



Growing **food**,  
growing  
**healthy**  
communities:

Opportunities for the European  
healthcare sector

## Introduction

European healthcare systems have traditionally focused on treatment rather than prevention of ill health. However, public health authorities are increasingly recognising the need to address the social determinants of health, which should pave the way for more patient-centred care across Europe.

The relationship between diet, health, and access to natural spaces now forms an important part of this new way of thinking about health policy. There is strong evidence that poor nutrition and an unhealthy diet are leading risk factors for various chronic health conditions, including heart disease, hypertension, diabetes, cancer, and other diet-related diseases. At the same time increasing access to green spaces encourages exercise, provides spaces for socialising, and decreases noise and air pollution. Urban green spaces, such as parks, playgrounds, and residential greenery, can promote mental and physical health, and reduce morbidity and mortality in urban residents by providing psychological relaxation and stress alleviation.

In recognition of this many healthcare providers are identifying new and creative ways of increasing access to natural spaces for their staff, patients and local communities. In particular, creating spaces for gardening and growing food within their own facilities is gaining popularity and there is an increasing awareness of the many benefits that can be gained from on-site food production initiatives.

This document explores how European healthcare providers are already realising a host of complementary benefits from growing healthy and sustainable food within their facilities. It outlines a number of case studies showcasing successful initiatives from across Health Care Without Harm (HCWH) Europe's network and discusses the opportunities and challenges of establishing on-site food growing projects. Finally, it sets out a series of recommended steps drawn from the case studies, which are intended to give direction to other healthcare providers looking to establish similar initiatives within their own facilities.

## The benefits of creating growing spaces within healthcare facilities

### Health

There is strong evidence of significant positive associations between access to green spaces and a wide array of indicators of physical and mental health, such as reductions in depression and anxiety symptoms, stress, mood disturbance, and obesity, as well as increases in quality of life, physical activity levels, and cognitive function for all ages and socio-economic groups.<sup>1,2,3,4,5,6,7,8</sup>

Gardening and growing food can also help people cope with symptoms or side effects of treatments for cancers, heart diseases, allergies, asthma and intolerances, and even HIV/AIDS.<sup>9</sup> Beyond this, community gardens and food growing can be a catalyst for behavioural change, encouraging healthier lifestyles, particularly increasing the consumption of fruits and vegetables and physical activity.<sup>9</sup>

### Environment

Green spaces are linked with reducing many environmental issues that impact our health including flood risks,<sup>10</sup> noise pollution,<sup>11</sup> and air pollution. Green spaces can also help reduce gaseous air pollutants such as ozone, oxides of nitrogen (NO<sub>x</sub>), and sulphur (SO<sub>x</sub>) as well as particulate matter (PM),<sup>12</sup> which in turn helps reduce chronic respiratory conditions, such as asthma.<sup>13</sup> Plants can also improve indoor air quality and have been shown to reduce levels of many volatile organic compounds (VOCs) such as benzene and formaldehyde which can have long-term effects on our health. These VOCs may emanate from furniture, carpets, cleaning agents, paint, and other domestic sources.<sup>14</sup>

Trees can reduce the 'urban heat island' effect (increased temperatures within cities compared to surrounding rural areas), provide shade, and reduce the demand for air conditioning during warm periods, saving costs and reducing energy consumption.<sup>11</sup> The inclusion of water bodies in green spaces may also offer a cooling effect.<sup>11</sup>

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## EU policy context

### Social cohesion

There is evidence that community gardens provide positive social experiences that improve social cohesion, sense of community, and may also empower people to grow their own food so that they can enjoy fresh, local and nutritious foods.<sup>15</sup> Studies show that reduced access to green space is linked to feelings of loneliness and a perceived shortage of social support.<sup>16</sup> More cohesive neighbourhoods tend to be greener and have better quality green spaces.<sup>17</sup> There is also some evidence that the provision of new green spaces in disadvantaged neighbourhoods can reduce crime.<sup>11</sup> Areas with green spaces are also associated with significantly less income-related health inequality.<sup>18</sup>

