneke Kampen, Project Manager Life Sciences & Health/Consultant Innovation, Syntens Innovatiecentrum.
- Joan Josep Rotger, Director for Innovation and Knowledge Management at Invenies, sl.
- Zoltan Molnar, Medspria Medical Unit Manager.
- Jane South, Professor of Healthy Communities at the Institute for Health and Wellbeing, Leeds Beckett University, UK.
- Sylvia Wyatt, Health and Social Innovation and Strategy, Leeds, United Kingdom.
- Rebecca Malby, Director, Centre for Innovation in Health Management, University of Leeds.
- Stephanie Bühren, Research Group on Corporate Health Management, Ernst Abbe University of Applied Sciences.
- Flavia Prodan, Biology Researcher Avogadro University.
- Arnoldas Jurgutis, Head of Public Health Department, Faculty of Health Sciences, Klaipeda Hospital.
- Gerttu Simm, Manager Tartu Smart City Lab.
- Rob Heijligers, SME Consultant, Regional Marketing Consultant.
- Ramon Maspons, Coordinator of Innovation in Health, Assessment and Quality Agency, Health Department, Catalan Government.
- Josep Ribas, Deputy Director for Universities, Catalan Government.
- Willem Van Winden, Lead Expert of The URBACT II EUniverCities Project.
- Peter Scholten, Consultant on Social Performance Measurement and SROI.
- Hans Moors, Researcher and Policy Advisor on Citizen’s Participation and Quadruple Helix Local Health Innovation (Lokaal Centraal, Tilburg).
• Joan Martí, Director of Cluster Development, Catalan Agency for Competitiveness, Catalan Government.

Finally, we would like to praise the myriad of URBACT Local Support Group members and coordinators from all the participant cities for having voluntarily and enthusiastically engaged in building their Local Action Plans for their cities.
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Patient-centred health innovation with economic growth

4D Cities Final Report

March 2015
URBACT is a European exchange and learning programme promoting sustainable urban development. It enables cities to work together to develop solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal challenges. It helps them to develop pragmatic solutions that are new and sustainable, and that integrate economic, social and environmental dimensions. It enables cities to share good practices and lessons learned with all professionals involved in urban policy throughout Europe. URBACT is 500 cities, 29 countries, and 7,000 active participants.

4D Cities is an URBACT project that aims to develop cities through the interaction of the actors which operate in the fields of Health and Innovation such as the knowledge, the healthcare system, the business and the citizens. It involves 8 European cities that would like to create a new productive sector which contributes to the diversification and enhancement of the economic activities and social cohesion of their territories. The partners are Igualada (Catalonia, Spain) as a leader, Leeds (United Kingdom), Novara (Italy), Tartu (Estonia), Plunge (Lithuania), Brainport Eindhoven Region (Netherlands), Business Development Corporation of Jena (Germany) and Baia Sprie (Romania).

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Supported by