

# Local Action Plan Summary Igalada

Decreasing hip refracture.  
A multidisciplinary patient-centred approach



## I. Local context

Igualada, with 38,978 inhabitants, is the capital of the Anoia region. Located in the heart of Catalonia and just 60 km from Barcelona, Igualada has an excellent geographical position and a good road network that connects the town with the main Catalan cities.

### **Economic context**

Traditionally, the town's economy has been based on the industrial sector, mostly the leather and textile industry. In recent years, the industry has suffered a significant decline as a result of liberalization processes and the relocation of companies to lower-wage countries.

As a result of the destruction of employment, the Anoia region is an area with one of the highest unemployment rates in Catalonia. In December 2014, the **unemployment rate** of Igualada stood at **19.25%**, while in the rest of Catalonia it was 16.83%.

In order to deal with this situation, Igualada Council is **fostering strategic sectors** in order to promote the economic revitalization of the town.

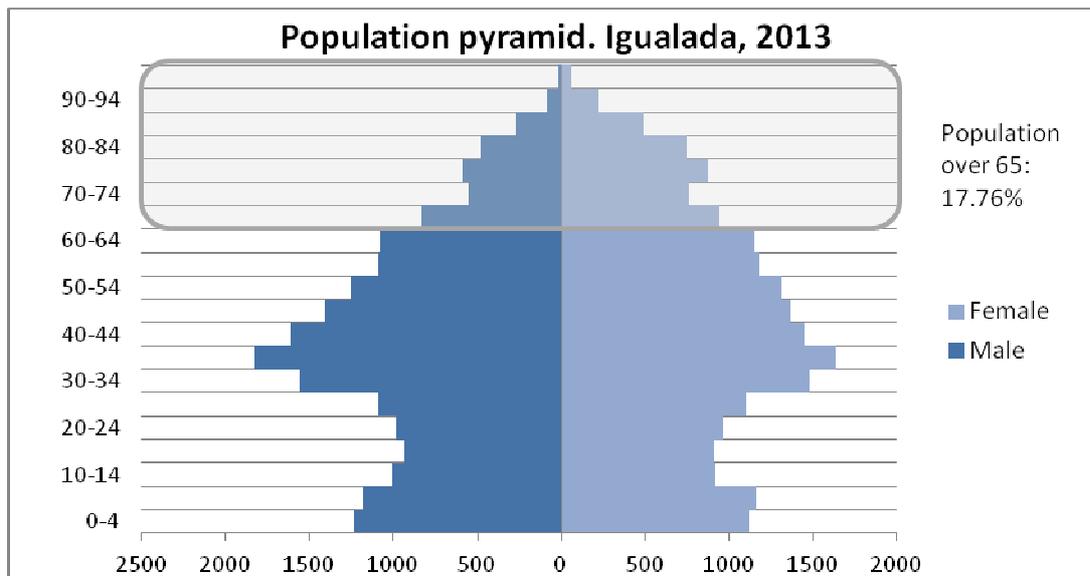
Igualada is therefore addressing the leather and textile industry, both mature sectors that are still a major source of employment in the town. By closely collaborating with the agents involved in both sectors, Igualada is defining its strategy and the actions to become the **European Capital of Quality Leather** and to push the **textile reindustrialization process** in the leather and textile sectors respectively, so as to revitalize and strengthen their competitiveness.

In addition, the Council is also boosting **new sectors of economic activity** in order to contribute to the change in the productive structure to promote new added value activities and the creation of new skilled jobs, one such sector being the **health sector**.

Demographic changes, the need for on-going training addressed at healthcare professionals, the need for innovating both in new procedures and medical technology and the need for a more efficient, safer and sustainable health system, are elements that give the sector a high growth potential as a productive sector and not just a job provider.

## Socio-demographic context

Like other European cities, Igualada has an **increasingly ageing population** (17.76%<sup>1</sup> of the population is 65 and over) and life expectancy has increased consistently in the last decades (in Catalonia, life expectancy at birth was estimated at 82.65 years in 2012).



Population projections for the coming years foresee that in the horizon of 2021 Catalonia will continue to have this population ageing trend and 1 in 5 Catalan people will be 65 or older. In this context, as stated in the Catalan Health Plan 2011-2015, one of the main challenges that the Catalan Health System has to face is **increasing demand**, mainly derived from an increasingly ageing population.

## Legal context

Most health competences lie with the Catalan Government as a result of their transfer from the Spanish Government in 1979.

In this context, are local authorities able to develop health policies if they have very **limited competences** and the health spending in local governments is only 1.1% of the total health expenditure in Catalonia?