### Economic benefits

Green spaces have the potential to reduce healthcare costs and achieve cost savings through reduced hospital stays or reduced need for pain relief.<sup>19</sup> In England, estimates show that increasing access to parks and open spaces could reduce the healthcare costs of treating obesity by more than £2 billion GBP (€2.2bn approx.), as well as reducing mental health admissions providing additional savings.<sup>20</sup>

Some health professionals are already prescribing less medication for improving mental health and wellbeing, preferring to encourage patients to increase their use of green spaces.<sup>21</sup> So-called *social prescribing* initiatives such as these are still in development across Europe; however, indications suggest there is significant potential to expand these as an alternative form of treatment for some conditions.

The EU Biodiversity Strategy acknowledges the value of green urban spaces (parks, gardens, green roofs, urban farms) for our physical and mental well-being, as well as a range of benefits for our environment and climate.<sup>22</sup> To promote healthy ecosystems, green infrastructure, and nature-based solutions in our cities and reward community action, the European Commission calls on European cities to develop ambitious Urban Greening Plans by the end of 2021. These plans must include measures to create a variety of biodiverse and accessible green urban spaces and help improve connections between green spaces, eliminate the use of pesticides, and limit excessive mowing and other practices harmful to biodiversity.

To facilitate this work, the European Commission will:

- Establish an EU Urban Greening Platform in 2021, under a new 'Green City Accord' with cities and mayors in close coordination with the European Covenant of Mayors.
- Support Member States and local and regional authorities and help to mobilise funding and capacity building.

This Strategy also highlights the importance of green public procurement to boost nature-based solutions.

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### How does this affect healthcare?

European hospitals are anchor institutions in their communities, and many healthcare facilities are already exploring how they can contribute to improved health and wellbeing by providing wildlife habitats and natural spaces for physical activity, particularly for people who otherwise would not have access.

Healthcare facilities face challenges in creating these green spaces as many hospitals are located at the heart of our cities and lack space to create their own. Local and national authorities are therefore encouraged to take an integrated and holistic approach to their urban greening plans, seeking advice from public health professionals and ensuring the inclusion of healthcare facilities and public health considerations in the planning and design of public infrastructure. Doing so will help create healthier and more resilient communities.

## Case studies

Across Europe, healthcare providers are not only introducing green spaces into their facilities, but are also using them to grow food. Food growing initiatives can help patients' physical and mental well-being by encouraging physical activity and social interaction. Gardening activities are also helping to develop new knowledge and skills, and provide access to fresh, seasonal, and local produce.

The majority of the case studies set out below focus on urban locations that do not typically have access to large amounts of space or the capacity to manage complex food production systems, opting instead for simple rooftop gardens. However, some hospitals are exploring technological options, such as hydroponics, which avoid the need for soil by providing roots with mineral nutrient solutions in water.



Children learning where their food comes from at La Citadelle in Liège

## La Citadelle – Liège, Belgium

*La Leçon Verte* ("The Green Lesson") is an association whose mission is to *re-introduce the joys of nature to younger generations* who the team believes may have lost a connection with the natural world. Since 2000, the association has led the development of vegetable gardens in five hospitals in Belgium.

One of *Leçon Verte*'s most successful gardens is still going today at **La Citadelle** in Liège. With approximately 100 beds it is one of the most important Paediatric services in the Wallonia region of Belgium. The garden at La Citadelle was first created in 2003, and is maintained weekly by a part-time gardener, who also organises different activities for paediatric patients, as well as adult patients from the psychiatric department, and members of a local support group for the visually impaired.

Children experience a closer connection with their food – they are taught to grow produce from seed and how to care for plants and harvest them. The hospital, which already procured a range of fresh and locally produced food, then uses the produce from the hospital garden in its kitchen and food services. This offers the additional benefit of helping children to learn how to eat healthily.

### KEY TAKEAWAYS:

- + The hospital established a successful partnership with a local association that organises different activities to learn about how to grow food.
- + Children and adolescents working in the garden find comfort and motivation to take better care of themselves through improved healthy eating, inspired by fresh and seasonal foods.
- + Volunteers and educators of the organisation *La Leçon Verte* have observed improved mental and physical health in children who frequently visit the garden.

### MAIN CHALLENGE:

The project relies on the support of volunteer workers, which is not always obvious to the hospital's management team.

### ACTION OPPORTUNITY:

Growing spaces at hospitals can benefit children's recovery, as well as helping them to learn new skills and build an appreciation of the importance of healthy eating.

## Pasteur Clinic – Toulouse, France

The **Pasteur Clinic** treats more than 70,000 patients annually and employs 1,200 people. In France, the clinic is considered a pioneer of gardening in healthcare. In collaboration with urban agriculture enterprise Macadam Gardens, the clinic created a 500m<sup>2</sup> vegetable garden in 2014 on the roof of the radiotherapy and oncology building.

The garden is managed by Macadam Gardens, along with current and former staff, caregivers, and patients - especially those suffering from chronic diseases. When volume allows, the garden provides the kitchen with organic fruits vegetables and aromatic herbs for the 1,200 meals served at the clinic each day to patients and employees. This helps improve security and reduce food costs.

The clinic has always offered homemade meals, but the chef wanted greater control over the supply of organic and seasonal products, and requested a vegetable garden to supply food more locally and more sustainably. Beyond producing healthy food for the clinic, the rooftop garden helps to create different connections between patients and caregivers outside of medical care. It also serves as an educational tool for researchers, students, and schoolchildren providing “discovery tours” and education on the loss of biodiversity.

The cost to the clinic was €20,000, which gave a return over five years. The technical director is already considering using space on the clinic’s patio to create further vegetable gardens that chemotherapy patients can take advantage of during treatment.

### KEY TAKEAWAYS:

- + Growing spaces can help improve food security, whilst providing a supply of fresh food throughout the year.
- + Kitchen staff play a key role in achieving local and sustainable food procurement goals and can be instrumental in establishing an on-site growing space which can help reduce purchasing costs.
- + Growing spaces provide an excellent educational opportunity to offer hands-on learning about plant cultivation and care as well as nutritional education.

### MAIN CHALLENGE:

Rooftop gardens have an impact on the structure of buildings - plants, paving, supporting materials, and water can significantly increase the roof load, and may require additional structural support. The Pasteur Clinic recognised this and introduced structural upgrades without damaging the features or historic character of the building.

### ACTION OPPORTUNITY:

An on-site vegetable garden can support greater provision of organic and seasonal products within healthcare facilities, and can form a crucial part of a sustainable food strategy.

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A view of the the Pasteur Clinic rooftop garden



## 06 ■ Münster and Lengerich Clinics - Germany

The Münster and Lengerich LWL-Klinics are located in North-East Westphalia-Lippe. The **Lengerich clinic** has 373 beds and also accommodates 51 outpatients, whilst the **Münster clinic** has 376 beds and offers 64 outpatient places. Both clinics provide inpatient therapy and outpatient psychiatric and psychotherapeutic treatments for the hearing impaired. Both are known for their sustainable food procurement, prioritising local, organic, and seasonal produce, and supporting the production of organic and sustainable food through different projects

The LWL-Klinik Lengerich is well known for providing fresh apple juice produced from its 210 apple trees, which were planted on the clinic's estate in 2005. The hospital gardeners are responsible for maintenance of the orchards and the juice production is the responsibility of a small company with a mobile masticating juicer. The juice is sold locally and sales revenues reinvested in orchard maintenance. Offering a diverse variety, the trees are regularly replanted by the gardeners to maintain the orchard, which is considered a valuable cultural asset and wildlife space for beetles, small mammals, birds, insects, and butterflies.

Since 2013 the orchard has been officially designated as organic acreage and the fresh apple juice is certified as organic. In 2018, the clinic produced close to 2,000 litres of organic apple juice and 1,000 litres of apple and pear juice from its orchards. The apple juice, branded with the LWL-Klinik Lengerich hospital logo, was distributed to employees and farmers that collaborated in the hospital garden.