<sup>1</sup> Barcelona Regional Council - [www.diba.cat/hermes](http://www.diba.cat/hermes)

Despite these limitations, **the local administration has a new role in developing health policies with an integrated approach** by creating the conditions and mobilizing and boosting the collaboration of the agents involved, collecting patients and professionals' needs and demands, promoting better coordination and integration of the all the agents involved, promoting pilot projects, raising awareness on prevention among the population and influencing higher levels of administration, amongst others.

## II. Focus of the Local Action Plan

### The project

One of the main challenges of health policies of the European, National and Catalan bodies is promoting the healthy ageing to maximize the autonomy and independence of an increasingly aged population. In this regard, one of the priorities is to foster the prevention of fragility and falls in elderly people. Taking this priority into account, Igualada has planned specific actions to **reduce osteoporotic or fragility fractures**, and specifically hip fracture, with an approach based on prevention.

### The context

The health system is challenged to face the increasing demand of healthcare and social services of a growing population (in Igualada, 17.76% of the population is 65 or 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 to promote an active and healthy ageing, as can be seen in several initiatives undertaken by European organizations, such as the EU "Health 2020" Strategy, some policies promoted by WHO, the European Commission supporting the "European Innovation Partnership on Active and Healthy ageing" network, as well as specific funding calls to finance policies to deal with fragility included in the "Horizon 2020" program.

At the same time, the Spanish Government is also focusing on the prevention of dependence, and specifically on promoting the prevention of fragility and falls of the elderly.

Finally, the Catalan Government is also interested in influencing the effects of the growing ageing trend by promoting healthy habits and prevention. In this regard, one of the goals established in the **Catalan Health Plan 2011-2015 is to reduce the incidence of the hip fracture in people aged 65 or over by 10%**.

Therefore, the 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.

## The rationale

Fragility fractures, also known as osteoporotic fractures or low or minimal trauma fractures, usually occur as a result of a fall from standing height and are associated with the presence of osteoporosis.

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 they suffer from a fall or receive a blow. Nonetheless, as osteoporosis is an asymptomatic disease, people do not have signs or symptoms until they are fractured. It is estimated that 1 in 3 women and 1 in 5 men over 50 will be subject to an osteoporotic fracture.

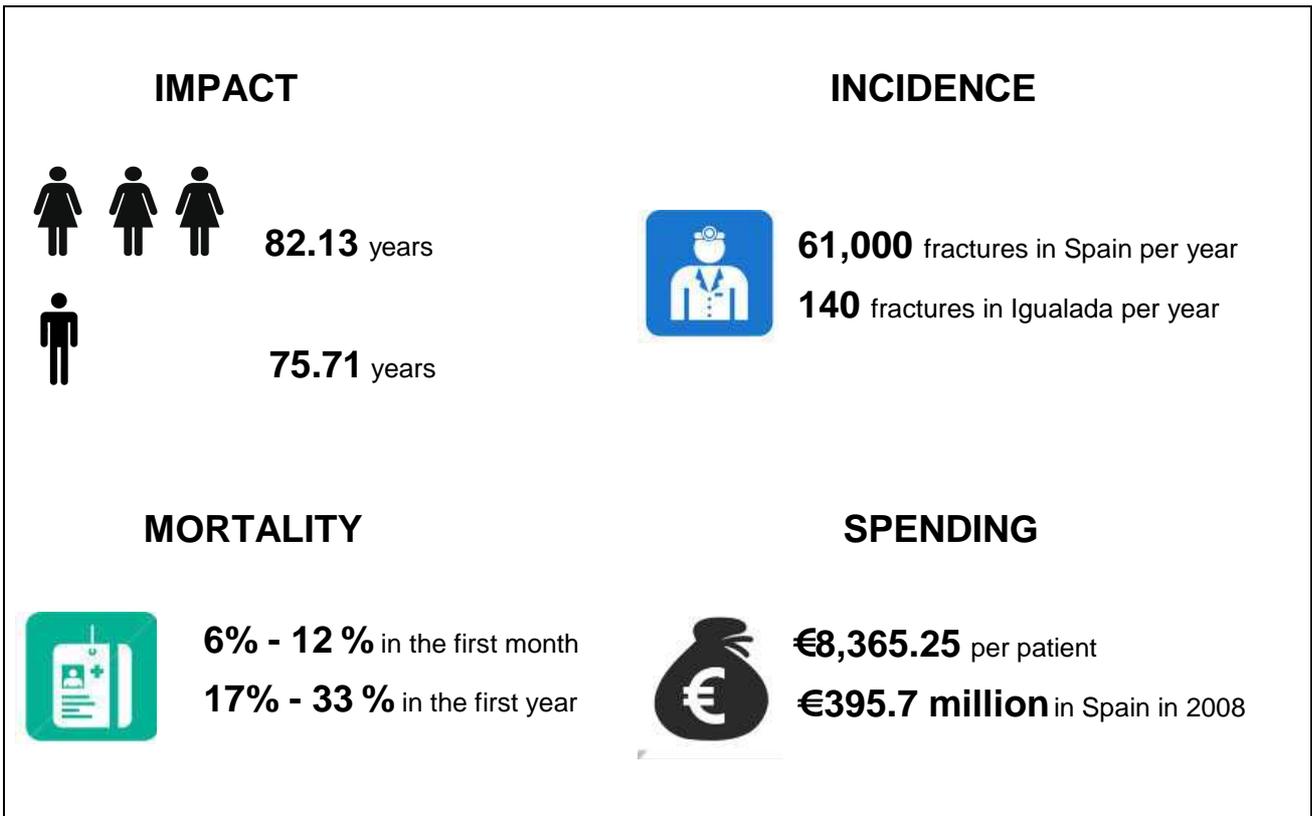
According to some studies, 70% of traumatic bone fractures in people over 45 are due to osteoporosis. The hip, spine, forearm and humerus are the most common locations of fragility fractures.