The clinic also has its own bee colonies on site, providing essential pollination to the orchard. The apiaries are the responsibility of two employees who

also keep bees at home, and have been regularly producing honey, which is given to staff.

The clinic in Münster produces its own vegetables, such as tomatoes, courgettes, and aubergines, as well as fresh basil and other aromatic herbs. Their vegetable garden is harvested weekly, and in the summer season up to 300kg of vegetables enrich the clinic's menus. If the stock is sufficient, employees of the clinic can also purchase produce from the hospital gardens directly, supporting healthy eating and reducing food waste.

### KEY TAKEAWAYS:

- + Food growing spaces create opportunities to sell produce and generate additional revenues from healthcare estate. Cultivating local produce can also create a sense of community.
- + Growing food within healthcare can support food waste reduction targets.
- + Bee colonies can provide essential local pollination around healthcare facilities.

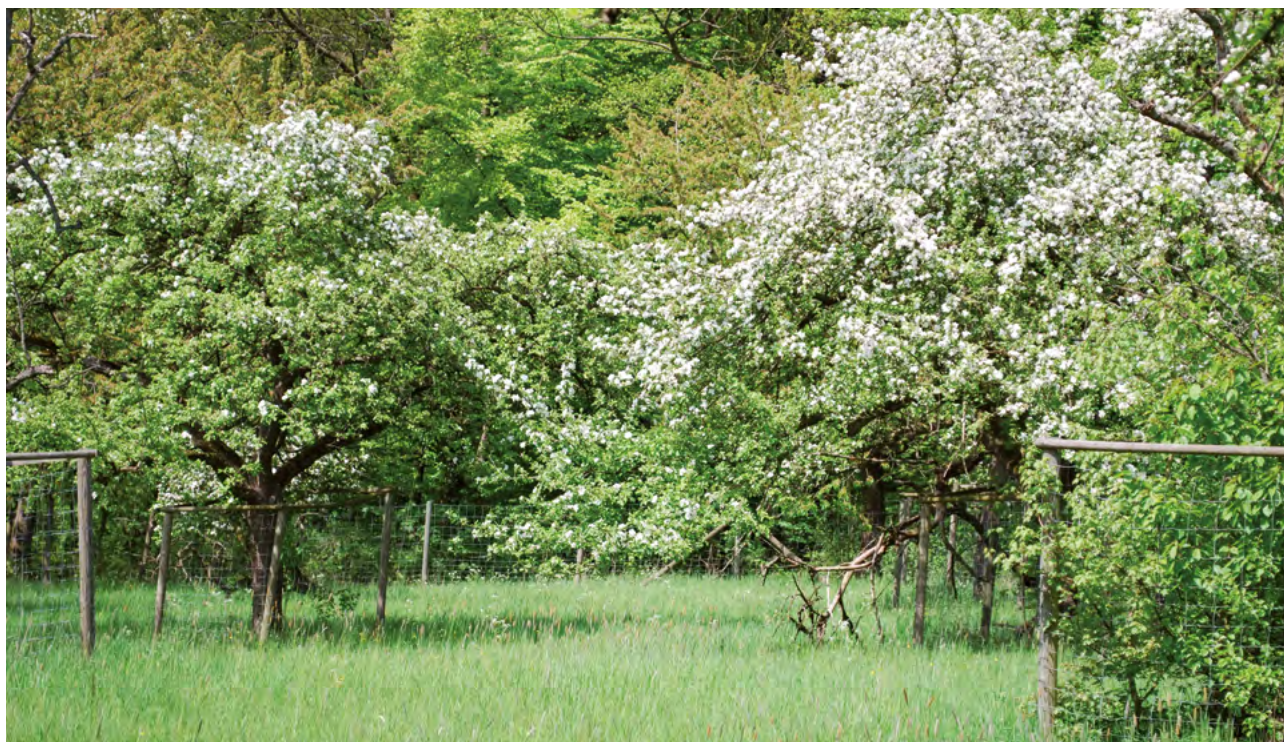
### MAIN CHALLENGE:

Managing and maintaining large food production areas is costly. However, as it serves for multiple users and activities, benefits are considered cost-effective by hospital managers.