As published by the International Osteoporosis Foundation (IOF), previous fracturing at any skeletal site is associated with double the future risk of fracture. Additionally, another study from the WHO and the IOF indicates that the number of hip fractures due to osteoporosis will triple in the next 50 years.

Therefore **strategies to deal with this problem should be focused on a preventive approach**, since people with forearm, humerus, vertebra or spine fractures present a high risk of suffering a hip fracture in the medium and long term.

As figure 1 illustrates, hip fracture is **one of the main problems of the elderly** and a major cause of mortality in this population segment. Its high incidence, both in social and economic terms, requires the development of specific policies and actions to reduce its impact.

Figure 1. Some data on hip fracture

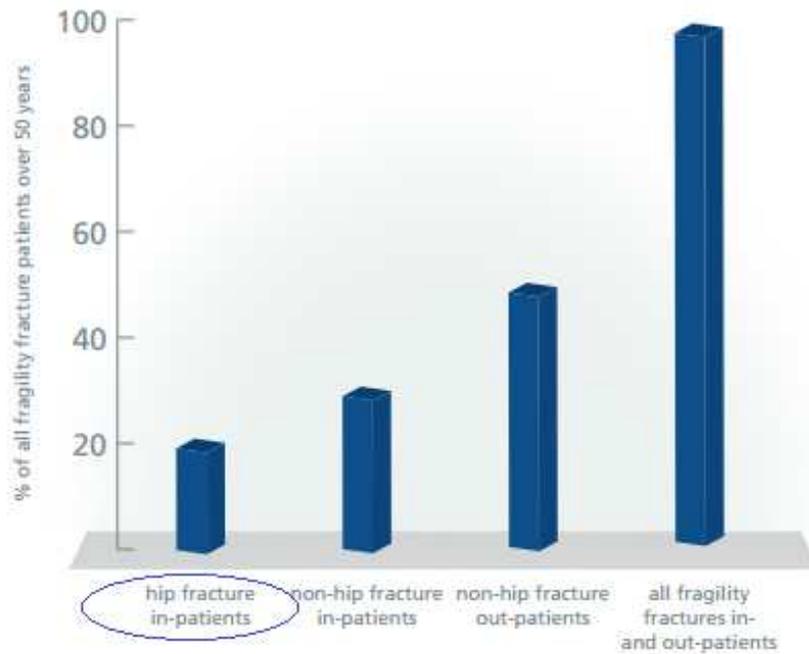


Studies show that 15% of patients who have suffered a hip fracture will suffer a second and even a third fracture, which increases their dependence and mortality rate still further.

With the aim of reducing the number of fragility fractures, it is advisable to start implementing actions addressed at a very specific group of patients. As figure 2 illustrates<sup>2</sup>, the IOF recommends starting with hip fracture in-patients, that is, patients having been hospitalized, and later to scale up the actions to prevent other fragility fractures.

<sup>2</sup> International Osteoporosis Foundation (2012). Capture the fracture: a global campaign to break the fragility fracture cycle

Figure 2. Definition of the patient groups to be targeted by post-fracture services



In this context, actions included in the LAP address the **prevention of hip refracture** since it has a very strong impact on both patients and the health and social system.

As the patient is at the centre of the service, actions have been designed from a **patient-centred approach** and a **multidisciplinary perspective**, involving all the agents in this field (citizens, the hospital, primary care centres, community pharmacies, residences, community networks, 4D Health Innovation Simulation Centre, professional training centre, enterprises in the rehabilitation area) as well as the municipality.

Therefore, actions included in the LAP have been designed by multidisciplinary teams formed by a wide range of professionals who directly interact with citizens (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), and the citizens themselves. Together they have designed Igualada's own model for the secondary prevention of hip refracture.

In this sense, the new prevention model has been based on the different aspects that have an impact on reducing the number of hip refractures, namely:

- Prevention of Osteoporosis by:
  - o Promoting healthy habits among the population in relation to exercise, diet and sun exposure.
  - o Designing an adequate pharmacological treatment related to prescription, administration and treatment compliance.
- Prevention of falls by:
  - o Designing the type of rehabilitation, that is, community, group and individual as well as defining the appropriate location of the activity.
  - o Promoting a favourable environment to prevent falls and disseminating the appropriate technical support.

#### **Agents involved in the ULSG:**

- Igualada Council
  - o Economic Development Department
  - o Health Department
  - o Sports Department
  - o Social Services Department
- Citizens' association "Associació de dones de les tardes dels dimecres"
- Citizens' association "Associació de Gent Gran d'Igualada – Casal del Passeig"
- Primary health centre "ABS Igualada Urbà"
- Orthopaedic centres
- Anoia Health Consortium
  - o Hospital
  - o Primary health centre "ABS Igualada Nord"
- Igualada Consortium for Social Health "Consorci Sociosanitari d'Igualada"
- "Fisiogestión" corporation
- Community pharmacies
- Àuria Private Foundation "Fundació Privada Àuria" – Josep Orgué Centre - Centre Sírius
- Sant Josep Healthcare Foundation "Fundació Sanitària Sant Josep"
- Professional Training Centre "Milà i Fontanals"
- Parents' association "Associació de pares igualadins de nens i adolescents subdotats"
- 4D Health Innovation Simulation Centre

### III. Project objective

#### Main objective

The main objective of the project is **to reduce the number of hip re-fractures in one year by 10%**, by acting on the secondary prevention of the fracture.

#### Specific objectives

In order to accomplish the main project objective, the specific objectives to be achieved are as follows:

- Specific Objective 1: **To improve the integration and coordination of the devices involved in the secondary prevention of hip fractures and other fragility fractures.**
- Specific Objective 2: **To train all the agents involved in the secondary prevention of hip fracture and other fragility fractures.**

#### Actions to be implemented

**SPECIFIC OBJECTIVE 1. To improve the integration and coordination of the devices involved in the secondary prevention of hip fractures and other fragility fractures**

In order to reduce the number of hip refractures, it is necessary to act on the side of preventing a new fracture from a **transversal, multidisciplinary**, integrated and **patient-centred approach**.

In this regard, it is essential to ensure the multidisciplinary management of the whole process, not only the healthcare assistance when the patient has been fractured but also the preventive actions to avoid a new fracture. Thus, health related services, professionals, citizens, knowledge institutions and companies need to work in a coordinated and integrated way both in co-designing the preventive actions as well as in implementing them.

## Action 1.1 - Establishment of Igualada's own model for the secondary prevention of hip fracture and other fragility fractures

Activities	<ul style="list-style-type: none"> <li>- Define a model to address at the secondary prevention of hip fracture and other fragility fractures, working on those issues that have a real impact on the possibility of suffering a new fracture, namely the promotion of healthy habits, pharmacological treatment to prevent fragility fractures, the rehabilitation process, the promotion of a favourable environment to prevent falls and the dissemination of the appropriate technical support.</li> </ul> <p>This new model will define 5 different types of patients based on the mobility that the person had before the fracture, their ability to undertake daily activities and their cognitive status.</p> <ul style="list-style-type: none"> <li>- Present the developed model to all the agents involved in the prevention of hip refracture and other fragility fractures.</li> </ul>
Agents involved	<ul style="list-style-type: none"> <li>- Igualada Council: Sports, Health, Social Services and Economic Development Departments.</li> <li>- Citizens' association "Associació de dones de les tardes dels dimecres"</li> <li>- Citizens' association "Associació de Gent Gran d'Igualada – Casal del Passeig"</li> <li>- Primary health centre "ABS Igualada Urbà"</li> <li>- Orthopaedic centres</li> <li>- Anòia Health Consortium: Hospital and Primary health centre "ABS Igualada Nord"</li> <li>- Igualada Consortium for Social Health "Consorti Sociosanitari d'Igualada"</li> <li>- "Fisiogestió" Corporation</li> <li>- Community pharmacies</li> <li>- Auria Private Foundation "Fundació Privada Àuria" - Josep Orgué Centre - Sírius</li> <li>- Sant Josep Healthcare Foundation "Fundació Sanitària Sant Josep"</li> <li>- Professional Training Centre "Milà i Fontanals"</li> <li>- Parents' association "Associació de pares igualadins de nens i adolescents subdotats"</li> <li>- 4D Health Innovation Simulation Centre</li> </ul>
Inputs	Human resources: dedication of professionals and citizens involved in the secondary prevention of hip fracture and other fragility fractures.
Outputs	Publication of the "Manual for the secondary prevention of hip fracture and other fragility fractures" that will contain all the actions, guidelines and recommendations to be applied to patients who have suffered a hip fracture.
Expected Outcomes	<ul style="list-style-type: none"> <li>- Definition and standardization of the measures to be applied to each of the 5 types of patients regardless of where they are treated.</li> <li>- Increased preventive actions to reduce the risk of patients suffering a second hip fracture.</li> </ul>
Indicators	<ul style="list-style-type: none"> <li>- Number of devices and agents participating in developing the new model.</li> <li>- Number of devices and agents implementing the new model.</li> </ul>
Calendar	2015
Budget	€1,300.00
Funding	URBACT 4D Cities and own Council resources