### ACTION OPPORTUNITY:

Not only does a food growing space enrich healthcare catering, it can also support a greater sense of community and generate revenue for reinvestment.

Apple orchard at the Münster and Lengerich LWL-Klinics



## ■ Haukeland Hospital – Norway

The **Haukeland Hospital**, one of the largest hospitals in Norway, is a national specialist hospital and resource centre for burn injuries, air-pressure injuries, cornea-protheses, and treatment of intracranial tumours.

The hospital's rooftop garden was included when the main building was built in 1983, but the vision for a greener, more environmentally friendly and welcoming hospital did not begin until 2013. This change in vision was led by a group of medical students under their own initiative called *Climate = Health*. Each student was initially assigned the responsibility of growing produce in two 4m<sup>2</sup> plots, encouraging them to feel ownership of the project.

The group's philosophy is that a climate-friendly society must be built on *desire and joy* in order to make it an attractive prospect. They hope that the hospital's rooftop garden, in which they grow vegetables, berries, herbs, and roses serves as a source of inspiration for others to start their own garden.<sup>i</sup> Another of the group's aims is to create a natural meeting place in the hospital where they can step out of their roles of patients, doctors, nurses, or students to connect with one another and socialise.

Though patients are not very involved in the garden activities, they are able to visit the garden and they recognise the added value improving their hospital experience. Patients also enjoy the herbs that are grown in the garden and served in the hospital's

<sup>i</sup> For more information about the Haukeland Hospital Facebook group: <https://www.facebook.com/urtehagenhaukeland/>

menus giving their meals a special authentic flavour. Future plans for the rooftop garden include a worm compost system to increase the soil quality, using food waste and used coffee grounds from the cafeteria.

### KEY TAKEAWAYS:

- + Gardens can provide natural meeting spaces where patients, doctors, nurses, and students can take a step out of their roles to relax and socialise.
- + Students can experience first-hand the varieties of seasonal produce and increase their engagement with local food systems.
- + Composting helps improve soil quality, supporting sustainable planting for years to come, and can reduce food waste disposal.

### MAIN CHALLENGE:

Creating value-added initiatives such as this often requires the energy and commitment of visionary staff, who need to be supported and encouraged by organisational leaders.

### ACTION OPPORTUNITY:

Communication and dissemination strategies for students, employees, patients, and relatives help show the many benefits of accessing the garden, and help them to see it as a place of refuge from the hospital.

Medical students volunteering at the Haukeland Hospital Garden



## North Bristol NHS Trust - United Kingdom

The **Southmead Hospital** Herb Garden project at North Bristol NHS Trust was initiated by a member of the catering team who enlisted a local herb specialist (with a personal connection to the hospital), to work with the Trust on the garden design. Existing plants that had been planted in the original roof garden (the hospital building opened in 2014), were transplanted and reused in other areas on the Southmead site. The hospital's *Sustainable Development Unit* and catering teams, together with hospital volunteers, replaced the soil in the roof garden and sowed a wide selection of culinary and medicinal herb plants including multiple varieties of rosemary, oregano, thyme, sage, lavender, mint, chives, as well as other plants such as flax, hyssop, fennel, and bay.

The roof garden offers a culinary, medicinal, and therapeutic sanctuary that supports the wellbeing of staff and patients. It is accessible during the restaurant's opening hours and is also used as a venue for catered events. This initiative forms part of the catering team's existing carbon-reduction efforts, sourcing locally and preparing fresh meals. The Trust's catering services have received both bronze and silver awards from the Soil Association's Food for Life programme.<sup>ii</sup> Not only does using herbs grown on site help to create colourful and flavourful meals, but also reduces emissions from processing, packing, and transport.

The Trust's Sustainable Development Policy commits it to protect and enhance the environment by improving biodiversity, and promoting green spaces and food growing. The draft Biodiversity Management Plan details how the rooftop herb garden is part of a wider plan for green space across the Trust's sites and will support their aspiration to achieve the Green Flag Award - a scheme that sets the benchmark for and recognises green space management. The North Bristol NHS Trust hopes that the work at the Southmead hospital will serve as an inspiration to the wider National Health Service (NHS) in England and other European health systems.