## Action 1.2 - Establishment of the hip fracture circuit

Activities	<ul style="list-style-type: none"> <li>- Set up the hip fracture circuit, establishing the different phases, agents and devices involved, the tasks as well as the criteria for patient referral among the different devices.</li> <li>- Set up the circuit for preventing the hip refracture and the agents and devices involved.</li> <li>- Disseminate the new circuits among all the agents and devices involved.</li> </ul>
Agents involved	<ul style="list-style-type: none"> <li>- Igualada Council: Sports, Health, Social Services and Economic Development Departments.</li> <li>- Citizens' association "Associació de dones de les tardes dels dimecres"</li> <li>- Citizens' association "Associació de Gent Gran d'Igualada – Casal del Passeig"</li> <li>- Primary health centre "ABS Igualada Urbà"</li> <li>- Orthopaedic centres</li> <li>- Anoia Health Consortium: Hospital and Primary health centre "ABS Igualada Nord"</li> <li>- Igualada Consortium for Social Health "Consorti Sociosanitari d'Igualada"</li> <li>- "Fisiogestión" Corporation</li> <li>- Community pharmacies</li> <li>- Auria "Fundació Privada Àuria" - Josep Orgué Centre - Sírius</li> <li>- Sant Josep Healthcare Foundation "Fundació Sanitària Sant Josep"</li> <li>- Professional Training Centre "Milà i Fontanals"</li> <li>- Parents' association "Associació de pares igualadins de nens i adolescents subdotats"</li> <li>- 4D Health Innovation Simulation Centre</li> </ul>
Inputs	Human resources: dedication of professionals involved in the secondary prevention of hip fracture and other fragility fractures.
Outputs	<ul style="list-style-type: none"> <li>- Hip fracture healthcare circuit.</li> <li>- Circuit for the prevention of hip refracture.</li> </ul>
Expected Outcomes	<ul style="list-style-type: none"> <li>- Improved coordination of the agents and devices involved in hip fracture.</li> <li>- Improved coordination of the agents and devices involved in prevention of hip fracture.</li> <li>- Improved specification of the tasks to be done by each agent and clear criteria for patient referral among the devices involved.</li> <li>- Improved patients' adherence to the pharmacological treatment.</li> </ul>
Indicators	<ul style="list-style-type: none"> <li>- Degree of satisfaction of agents participating in the new circuits.</li> <li>- Degree of satisfaction of patients and relatives.</li> <li>- Hospital pre-release: number of coordinated releases with respect to the number of patients attended in acute hospitalisation.</li> <li>- Social and Health pre-release: number of coordinated releases with respect to the number of patients attended in social and healthcare units.</li> <li>- Degree of adherence to the pharmacological treatment.</li> </ul>
Calendar	2015
Budget	No budget needed.
Funding	-

**SPECIFIC OBJECTIVE 2. To train all the agents involved in the secondary prevention of hip fracture and other fragility fractures**

Given that Igualada is promoting a pilot project to reduce the number of fragility fractures, specifically focused on the secondary prevention of hip fracture, it is essential to **disseminate the new patient-centred model** among all the agents involved.

In this context, **professionals** who deal with fragility fractured patients will receive specific skills-building from those professionals taking part in the new prevention model. Thus, professionals will know the guidelines, recommendations and protocols to be followed.

In addition, **students** from studies related to fragility will also receive specific training, including some hours for broader knowledge on this topic. Additionally, skills-building will also be offered to their **teachers** so as to ensure that this training will be also offered to students in the following years.

Last but not least, it will be necessary to train the **citizens. Patients, relatives and caregivers** will also need to be trained on how to manage the daily activities and promote an adequate environment to prevent or minimize the risk of suffering a fall, which probably would lead to a second hip fracture.

However, there is also a need to **raise the population's awareness** of the importance of having healthy habits from childhood to prevent osteoporosis and therefore to reduce the risk of suffering fragility fracture.

## Action 2.1 - Skills-building addressed at professionals involved in the prevention of hip refracture and other fragility fractures

Activities	<ul style="list-style-type: none"> <li>- To train professionals of the healthcare sector so as to disseminate the new model to prevent the hip refracture and promote its implementation.</li> </ul> <p>Training activities will be addressed at physiotherapists, family and community medicine, hospital medicine (geriatrics and other specialities), community pharmacies, nursery, family workers, home care providers, nursing in hospital and residences, volunteers, sports trainers, people from community centres, etc.</p> <p>Given that the new approach will require the intervention of different types of professionals, the 4D Health Innovation Simulation Centre may be used to simulate new processes or new techniques before being implemented.</p>
Agents involved	<ul style="list-style-type: none"> <li>- Igualada Council: Sports, Health, Social Services and Economic Development Departments.</li> <li>- Primary health centre “ABS Igualada Urbà”</li> <li>- Orthopaedic centres</li> <li>- Anoia Health Consortium: Hospital and Primary health centre “ABS Igualada Nord”</li> <li>- Igualada Consortium for Social Health “Consorti Sociosanitari d’Igualada”</li> <li>- “Fisiogestió” Corporation</li> <li>- Community pharmacies</li> <li>- Auria Private Foundation “Fundació Privada Àuria” - Josep Orgué Centre - Sírius</li> <li>- Sant Josep Healthcare Foundation “Fundació Sanitària Sant Josep”</li> <li>- Parents’ association “Associació de pares igualadins de nens i adolescents subdotats”</li> <li>- 4D Health Innovation Simulation Centre, if necessary</li> </ul>
Inputs	Human resources: training aimed at each professional profile will be offered by those professionals involved in developing the new prevention model.
Outputs	Skills-building of healthcare professionals related to fragility fractures.
Expected Outcomes	<ul style="list-style-type: none"> <li>- Improved training of healthcare professionals.</li> <li>- Standardization of the guidelines, measures and recommendations to be applied to patients, taking into account the different patient profiles.</li> </ul>
Indicators	<ul style="list-style-type: none"> <li>- Number of training activities offered.</li> <li>- Number of professionals trained.</li> <li>- Number of training hours provided.</li> <li>- Degree of satisfaction of the trained professionals.</li> </ul>
Calendar	2015 and subsequent years.
Budget	<p>No budget needed when skills-building training is offered by those professionals involved in the development of the new model.</p> <p>If the 4D Health centre is used as a tool to make simulations, a specific budget will have to be prepared according to the resources needed (simulated professionals and patients as well as machines or products needed) and the number of hours devoted to simulation.</p>
Funding	Own resources from the agents interested in training their professionals.

## Action 2.2 - Skills-building addressed at healthcare students related to the prevention of hip refracture and other fragility fractures

Activities	<ul style="list-style-type: none"> <li>- Train students from vocational studies related to jobs linked to fragility fractures, namely, caregivers of dependent people, pharmacy and dietetics, by offering specific training in this area.</li> <li>- Train college degree students on an internship in health centres in Igualada, such as physiotherapists, nursery or social workers.</li> <li>- Train professionals receiving training in health centres in Igualada, such as geriatric Resident Medical Interns.</li> </ul> <p>If appropriate, the theoretical training may be complemented with simulated cases in the 4D Health Innovation Simulation Centre.</p>
Agents involved	<ul style="list-style-type: none"> <li>- Professional Training Centre “Milà i Fontanals”</li> <li>- Primary health centre “ABS Igualada Urbà”</li> <li>- Anoia Health Consortium: Hospital and Primary health centre “ABS Igualada Nord”</li> <li>- 4D Health Innovation Simulation Centre, if necessary</li> </ul>
Inputs	Human resources: in the first year, training will be offered by those professionals involved in developing the new prevention model. In the following years, training will be offered by the teachers of the centre.
Outputs	<ul style="list-style-type: none"> <li>- Skills-building of students of vocational studies offered in Igualada related to fragility fractures, that is, caregivers of dependent people, pharmacy and dietetics.</li> <li>- Skills-building of college degree students on an internship in health centres, such as physiotherapists, nursery or social workers.</li> <li>- Skills-building of professionals receiving training in health centres, specifically, geriatric Resident Medical Interns.</li> </ul>
Expected Outcomes	- Improved training of students linked to fragility fractures.
Indicators	<ul style="list-style-type: none"> <li>- Number of training activities offered.</li> <li>- Number of students trained.</li> <li>- Number of training hours provided.</li> <li>- Degree of satisfaction of students trained.</li> </ul>
Calendar	2015 – 2016 and subsequent academic years.
Budget	<p>No budget needed when skills-building is offered by those professionals involved in the development of the new model or by the teachers of the centre.</p> <p>If the 4D Health centre is used as a tool to make simulations, a specific budget will have to be prepared according to the resources needed (simulated professionals and patients as well as machines or products needed) and the number of hours devoted to simulation.</p>
Funding	Own resources from the professional training centre or external resources that the centre may receive (Government of Catalonia Education Department).