The herb garden actively contributes to awareness-raising activities amongst staff and patients on sustainability, nature, health, and wellbeing. The lavender grown on site is annually harvested to create pyramidal lavender bags for ornamental purposes which are sold to support the Trust's Sustainable Healthcare charity fund.

<sup>ii</sup> For more information about the Soil Association's Food for Life programme: [www.foodforlife.org.uk/hospitals](http://www.foodforlife.org.uk/hospitals)

Future plans include further engagement with patient groups, organising activities such as weeding and pruning as part of their rehabilitation. The Southmead Hospital is also finalising an allotment where seedlings from the herb garden will be transplanted and sold, raising funds for reinvestment into sustainable healthcare projects.

### KEY TAKEAWAYS:

- + The Trust partnered with external specialists to plan and assess opportunities for garden spaces.
- + Hospital rooftops can serve as culinary, medicinal, and therapeutic herb gardens. Herbs can be used in hospital kitchens for staff and patient meals.
- + On site gardens provide a stimulating, calm space for staff and patients to enjoy the colours, wildlife, and aromas.

### MAIN CHALLENGE:

The Trust currently lacks evidence for the cost-efficiency of growing food in healthcare, which is crucial to request funding from the board or external sources for expanding the project.

### ACTION OPPORTUNITY:

Green spaces can be part of broader approach to improve patient and staff's health and wellbeing, including garden activities as part of patient rehabilitation.

A look at the Southmead Hospital Herb Garden project





## Lambeth GP Food Co-op – London, United Kingdom

Founded in 2013, the **Lambeth GP Food Co-op** is an innovative co-operative of patients, doctors, nurses, and residents creating food growing spaces across the 45 general practice (GP) surgeries in the London borough of Lambeth.

The co-op's objective is to transform unused land in GP surgeries (e.g. alleyways or scrub land) into food growing spaces. Patients - especially those with long term health conditions - are invited to join gardening groups, led by experienced nurses with gardening knowledge, to learn how to grow food in a safe and secure environment and how fresh food can help improve their diets, health, and wellbeing.

Since 2016, the catering service of **King's College Hospital** (also located within the Lambeth borough), agreed to purchase vegetables grown by the co-op. Although the co-op does not yet produce the volume required, they have been selling their vegetables to staff who love the idea of buying locally grown vegetables grown by patients in the community.

The garden at King's College Hospital is one of the co-op's food growing gardens located outside of GP practices, others include the **St Thomas' Hospital** which uses a hydroponic system, and **The Pulross Centre**, a 20-bed rehabilitation unit in Brixton where gardening supports patients recovering from COVID-19. The co-op is currently exploring the idea of an NHS Vertical Farm in Lambeth, using large wall spaces for growing vegetables and further contributing to the supply of fresh vegetables used in patient and staff meals.

### KEY TAKEAWAYS:

- + Collaboration with the local council, health-care system, and individual hospitals/health-care facilities increases support for food growing spaces.
- + Growing spaces help patients participate in gardening activities with a social purpose.
- + Gardening compliments patient therapy, but can also provide revenues for reinvestment into sustainability funds and continued gardening projects.
- + Patients are actively involved in all aspects of the food co-op, supporting them to be more confident in managing their own health and wellbeing.

### MAIN CHALLENGE:

Expanding and developing the project requires financial investment, but there is currently insufficient evidence of the cost/benefits and the existing business-as-usual culture inhibits innovation and change.

### ACTION OPPORTUNITY:

Build working relationships with other hospitals and GP surgeries to achieve important benefits for patients, especially those with long term conditions.