**Action 2.3 - Skills-building addressed at the teaching staff of the healthcare studies related to the prevention of hip refracture and other fragility fractures**

Activities	- Train the teaching staff of vocational studies offered in Igualada related to jobs linked to fragility fractures, namely, caregivers of dependent people, pharmacy and dietetics, so that they can offer specialized training within each of the vocational training studies.
Agents involved	- Professional Training Centre "Milà i Fontanals"
Inputs	Human resources: training will be offered by those professionals involved in developing the new prevention model.
Outputs	- Skills-building of the teaching staff of studies related to the prevention of fragility fractures.
Expected Outcomes	- Improved training of the teaching staff of vocational studies related to the prevention of fragility fractures. - Optimization of resources since the training addressed at students will be offered in the following years by the teachers of the centre.
Indicators	- Number of training activities offered. - Number of teachers trained. - Number of training hours provided. - Degree of satisfaction of teaching staff trained.
Calendar	2015 – 2016 academic year.
Budget	No budget needed because skills-building activities will be offered by those professionals involved in the development of the new model.
Funding	-

## Action 2.4 - Skills-building addressed at fractured patients and their environment so as to decrease the risk of suffering a new fracture

Activities	<ul style="list-style-type: none"> <li>- To train not only the patients who have already suffered a fracture and but also their relatives and caregivers so as to promote a favourable and a safer environment for the patient.</li> </ul> <p>On one hand, they will receive guidelines and recommendations to follow after the surgical operation in order to adapt the place where they live. Information and advice will be provided to assess how to manage the activities of daily life such as bed postural care, bed mobility, hygiene, bath, shower, bath, wandering, adaptations to the home, housework, etc. They will also be informed about the available products and other support materials in order to facilitate daily life, such as articles to adapt the patient's room, bathroom and other useful devices to support daily activity and mobility.</p> <p>This will be done with a guide which will be provided to fractured patients and their environment. Additionally, a video will also be recorded to reproduce situations of risk and to show how to avoid them. It will be disseminated in community centres, health centres, over the Internet, etc.</p> <p>The 4D Health Innovation Simulation Centre will also be used to train patients, relatives and caregivers by simulating daily situations. In this context, they will learn aspects related to the adequacy of different spaces (bedroom, bathroom, etc.), the patient's mobility, personal hygiene, clothing and footwear, amongst other things.</p> <ul style="list-style-type: none"> <li>- To disseminate and assess the financial support offered by the Government of Catalonia to purchase the support products.</li> </ul>
Agents involved	<ul style="list-style-type: none"> <li>- Associations of patients, patients, relatives and caregivers of patients that have already suffered a hip fracture.</li> <li>- Community centres</li> <li>- "Fisiogestión" Corporation</li> <li>- Health centres</li> <li>- Orthopaedic centres</li> <li>- Auria Private Foundation - Josep Orgué Centre - Sírius</li> <li>- 4D Health Innovation Simulation Centre</li> </ul>
Inputs	Economic resources
Outputs	<ul style="list-style-type: none"> <li>- Skills-building addressed at patients, caregivers and relatives of fractured patients.</li> <li>- Guidance manual for adapting the environment and support material available.</li> <li>- Video edition.</li> </ul>
Expected Outcomes	<ul style="list-style-type: none"> <li>- Improved training of patients and their environment on performing the daily activities.</li> <li>- Better adaptation of the home environment.</li> <li>- Better awareness of the financial support offered by other Administrations</li> </ul>
Indicators	<ul style="list-style-type: none"> <li>- Number of people informed about the recommendations and the available materials and products to achieve a safer environment.</li> <li>- Number of training activities done.</li> <li>- Number of people trained.</li> <li>- Number of training hours provided.</li> <li>- Degree of satisfaction of people trained.</li> </ul>
Calendar	2015 – 2016 and subsequent years.
Budget	<ul style="list-style-type: none"> <li>- Video: €1,500</li> <li>- Training activities: a specific budget will have to be prepared according to the resources needed (simulated professionals and patients as well as machines or products needed) and the number of hours devoted to simulation.</li> </ul>
Funding	- Video: URBACT 4D Cities and Council resources.

## Action 2.5 - Skills-building and awareness addressed at the population to prevent osteoporosis

Activities	<ul style="list-style-type: none"> <li>- To train and raise awareness among the population on following healthy lifestyles from childhood so as to avoid or delay osteoporosis.</li> </ul> <p>In this sense, physical exercise will be promoted by organizing sports activities addressed at the general population. These activities include organizing walking groups, Nordic Walking, Tai Chi, Chi Kung, dancing or yoga. Sports activities will be organized by sports centres, community centres and primary care centres.</p> <p>Additionally, guidance and advice will be provided to the general population with regard to nutritional guidance and the importance of regular sun exposure. This information will be provided in talks in community centres, health centres and schools as well as by publishing a brochure that will be distributed in health, community, sports and cultural centres, pharmacies, orthopaedic centres, etc.</p>
Agents involved	<ul style="list-style-type: none"> <li>- Patients' associations</li> <li>- Citizens' associations</li> <li>- Community centres</li> <li>- Sports centres</li> <li>- Healthcare centres</li> <li>- Community pharmacies</li> <li>- Orthopaedic centres</li> <li>- 4D Health Innovation Simulation Centre</li> </ul>
Inputs	<ul style="list-style-type: none"> <li>- Economic resources for organizing sports activities and brochure.</li> <li>- Human resources: awareness-raising sessions will be offered by those professionals involved in developing the new prevention model.</li> </ul>
Outputs	<ul style="list-style-type: none"> <li>- Sports activities.</li> <li>- Brochure with guidelines and recommendations to prevent osteoporosis.</li> <li>- Raising-awareness talks in community centres, health centres and schools.</li> </ul>
Expected Outcomes	<ul style="list-style-type: none"> <li>- Improved physical condition of the population.</li> <li>- Better awareness among the population about following healthy lifestyles to prevent osteoporosis.</li> </ul>
Indicators	<ul style="list-style-type: none"> <li>- Number of sports activities organized.</li> <li>- Number of people participating in awareness-raising sessions.</li> <li>- Degree of satisfaction of people participating in the activities.</li> </ul>
Calendar	2015 subsequent years.
Budget	<ul style="list-style-type: none"> <li>- Sports activities: €3,500 per activity</li> <li>- Brochure edition: €1,400</li> </ul>
Funding	<ul style="list-style-type: none"> <li>- Sports activities: Barcelona Provincial Council, Catalan Government and participants' contributions.</li> <li>- Brochure edition: URBACT 4D Cities and Council resources.</li> </ul>





## IV. Next steps

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Some of the actions included in the Local Action Plan have already been taken while developing the plan itself, such as the preparation of Igualada's own model to prevent the hip refracture. This new pilot model has been designed from a transversal, interdisciplinary and integrated approach and involves all the agents related to the prevention of fragility fractures, from the knowledge, business, health system and citizens dimensions.

It contains protocols, actions and recommendations to make on patients who have suffered a hip fracture from the perspective of the promotion of healthy lifestyles, pharmacological treatment to address bone fragility, rehabilitation treatment and the promotion of an adequate environment and an appropriate use of the support material.

The implementation of some actions will require seeking sources of funding from other administrations on the Catalan, National or European level.

One year after the implementation of the actions included in the Local Action Plan, they will be followed up on and evaluated according to the established indicators in order to check the achievement of the main objective, that is, to reduce % the number of hip refractures by 10% after one year of implementation. Amendments will be promoted if required.

Once the impact of this new pilot project focused on the secondary prevention of the hip refracture has been assessed, the focus of the actions will be broadened to boost the primary prevention, that is, to focus on the actions to prevent the first hip fracture as well as other bone fragility fractures such as wrist, vertebra and humerus fractures.

Last but not least, the project will be sent to other administrations promoting health at the regional, national and European level (i.e. the Government of Catalonia Health Department, the Spanish Ministry of Health, WHO, etc.).

In this sense, the dissemination of the project has already started and it has been chosen to be presented at the Catalonia Health Plan Annual Meeting (Puigcerdà, June 2015), specifically, in the Research and Innovation section.

## V. Contact details

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Further information on the 4D Cities project available at [www.urbact.eu/4d-cities](http://www.urbact.eu/4d-cities)

Further information on the town of Igualada available at [www.igualada.cat](http://www.igualada.cat)



## URBACT II

**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).

[www.urbact.eu/4dcities](http://www.urbact.eu/4dcities)

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