The Lambeth GP Food Co-op provides a space for people to socialise, learn, and grow food together



## Final remarks

Green spaces and, in particular, food growing spaces in healthcare undoubtedly have the potential to yield many benefits for our health and the environment, as well as for local communities and economies. They offer an opportunity to engage and educate staff, patients, and the local community in the benefits of local, seasonal, and organic food production, whilst creating therapeutic, health-promoting environments. In many cases these initiatives also generate additional revenues, helping to build the business case for investment and up-scaling. With more research, evidence, and success stories similar to those outlined in this publication, we hope that healthcare providers feel more encouraged to create food growing spaces within their own facilities.

### Creating a food growing space at your healthcare facility

Drawing on the case studies featured in this publication, below we outline a series of steps that we recommend you follow when considering creating a food growing space in your own healthcare facility.

- 1.** Food-growing spaces in healthcare facilities are very often established by enthusiastic, passionate individuals, or a small group of staff, with a love of food and gardening. These initiatives often then flourish and grow into larger programmes. It is important to **engage staff and build a team of stakeholders** that understand local healthcare systems and are familiar with ongoing projects in the region – this will help you understand the capacity and expertise of potential collaborators such as landscape architects or food and gardening experts. Consult with local organisations working on sustainable agriculture, education, and the environment to discover new tools or even funding opportunities to improve access to healthier foods or support regional food systems.
- 2. Discuss project goals, obstacles, and opportunities.** In order to maximise the potential of your green space for the benefit of all, it is important to set out clear goals and commitments for the initiative. These could cover a wide range of sustainability topics including energy, waste, water, travel, climate change, carbon emissions, sustainable models of care, and biodiversity in your hospital. This exercise will help you to identify challenges and oppor-

tunities within your organisation to protect and enhance your hospital's environment and to make your green spaces more accessible for the benefit of people's health and wellbeing and the prevention of avoidable illness.

- 3. Engage with your hospital's Estates & Facilities and grounds-keeping teams** at an early stage. This will help to assess the viability of potential locations, identify any obstacles and discuss issues relating to ongoing maintenance and management of the garden.
- 4. Design your growing space** to promote physical and mental health, and create areas for social interaction. Pay attention to colours, shadows, light, and consider features such as fountains, bird feeders, or insect refuges to attract and support local wildlife.
  - a. Identify local, seasonal crops and varieties** that meet hospitals' needs and are culturally-appropriate; considering the seasonality of your plants will help you cultivate and harvest throughout the year and you can incorporate seasonal produce into menus.
  - b. Build a path to your garden** - the location and visibility of your garden space is critical.
    - › Create a green path within your healthcare facility so that employees, patients, and visitors can easily locate your green space.
    - › Send a bulletin to all employees and patients about the existence and achievements of the garden.
    - › Showcase your garden's produce in cafeterias or other high-visibility areas.
- 5. Tell your story** – healthcare workers can use their voice to talk about the importance of creating a vibrant local or regional food system. Hospitals have a tremendous opportunity to model healthy and sustainable food choices for patients, staff, students, and visitors and to build a wider understanding about the health benefits of a sustainable food system. Use noticeboards, local events, newsletters, or social media to celebrate the work you are doing.

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Photo credits: Haukeland Hospital (Cover), Patrick Daxenbichler@istock (p.2-3), La Leçon Verte ("The Green Lesson") (p. 4), Pasteur Clinic (p. 5), Münster and Lengerich Clinics (p. 6), Haukeland Hospital (p. 7), North Bristol NHS Trust (p. 8), Lambeth GP Food Co-op (page 9), Münster and Lengerich Clinics (Backcover)

Published: December 2020

Health Care Without Harm (HCWH) Europe is the European arm of a global not for profit NGO whose mission is to transform healthcare worldwide so that it reduces its environmental footprint, becomes a community anchor for sustainability and a leader in the global movement for environmental health and justice. HCWH's vision is that healthcare mobilises its ethical, economical, and political influence to create an ecologically sustainable, equitable, and healthy world.

Printed on 100% recycled paper using vegetable based ink.



HCWH Europe gratefully acknowledges the financial support of the European Commission (EC)'s LIFE programme. HCWH Europe is solely responsible for the content of this publication and related materials. The views expressed do not reflect the official views of the EC.

